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Entry-Level Occupational Therapy Education to Address Substance Use Disorders: Education in Screening, Brief Intervention, and Referral to Treatment (SBIRT)

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Abstract

As substance use disorders (SUDs) continue to rise in the wake of the COVID-19 pandemic, occupational therapy practitioners are in a unique position to help individuals seek immediate screening, brief intervention, and referral for treatment upon first entry in a healthcare setting. Occupational therapy practitioners have helped individuals overcome SUDs since almost the beginning of the profession, however, there is a paucity of literature on entry-level practitioners' preparedness for such work. The purpose of this study was to evaluate the effectiveness of an entry-level occupational therapy curriculum module on Screening, Brief Intervention, and Referral to Treatment (SBIRT), a universal public health approach by the U.S. Department of Health and Human Services taught to occupational therapy students. Student participants were provided with classroom education, online learning materials, an interactive case study, an interprofessional education event, and debriefing with community members in recovery. These educational experiences demonstrated significant increases in pre-and post-score means of participants' knowledge, confidence, competence, attitudes on SUDs, and readiness for conducting an SBIRT protocol. This study aims to illustrate how SBIRT educational practices can empower future practitioners to be effective agents of change in addressing substance use disorders in an evolving healthcare landscape.

Keywords

Substance use disorders (SUDs), recovery, interprofessional education (IPE)

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Entry-Level Occupational Therapy Education to Address Substance Use Disorders: Education in Screening, Brief Intervention, and Referral to Treatment (SBIRT)

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ABSTRACT

As substance use disorders (SUDs) continue to rise in the wake of the COVID-19 pandemic, occupational therapy practitioners are in a unique position to help individuals seek immediate screening, brief intervention, and referral for treatment upon first entry in a healthcare setting. Occupational therapy practitioners have helped individuals overcome SUDs since almost the beginning of the profession, however, there is a paucity of literature on entry-level practitioners' preparedness for such work. The purpose of this study was to evaluate the effectiveness of an entry-level occupational therapy curriculum module on Screening, Brief Intervention, and Referral to Treatment (SBIRT), a universal public health approach by the U.S. Department of Health and Human Services taught to occupational therapy students. Student participants were provided with classroom education, online learning materials, an interactive case study, an interprofessional education event, and debriefing with community members in recovery. These educational experiences demonstrated significant increases in pre-and post-score means of participants' knowledge, confidence, competence, attitudes on SUDs, and readiness for conducting an SBIRT protocol. This study aims to illustrate how SBIRT educational practices can empower future practitioners to be effective agents of change in addressing substance use disorders in an evolving healthcare landscape.

Introduction

Everyday life requires adaptation, resilience, and coping to overcome inherent stressors that are part of the human experience. A growing number of occupational therapy practitioners are being called to promote performance and engagement in clients with complex and co-occurring conditions such as substance use disorders (SUDs) as these diagnoses exist in every practice setting (Stoffel & Moyers, 2004). Substance use disorders can disrupt the occupational lives of individuals (American Psychiatric Association [APA], 2022), and occupational therapy practitioners have unique skills to support engagement in meaningful occupations by targeting deficits in daily life to promote new healthy performances (Thompson, 2009). Occupational therapists can provide immediate help to those at risk of a SUD by engaging in a screening, brief intervention, and referral to treatment (SBIRT) as soon as contact is made. Although SBIRT protocols are evidence-based tools used to identify misuse and promote health (Clauser et al., 2020), effective SUD assessment and treatment protocols in occupational therapy education and practice remains limited (Mattila & Provident, 2017; Rojo-Mota et al., 2017). The purpose of this study was to evaluate the effectiveness of SBIRT education in an entry-level occupational therapy curriculum, to prepare future practitioners to serve the needs of today's society.

Literature Review

Substance use disorders are defined as having patterns of negative symptoms that result in risky use, impaired control, physical dependence, and social problems associated with direct use of a substance (APA, 2022; Hartney, 2022). According to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision* (DSM-5-TR), 11 criteria classify a SUD as mild, moderate, or severe; where six or more symptoms can indicate an addiction to substance (APA, 2022). These criteria include experiencing cravings, taking a substance longer than intended, inability to limit use, spending time retrieving, using, or recovering after use, that impacts work, school, or daily performances at home. Substance use disorders are hallmarked by continued use despite relationship, social, occupational, physical, or psychological problems that are caused by use, and experiencing tolerance or withdrawal symptoms from that substance (APA, 2022).

According to the Substance Abuse and Mental Health Services Administration (SAMHSA, 2022), nearly 165 million Americans are living with a SUD today, including opioid misuse, which contributes to 72% of drug-related overdose deaths. Overdoses have become more pervasive since the 2020 COVID pandemic, where 60% of Americans report increased consumption of alcohol during the initial lockdown periods (National Center for Drug Abuse Statistics, 2021). Post-pandemic studies also show an increase in use of cocaine, fentanyl, heroin, and methamphetamine when screened by healthcare professionals in legal systems (Wainwright et al., 2020). According to a recent report from the Centers for Disease Control and Prevention (CDC), 107,000 Americans died from drug overdoses in 2021, indicating that healthcare professionals should be prepared to provide SUD treatment across all continuums of care (CDC, 2022). The original SBIRT protocol was supported by the Institute of Medicine (IOM) publication, *Broadening the Base of Treatment for Alcohol Problems* in the early 1990s,

where a significant gap was found between coordinated primary care and preventive services in communities of individuals with SUDs (IOM, 1990). This led to support from the World Health Organization (WHO) for the integration of community-based screenings, interventions, and referral to treatment (Agerwala & McCance-Katz, 2012). SBIRT is now a part of a nationwide \$280 billion-dollar initiative by SAMHSA, as behavioral health diagnoses such as SUDs are expected to surpass physical disabilities in the United States (Estreet & Privott, 2021; SAMHSA, 2020).

The current SBIRT protocol is supported by SAMHSA (2020) and serves as an evidence-based, public health approach for administering universal screening, brief intervention, and referral to treatment to all healthcare consumers who are at risk of having a SUD. The initial screening takes one-two minutes, and an estimated 75-85% of those screened will screen negative (Massachusetts Department of Public Health, 2023). Those who screen positive will be provided with full assessment tools such as Alcohol Use Disorders Identification Test (AUDIT) or Drug Abuse Screening Test (DAST-10) to further assess unhealthy substance use.

A positive SBIRT screen will initiate a brief intervention to enhance the motivation of a healthcare consumer to construct a plan to address unhealthy substance use. This approach utilizes motivational interviewing, education, and advice to help empower consumers to make any stride towards recovery, no matter how small (SAMHSA, 2020). The length of this step may vary from five minutes to several conversations to support the recovery of the consumer (Massachusetts Department of Public Health, 2023).

The final SBIRT step is referral to treatment, which occurs within the same day to expediate recovery support. This step may involve SUD rehabilitation services offered at a national, state, or local level. The emphasis of this final step is to support the consumer's individual plan for recovery, behavior change, or increased engagement in healthy coping mechanisms to decrease or replace a SUD (Massachusetts Department of Public Health, 2023).

Occupational Therapy's Role

As the prevalence of SUDs are on the rise, occupational therapists have the clinical skillsets to identify and address deficits in daily habits and routines by helping individuals create new healthy performance patterns in supportive contexts (Thompson, 2009). Occupational therapists work in diverse practice settings such as: home health care, acute care, outpatient, skilled nursing, and community settings and have the potential to provide early intervention; however, many occupational therapists report not feeling confident to screen and treat this population (Thompson, 2009; Wasmuth et al., 2016). In an evidence-based review conducted by Stoffel and Moyers (2004), the researchers urged occupational therapists to complete routine SUD screenings in everyday practice to identify and address performance deficits at initial contact with healthcare consumers.

Occupational therapists have been working with populations with SUDs for more than 70 years, however, there is a paucity of literature on effective assessment and intervention protocols for practitioners (Rojo-Mota et al., 2017). Recent systematic review literature suggests that occupational therapy's contribution to the body of evidence for SUD treatment is poor, and further studies are needed to evaluate the preparedness of occupational therapy students prior to entering the healthcare field (Mattila & Provident, 2017; Rojo-Mota et al., 2017).

The current gap in both practice and education for addressing substance use disorders continues to exacerbate the public health crisis that Americans experience today. Educational curriculum on SUDs are vital components to all occupational therapy programs (Craik & Austin, 2000; Egan & Cahill, 2017), and continued expansion of such educational experiences need to be developed to adequately prepare future practitioners (Mattila & Provident, 2017). The Accreditation Council for Occupational Therapy Education (ACOTE) stated that accredited institutions must ensure that entry-level practitioners possess the skills to design and implement interventions for psychosocial and behavioral health deficits that impact engagement and occupational performances (ACOTE, 2018). Substance use disorders fall under the umbrella of psychosocial and behavioral health deficits which are encountered across all practice settings. It is essential that practitioners have the clinical knowledge and skillsets to identify and develop appropriate interventions that have such a profound impact on healthy engagement in daily occupations. It is vital that these skillsets be established and evaluated prior to entering practice to ensure adequate care is provided by practitioners.

Interprofessional Education and SBIRT

Interprofessional education (IPE) experiences have been found to be a valuable tool for enhancing student learning outcomes with the SBIRT protocol (Sherwood et al., 2019). Interprofessional education experiences occur when two or more health professionals work together to enhance learning, collaboration, and health consumer outcomes (World Health Organization, 2010). Since the SBIRT protocol can be used by any healthcare professional, learning how to screen, provide brief intervention, and referral for treatment with another healthcare provider becomes a powerful learning tool during entry-level education (Sherwood et al., 2019).

Sherwood et al. (2019) examined the interprofessional work across ten health disciplines and found that clinical and simulated learning experiences with SBIRT increased participant skills, knowledge, and attitudes. Interprofessional education experiences using SBIRT have been found to increase overall educational experiences, team-based care, and preparedness of students to promote population health outcomes (Clauser et al., 2020). Research conducted with post-professional occupational therapy doctoral students also found that students benefited from a blended learning curriculum infused with SBIRT protocols for increased competency and knowledge for working with individuals with SUDs (Mattila & Provident, 2017).

The purpose of this study was to provide data on the effectiveness of using SBIRT educational experiences in entry-level curriculum for increasing the capacity of student occupational therapists for SBIRT for individuals with SUDs across practice settings.

Methodology

Research Design

This study used a single group, pre/post survey research design. This study also received approval by the University's Institutional Review Board.

Participants

The student participants of this study were second year master's in science of occupational Therapy (MSOT) students taking a psychosocial assessment and intervention course at a mid-western university. Participation in the study was voluntary and convenience sampling was used to recruit 28 students. Students participated in synchronous classroom learning, asynchronous online learning, a virtual case-study, and in-person interprofessional events with student nurses, social workers, and community members who were in recovery from a SUD.

Data Collection Procedures

Student participants were provided with a pre-survey that measured personal background, substance use attitudes, knowledge, competence, confidence, and SBIRT readiness. After the pre-survey, student participants receiving a five-step sequential delivery of SBIRT education, training, and virtual simulation prior to participation in a three-hour series of interprofessional practice events, along with debriefing with community members in recovery. This education and training process took three weeks to complete and involved synchronous classroom education, asynchronous online resources, a video demonstration of the SBIRT protocol, virtual SBIRT simulation, and verified certificate completion prior to participating in three live, IPE events at the university. Table 1 illustrates the sequential education and training steps provided to student participants over the duration of three weeks. Table 2 depicts specific details on the educational events that supported student participant outcomes. Student participants completed a virtual post-survey within one week of the IPE experience on campus. The goal of these educational experiences was to prepare future practitioners to complete screenings, brief intervention, and referring treatment for individuals at risk of an SUD.

Table 1

Sequential SBIRT Education, Training & Interprofessional Events for Participants

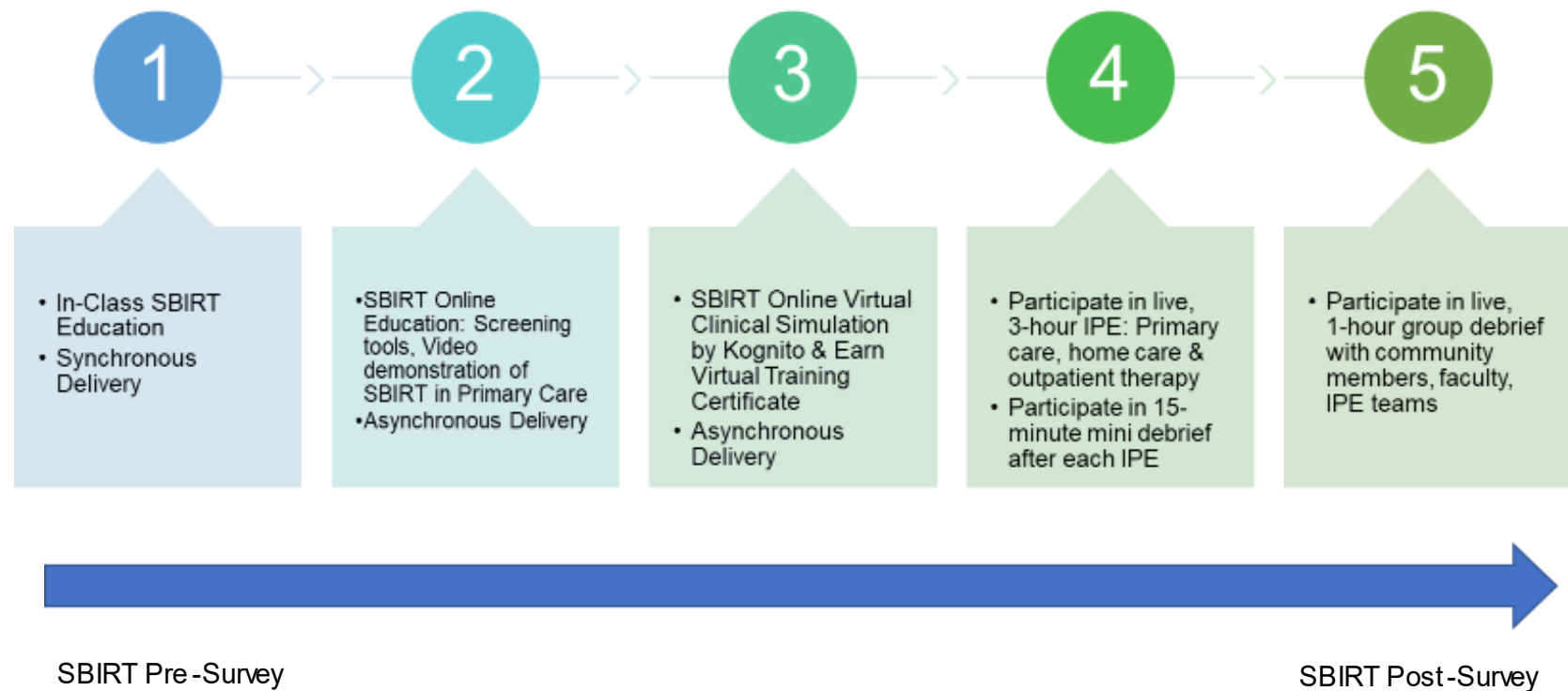


Table 2*SBIRT Education, Training, & IPE Details for Occupational Therapy Students*

Education/Training	Details
Step 1: SBIRT In-person Education: Synchronous Delivery	Education provided as part of the MSOT curriculum: <ul style="list-style-type: none"> • OT role in substance use disorders & recovery (Brown et al., 2019) • Impact of Adverse Childhood Events (ACEs) and substance use recovery (Felitti et al., 1998) • SBIRT Protocol (Massachusetts Department of Public Health, 2023) • Use of Intentional Relationship Model (IRM) for fostering therapeutic relationships (Gorenberg & Taylor, 2014)
Step 2: SBIRT Online Education: Asynchronous Delivery	Online resources provided: <ul style="list-style-type: none"> • Evidence & guide for SBIRT administration (Agerwala & McCance-Katz, 2012) • Interprofessional role of working with nurse practitioner students (Strobbe, 2013) • Role of occupational therapy interventions for individuals with SUDs (Wasmuth et al., 2016) • How to use SBIRT screening tools: (Massachusetts Department of Public Health, 2023) • Online Video: A faculty member created a video demonstrating the application of the SBIRT protocol in primary care for students to view
Step 3: SBIRT Online Virtual Clinical Case Training: Asynchronous	<ul style="list-style-type: none"> • SBIRT Online Virtual Clinical Simulation, <i>At-Risk in Primary Care</i> SBIRT patient care simulation was created by Kognito (2023). This was a 2-hour simulation on how to administer the SBIRT protocol, that provided guided mentoring and feedback to student participants. • Students earned a certificate after participating in the virtual simulation.
Step 4: Participation in SBIRT interprofessional events & immediate team debriefing on campus	<ul style="list-style-type: none"> • Students participated in series of three, 1-hour interprofessional practice events with community members in recovery with allied health professionals: nurse practitioner, social work students, faculty, and staff. • The IPE experiences took place in three practice settings: primary care, home-based, and outpatient therapy. • Each practice setting was provided with 1-hour work; 45-minutes was dedicated to the IPE experience, 15 minutes was allotted for immediate debriefing from community members, faculty/staff, peers to provide feedback on the SBIRT administration.

Step 5: Complete large debriefing event with community members, interprofessional team members on campus	<ul style="list-style-type: none"> • Students participated in a live, 1-hour group debriefing with community members, faculty, and IPE team. • Students learned the lived experiences of community members and effective SBIRT approaches for screening, and referral to treatment.
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Measures

Student participants completed pre- and post-testing assessments to measure attitudes, substance-use knowledge, SBIRT confidence, competence, and readiness, before the start of the intervention (pre) and upon completion of the intervention (post). The following measures were administered.

Demographics

Participants were asked to report their gender, age group, race, and if they were first-generation college students.

Substance Use Attitudes

Attitudes/beliefs related to substance use were assessed using a 13-item scale (Liu et al. 2017). Using a 5-point scale, participants were asked to indicate their degree of agreement or disagreement with several statements about substance use. A lower score indicates a more positive attitude. This measure has been shown to have strong psychometric properties: for internal consistency reliability, Cronbach's alpha ranged from 0.70-0.89 across subgroups; and 1-month test-retest reliability ranged from 0.57-0.65. Related to construct validity, this measure has also been shown to significantly correlate with SBIRT competence (ranged from 0.21 to 0.37) and confidence (ranged from 0.23 to 0.36; Liu et al. 2017).

Substance Use Knowledge

Substance use knowledge was assessed using a 19-item scale (Liu et al., 2020). Participants were given a '1' if they got the question correct, and a '0' if they got it incorrect. The total number of questions answered correctly was the score; the higher the score, the more questions that were answered correctly.

SBIRT Competence

Perceived competence in caring for patients with substance use problems was measured using a 17-item scale (Liu et al. 2017). Using a 4-point scale ranging from 'not at all competent' to 'very competent', participants were asked to indicate how professionally competent they felt in performing alcohol and drug-related aspects when working with a patient. A higher score indicates higher competence. This measure has been shown to have strong psychometric properties: for internal consistency reliability, Cronbach's alpha ranged from 0.97-0.99 across subgroups; test-retest reliability ranged from 0.53-0.60. This measure has also been shown to significantly correlate with substance use attitudes (ranged from 0.21 to 0.37) and SBIRT confidence (ranged from 0.78 to 0.80; Liu et al., 2017)

SBIRT Confidence

Confidence/efficacy in caring for patients with substance use problems was measured using a 9-item scale (Liu et al. 2017). Using an 11-point scale ranging from 'not at all' to 'extremely confident', participants were asked to indicate how confident they felt caring for an individual with a substance use problem (e.g., reviewing previous problems, assessing readiness for change, intervening, expressing empathy). A higher score indicates higher confidence. This measure has been shown to have strong psychometric properties: for internal consistency reliability, Cronbach's alpha ranged from 0.96-0.98 across subgroups; test-retest reliability ranged from 0.60-0.73. This measure has also been shown to significantly correlate with substance use attitudes (ranged from 0.23 to 0.36) and SBIRT competence (ranged from 0.78 to 0.82; Liu et al. 2017).

SBIRT Readiness

Readiness in caring for patients with substance use problems was measured using a 4-item scale (Liu et al., 2020). Using an 11-point scale ranging from 'not at all' to 'extremely confident', participants were asked to indicate how ready they were to do things like screen patients, provide brief interventions, and referral to treatment. A high score indicates higher readiness. This measure has been shown to have high internal consistency reliability (Cronbach's alpha ~0.90; Liu et al., 2020).

Statistical Analyses

Descriptive statistics included means and frequencies of demographic variables and other key study variables (e.g., substance use attitudes, knowledge, competence, confidence, and SBIRT readiness). Paired sample t-tests examined changes in substance use attitudes, substance use knowledge, SBIRT competence, confidence, and readiness from pre to post testing.

Results**Participant Demographics**

A total of 28 entry level occupational therapy graduate students were included in the analyses. As shown in Table 2, most participants were female (92.9%), 20-29 years of age (92.9%), white (89.3%), and were not first-generation college students (64.3%).

Table 3*Demographic Characteristics of the Sample (n=28)*

	N	%
Gender		
Male	2	7.1
Female	26	92.9
Age group		
20-29	26	92.9
30-39	1	3.6
40-49	1	3.6
Race		
White	25	89.3
Hispanic	1	3.6
Multiple/other	2	7.1
First Generation College Student		
Yes	10	35.7
No	18	64.3

Results showed a significant improvement in attitude from pre to post ($p=.001$), a significant increase in substance use knowledge ($p=.001$), a significant increase in SBIRT competence ($p=.001$), a significant increase in SBIRT confidence ($p=.001$), and a significant increase in SBIRT readiness ($p=.001$). The mean pre and post scores for each of the SBIRT outcomes, as well as the results from the paired samples t-tests are shown in Table 2. Results showed a significant improvement in attitude from pre to post ($p=.001$), a significant increase in substance use knowledge ($p=.001$), a significant increase in SBIRT competence ($p=.001$), a significant increase in SBIRT confidence ($p=.001$), and a significant increase in SBIRT readiness ($p=.001$).

Table 4*Change in SBIRT Outcomes Over Time*

	Pre	Post	p-value
Substance use attitude	29.9±3.2	27.6±2.8	.001
Substance use knowledge	12.6±1.9	14.8±1.4	.001
SBIRT competence	39.1±10.1	58.2±10.4	.001
SBIRT confidence	50.7±13.3	72.2±14.3	.001
SBIRT readiness	20.0±9.0	36.0±7.7	.001

Discussion

An important element of this study was that learning the SBIRT protocol was scaffolded over time and practiced in a variety of settings: inside and outside of the classroom, by video, clinical simulation, and finally during on-campus IPE experiences. Students were able to build upon didactic learning that occurred and apply their clinical knowledge and skills during the hands-on immersive IPE experiences with community members in recovery. This allowed students to take ownership of their learning which has been found to be a powerful learning tool (van Diggele et al., 2020). Participating students were provided the opportunity to refine their learning as they delivered the SBIRT protocol in primary care, home-based, and outpatient therapy. Students rotated taking the lead for administering the protocol, while the other participating students provided support for the care team. This repeated SBIRT practice with peers in an interprofessional environment is supported in the Peer Teaching Training (PTT) literature where students benefit from multiple opportunities to practice with feedback on developing skillsets (Burgess et al., 2017).

Another factor that may have enhanced student knowledge and attitudes on substance use was infusing a large, one-hour group debriefing with participating community members after all three IPE events. Students learned the lived experiences including trauma, stigmas, and biases that participating community members encountered in various healthcare contexts during their SUD rehabilitation. A safe space was embedded into debriefing to encourage open communication and collaboration between student participants and community members. This inclusive space was empowering and allowed for community members to be experts on SUD recovery, which provided valuable insight to students on effective SUD assessment and intervention techniques. Inclusive debriefing spaces have been found to foster greater senses of belonging and support overall student learning outcomes in interprofessional literature (Burgess et al., 2017).

The U.S. Department of Health and Human Services (HHS), through SAMHSA (2023), also supports the integration of peer workforces across healthcare systems that offers lived experiences of substance use for individuals in recovery. The participating community members role-played clinical situations that required the initiation of the SBIRT protocol by participating occupational therapy, nursing, and social work students while working together on a care team. The IPE experiences required students to use clinical judgement to recognize unhealthy substance use, initiate screenings, a brief intervention, and referral to treatment. These embedded steps may have fostered the development of clinical thinking and reasoning skills, as well as feelings of competency and confidence for delivering the SBIRT protocol with individuals at risk for a SUD.

Student participants demonstrated significantly increased readiness to conduct an SBIRT protocol following the five sequential steps of educational experiences. A contributing factor to increased readiness may have been enhanced by the immediate debriefing after each IPE experience. Students performed the SBIRT protocol for approximately 45-minutes and then received immediate written and oral feedback from the community members, faculty/staff, and peers after each simulation in primary care,

home-based, and an outpatient therapy setting. The debrief took approximately 15 minutes and occurred prior to the next learning opportunity. This immediate debriefing was intentionally created to help students gain self-awareness, insight, and to learn what SBIRT approaches were effective or ineffective for fostering recovery. Structured and intentional debriefing after IPE events was found to support students' roles as active learners in the literature (van Diggele et al., 2020).

Further support to enhance competence and confidence in student participants could have been modeled communication, team-based collaboration, and clear training instructions that were prior to the in-person IPE experiences. McNeely et al. (2018) supports the research findings produced by this study and insisted that SUD screening protocols can be a valuable part of primary care when clear communication of screening goals and treatment resources are communicated during training experiences. Providing mentorship and modeling of interprofessional leadership can also increase trust, acceptance, shared responsibility, and learning outcomes in IPE experiences (van Diggele et al., 2020).

This study supports curricular investment in SBIRT educational experiences, which may contribute to the preparedness of future practitioners to address recovery during a critical time in U.S. healthcare. This study highlights how scaffolded SBIRT educational experiences can contribute to greater confidence, competency, and readiness to administer critical screening, brief interventions, and referral to treatment for those at risk of a SUD. Furthermore, student participants illustrated changed attitudes and knowledge for working with individuals with a SUD, which may expediate readiness for serving this population upon graduation.

Limitations

This study presents several limitations which include: a small sample size (n=28) with limited diversity in gender, age, race, and educational backgrounds. Student participation in the SBIRT educational experiences was voluntary; therefore, some may have been more motivated to participate in the study and this may limit the generalizability of these findings.

The importance of understanding substance use disorder as an occupation was emphasized in the students' didactic classes, however, the SBIRT learning materials were delivered in an evidence-based manner according to SAMSHA (2022) standards of practice. Future studies would benefit from the greater infusion of occupation-based assessment and treatment procedures in addition to the SBIRT protocol. Occupation-based interventions for individuals in recovery include rebuilding occupational identities, fostering adaptive routines, and developing cognitive capacities to replace disordered thinking patterns to foster occupational engagement (Gutman, 2006).

Implications for Occupational Therapy Education

- Future research is needed to examine the most effective delivery of SBIRT protocols in entry-level occupational therapy curriculums.
- Critical thinking and reasoning skills of occupational therapy students should be measured before and after SBIRT educational practices.
- Longitudinal studies of SBIRT protocols in practicing occupational therapists should be made to measure long-term effectiveness for screening, brief intervention, and referral to treatment resources for populations in recovery from a SUD.
- Future research should measure the relevance of infused IPE experiences and how this impacts student learning outcomes.

Conclusion

This study may help bridge the gap in occupational therapy literature for how to prepare student occupational therapists for today's complex practice milieu. Entry-level SBIRT educational experiences are a valuable tool for preparing future occupational therapists to address SUDs across all practice settings upon initial contact with healthcare consumers. Early exposure to SBIRT training can prepare a future workforce to provide screening, brief intervention, and referral treatment to expediate critical care. Early identification and treatment can initiate steps towards recovery and allow practitioners to develop interventions to foster adaptive habits, roles, and resiliency in those diagnosed with a SUD. Insight gained from this study can help guide occupational therapy programs to strategically embed SBIRT educational materials, resources, and IPE experiences into curricular designs. This study aims to contribute to the occupational therapy body of literature on SBIRT educational practices, and to empower future practitioners to be agents of change in SUD recovery.

References

- Agerwala, S. M., & McCance-Katz, E. F. (2012). Integrating screening, brief intervention, and referral to treatment (SBIRT) into clinical practice settings: A brief review. *Journal of Psychoactive Drugs*, 44(4), 307–317. <https://doi.org/10.1080/02791072.2012.720169>
- Accreditation Council for Occupational Therapy Education. (2018). *Standards and interpretative guide* (effective July 31, 2020). <https://acoteonline.org/wp-content/uploads/2020/10/2018-ACOTE-Standards.pdf>
- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). <https://doi.org/10.1176/appi.books.9780890425787>
- Brown, C., Stoffel, V. C., Munoz, J. P. (2019). *Occupational therapy in mental health. A vision for participation* (2nd ed.). F.A. Davis.
- Burgess, A., Roberts, C., van Diggele, C., & Mellis, C. (2017). Peer teacher training (PTT) program for health professional students: Interprofessional and flipped learning. *BMC Med Education*, 17(239). <https://doi.org/10.1186/s12909-017-1037-6>

- Centers for Disease Control and Prevention. (2022). *Provisional drug overdose death counts*. [https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm?utm_source=SAMHSA&utm_campaign=e6b1726a71SAMHSA Announcement 2022 08 31 1601495&utm_medium=email&utm_term=0 ee1c4b138c-e6b1726a71-169209226](https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm?utm_source=SAMHSA&utm_campaign=e6b1726a71SAMHSA%20Announcement%202022%2008%2031%201601495&utm_medium=email&utm_term=0_ee1c4b138c-e6b1726a71-169209226)
- Clauser, J., Richardson, B. B., Odom-Maryon, T., Mann, D., Willson, M. N., Hahn, P. L., Purath, J., Tuell, E., Schwartz, C. R., & DePriest, D. (2020). Standardized patient simulation using SBIRT (Screening, Brief Intervention, and Referral for Treatment) as a tool for interprofessional learning. *Journal of Teaching and Learning Resources*, 16, 10955. https://doi.org/10.15766/mep_2374-8265.10955
- Craik, C., & Austin, C. (2000). Educating occupational therapists for mental health practice. *British Journal of Occupational Therapy*, 63(7), 335-339. <https://doi.org/10.1177/030802260006300707>
- Egan, B. E., & Cahill, S. M. (2017). National survey to identify mental health topics in entry-level OT and OTA curricula: Implications for occupational therapy education. *Journal of Occupational Therapy Education*, 1(1). <https://doi.org/10.26681/jote.2017.010104>
- Estreet, J. K., & Privott, C. (2021). Understanding therapists' perceptions of co-occurring substance use disorders using the model of human occupation screening tool. *Open Journal of Occupational Therapy*, 9(2), 1-8. <https://doi.org/10.15453/2168-6408.1773>
- Felitti, V., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4). [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)
- Gorenberg, M. P. & Taylor, R. R. (2014). The intentional relationship model: A framework for teaching therapeutic use of self. *OT Practice*, 19(17), CE1-6.
- Gutman, S. A. (2006). Why addiction has a chronic, relapsing course: Neurobiology of addiction. *Occupational Therapy in Mental Health*, 22(2), 1-29. https://doi.org/10.1300/J004v22n02_01
- Hartney, E. (2022). *DSM-5 criteria for substance use disorders*. <https://www.verywellmind.com/dsm-5-criteria-for-substance-use-disorders-21926#citation-1>
- Institute of Medicine. (1990). *Broadening the base of treatment for alcohol problems*. National Academies Press.
- Kognito. (2023). *At-risk in primary care*. https://kognito.com/?utm_source=google&utm_medium=paidsearch&utm_campaign=20230403-ps-brandgoogle&utm_term=kognito%20mental%20health&qad=1&gclid=Cj0KCQjw7aqkBhDPArisAKGa0oJNPeHlGflk87_mXiWxHoLM3pnY23CBclCbVNCs8BJzkJ-7QihqAeasaAlkEA_Lw_wcB
- Liu, W., McPherson, T.L., & Cohen, H. (2020). *Tips and tricks in using pretest and posttest data in the evaluation of adolescent SBIRT curriculum*. Presentation to the Adolescent SBIRT Initiative Learning Collaborative. https://sbirt.webs.com/LC%20Webinar%20on%20data%20use_4_13_final.pdf

- Liu, W., McPherson, T.L., Cohen, H., & Lindsay, D.L. (2017). *Psychometric properties of SBIRT training outcome measures to evaluate an online simulation training*. International Network on Brief Interventions for Alcohol & Other Drugs. <https://sbirt.webs.com/Psychometric%20analysis%20Poster.V6%20%20FINAL-1.PDF>
- Massachusetts Department of Public Health. (2023). *SBIRT: A step-by-step guide*. <https://www.masbirt.org/sites/www.masbirt.org/files/documents/toolkit.pdf>
- Mattila, A., & Provident, I. (2017). Education for occupational therapists to develop the role of healthcare leaders in screening, brief intervention, and referral to treatment (SBIRT). *Journal of Occupational Therapy Education*, 1(3). <https://doi.org/10.26681/jote.2017.010304>
- McNeely, J., Kumar, C. P., Riechmann, T., Sedlander, E., Farkas, S., Chollak, C., Kannry, L. J., Vega, A., Waite, A. E., Peccoralo, A. L., Rosenthal, N. R., McCarty, D., & Rotrosen, J. (2018). Barriers and facilitators affecting the implementation of substance use screening in primary care clinics: A qualitative study of patients, providers, and staff. *Addiction Science and Clinical Practice*, 8, 1-15. <https://doi.org/10.1186/s13722-018-0110-8>
- National Center for Drug Abuse Statistics. (2021). *Alcohol abuse statistics*. <https://drugabusestatistics.org/alcohol-abuse-statistics/>
- Rojo-Mota, G. Pedrero-Perez, E. J. & Huertas-Hoyas, E. (2017). Systematic review of occupational therapy in treatment of addiction: Models, practice, and qualitative and quantitative research. *American Journal of Occupational Therapy*, 71(5), 7105100030p1-7105100030p11. <https://doi.org/10.5014/ajot.2017.022061>
- Sherwood, D., Kramlich, D., Rodriguez, K., & Graybeal, C. (2019). Developing a Screening, Brief Intervention, and Referral to Treatment (SBIRT) program with multiple health professions programs. *Journal of Interprofessional Care*, 33(6), 828-831. <https://doi.org/10.1080/13561820.2019.1569601>
- Stoffel, V.C., & Moyers, P. A. (2004). An evidence-based and occupational perspective of interventions for persons with substance-use disorders. *American Journal of Occupational Therapy*, 58, 570-586. <https://doi.org/10.5014/ajot.58.5.570>
- Strobbe, S. (2013). Addressing substance use in primary care. *Nurse Practitioner*, 38(10), 45-53. <https://doi.org/10.1097/01.NPR.0000433078.14775.15>
- Substance Abuse and Mental Health Services Administration. (2023). *HHS publishes national model standards for substance use, mental health, and family peer worker certifications*. https://www.samhsa.gov/newsroom/press-announcements/20230606/hhs-publishes-national-model-standards-substance-use-mental-health-family-peer-worker-certifications?utm_source=SAMHSA&utm_campaign=4b88ba3e51-EMAIL_CAMPAIGN_2023_06_05_02_41&utm_medium=email&utm_term=0_4b88ba3e51-%5BLIST_EMAIL_ID%5D
- Substance Abuse and Mental Health Services Administration. (2022). *Screening, brief intervention, and referral to treatment*. <https://www.samhsa.gov/sbirt>
- Substance Abuse and Mental Health Services Administration. (2020). *Adults in poor physical health reporting behavioral health conditions have higher health costs*. https://www.samhsa.gov/data/sites/default/files/report_2107/ShortReport-2107.html

- Thompson, K. (2009). Occupational therapy and substance use disorders: Are practitioners addressing these disorders in practice? *Occupational Therapy in Health Care*, 21(3), 61–77. https://doi.org/10.1080/J003v21n03_04
- van Diggele, C., Roberts, C., & Burgess, A. (2020). Interprofessional education: Tips for design and implementation. *BMC Med Education*, 20(2), 455. <https://doi.org/10.1186/s12909-020-02286-z>
- Wainwright, J., Mikre M., Whitley P., Dawson, E., Huskey, A., Lukowiak, & Giroir, B. (2020). Analysis of drug test results before and after the US declaration of a national emergency concerning the COVID-19 outbreak. *Journal of the American Medical Association*, 324(16), 1674-1677. <https://doi.org/10.1001/jama.2020.17694>
- Wasmuth, S., Prichard, K., & Kaneshiro, K. (2016). Occupation-based intervention for addictive disorders: A systematic review. *Journal of Substance Abuse Treatment*, 62, 1-9. <https://doi.org/10.1016/j.jsat.2015.11.011>
- World Health Organization. (2010). *Framework for action on interprofessional education and collaborative practice*. <https://www.who.int/publications/i/item/framework-for-action-on-interprofessional-education-collaborative-practice>