An Evaluation of Findings from a SBIRT Training Program in Counselor Education

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Abstract

The effective implementation of empirically supported interventions is critical for the mitigation of problematic substance use. Screening, Brief Intervention, and Referral to Treatment (SBIRT) has been identified as an efficacious approach for initial response to individuals who have, or are at risk of developing, a substance use disorder. For SBIRT to be delivered appropriately, helping professionals must be adequately trained in its implementation. As a part of a three-year grant project, counselor educators at a large Midwestern university provided intensive training on SBIRT to students in a counselor education program. The outcomes of this training, specifically related to satisfaction, opinion, knowledge, and perceived competence, are presented in this article.

Keywords

Author's Notes

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), approximately 9.5 million adults in the United States, or 3.8% of the population, experienced a co-occurring mental health and substance use disorder (SUD) in 2019 (SAMHSA, 2020a). However, more than half of these individuals (51.4%) did not receive any mental health or addiction services in that year. Even though millions of Americans who may have needed mental health or addictions services did not receive them, it is estimated that 16% of the U.S. adult population at large did engage with mental health treatment providers in 2019. This percentage of service recipients was up from 15% in 2018 (SAMHSA, 2020a). With general involvement in mental health services increasing in the U.S., counselors are in a unique position to identify and address previously undiagnosed SUDs or co-occurring concerns, as well as help prevent or reduce risky substance use with clients who do not have a SUD.

Although professional counselors are often well-positioned to help address the public health concerns associated with problematic substance use, in the last twenty years, many studies investigating graduate preparation programs in counselor education report a need for expanded training in this domain (e.g., Chandler et al., 2011; Lee & Bischof, 2015; Madson et al., 2008; Rogers et al., 2019) and more opportunities for professional development (Moro et al., 2016). The examination of substance use counseling content areas covered in counselor training programs further substantiates the insufficiency. In 2009, the Council for Accreditation of Counseling and Related Educational Programs (CACREP) standards required that Clinical Mental Health Counseling (CMHC) students develop competency related to screening, assessment, intervention, and referral to treatment (CACREP, 2009). In 2011, a review of counseling programs accredited by CACREP found that over 8% of the sample did not cover any of the 11 addiction content areas listed in the standards (e.g., screening, assessment, diagnosis, prevention, intervention, co-

occurring disorders; Lee, 2011). Although the updated 2016 CACREP standards reduced the number of addiction-related competencies, the training required in this area for CMHC students remained substantive, particularly related to co-occurring disorders (CACREP, 2016). Moreover, according to these standards, all counselors-in-training enrolled in CACREP programs are to know the "theories and etiology of addictions and addictive behaviors" (p. 10).

Few studies in the last decade present research evaluating the amount of addiction training and the type of content delivered in CACREP-accredited programs. One such study published in 2015 asserts that the percentage of programs requiring addiction related coursework increased from 30% around 2000 (Morgan et al., 1997; Whittinghill et al., 2004) to 46% in 2011 (Lee, 2011) to 53% in 2015 (Chasek et al., 2015). Worth noting is that the researchers included addiction counseling programs, which would require coursework in this area as part of the curricula. While the coursework may be more common practice than it was 20 years ago, some researchers continue to urge counselor education faculty to incorporate more education on addictive behaviors. For example, in 2018, over two-thirds of college counselors surveyed did not receive training on sexual addiction during their graduate studies, despite the fact that 84.4% of the counselors had a client with such an issue in the last year (Giordano & Cashwell, 2018). This suggests that there continues to be a gap between the directives of CACREP and the preparation of professional counselors.

Addressing the deficiencies in addiction training is vital given that the prevalence and impact of substance use continue to be major public health concerns in the U.S. Highlighting the urgency of these issues, the Centers for Disease Control and Prevention (CDC) recently released a health advisory calling for an expansion of substance abuse prevention efforts due to the consequences of the current COVID-19 pandemic (CDC, 2020). Over 100,000 drug overdose deaths occurred in the U.S. in the 12 months ending in April 2021, an increase of 28.5% from the

year before which was the highest number of overdose deaths ever recorded in a 12-month period (CDC, 2021). In order to prevent overdose and other substance use related consequences, screening and intervention efforts across health professions need heightened attention. One approach, highly endorsed by the World Health Organization and SAMHSA, is screening, brief intervention and referral to treatment (SBIRT; Babor et al., 2017). Counselors can employ this protocol when working with adult clients, as well as with adolescents in school settings (Mullen et al., 2019) and young adults in college counseling centers (Giordano & Cashwell, 2018).

SBIRT Protocol

Screening does not identify the type or severity of a problem, but instead determines whether a problem exists and if further assessment is needed. Screening should include the use of a validated psychometric instrument (e.g., Alcohol Use Disorders Identification Test [AUDIT] and Drug Abuse Screening Test [DAST]) and last no more than 10 minutes (SAMHSA, 2013). The screening results allow trained professionals to initiate conversations with clients about substance use while employing Motivational Interviewing to facilitate healthy behavior change. Depending on the screening tool used, a risk level is assigned based on the client's reported use patterns. People endorsing little or no risky use may not need an intervention but may benefit from reinforcement of their healthy behaviors. If clients endorse substance use patterns of moderate risk, a brief intervention follows the screening, while those indicating high risk use patterns may need either a brief treatment or further diagnostic assessment and a referral to more intensive specialty treatment (SAMHSA, 2013; see Figure 1).

Figure 1

SBIRT Process Determined by Risk Level
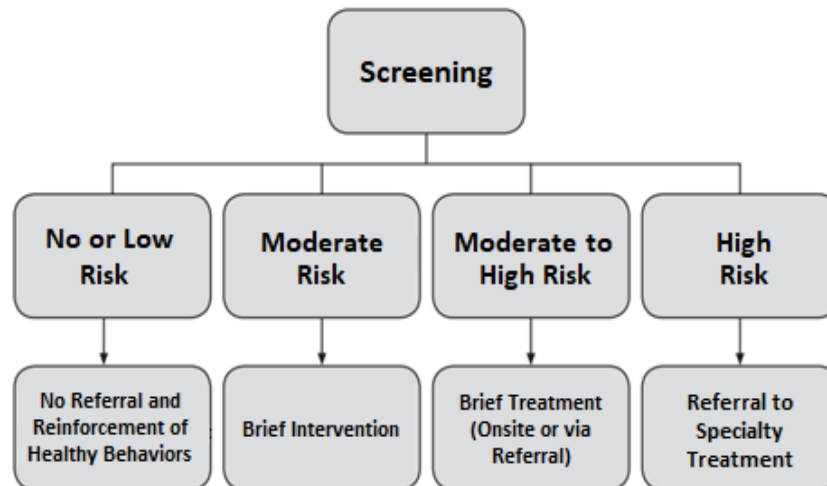
SBIRT Training Initiatives and Outcomes

Since 2003, the U.S. Department of Health and Human Services has funded a substantial number of SAMHSA SBIRT grant projects that demonstrate clear support by the government for the widespread adoption of this protocol (Babor et al., 2017). Many of these projects implemented and evaluated the infusion of SBIRT training into the curriculum of undergraduate and graduate students in university settings (Kalu et al., 2016). Initially, the grant activities focused on training students enrolled in various medical disciplines; however, in 2013 SAMHSA began awarding funding for implementing SBIRT training to those in other health programs (e.g., social work) across the country (Carlson et al., 2017).

A review of the available SBIRT literature published on student trainings over the last decade reveals numerous articles highlighting student outcomes related to one or more of the following domains: (a) training satisfaction, (b) knowledge acquisition, (c) perceived competence,

and (d) perceived usefulness of the training in nursing (e.g., Puskar et al., 2013; Mitchell et al., 2017), medical residency (e.g., Clemence et al., 2016; Kalu et al., 2016), and social work (e.g., Carlson et al., 2017; Sacco et al., 2017). Noteworthy is that much of the available research is based on aggregated data resulting from interprofessional trainings including students from programs such as criminal justice, dentistry, physician assistant, pharmacy, and nursing (e.g., Acquavita et al., 2021; Martin et al., 2021; Moore et al., 2017; O'Brien et al., 2019; Osborne et al., 2016). Moreover, the authors note that some of the published research pertaining to SBIRT training combined many different disciplines. For example, Martin and colleagues (2021) trained almost 2,500 student participants from 15 various disciplines at 20 institutions (including "mental health counselors" and "professional counseling"); however, the results related to satisfaction, knowledge and attitude were only displayed in a dichotomous fashion as "non-medical" and "medical" professions. Thus, not highlighting these three outcomes specifically for counseling students.

In fact, very few studies focus on the training of counseling psychology students (e.g., Scudder et al., 2021) or counselor education students. One such study was a SAMHSA-funded project that described substance use-related attitude outcomes before and after SBIRT training. However, of the 651 trainees, only 19 were counselor education students (Calleja et al., 2020). Furthermore, although the project included counseling students in the research pertaining to attitude outcomes, the article did not report on changes in perceived competence or participants' satisfaction with the training.

While not focused on counseling students, the current authors identified a 2019 study investigating the outcomes of a one-day SBIRT training with rehabilitation counselors employed through the North Carolina Department of Vocational Rehabilitation Services. The survey results demonstrated that participants had SUD knowledge but "require more training in the area" (Rogers

et al., 2019, p. 150) as they were not "confident about using a formal screening tool…uncertain about specific policies for screening and referring consumers…and hesitant to screen for SUDs due to lack of knowledge" (p. 150).

As evident in this literature review, there are a limited number of peer-reviewed journal articles detailing the learning outcomes and/or satisfaction rates of SBIRT training with either students or graduates of counseling programs. Given the identified concerns regarding increasing substance related health problems in the U.S. and deficiencies in counselor preparation, the need for information on effective training related to SUD screening and intervention is clear. The dissemination of the research outlined in this study aims to address this identified gap in the literature. The following research questions guided this study: (1) What are the perceived levels of satisfaction of students who complete a structured SBIRT training curriculum? (2) What are the perceived levels of competence of students who complete a structured SBIRT training curriculum? The purpose of this study was to present and discuss the learning outcomes demonstrated by counselor education students in the following domains: (a) satisfaction, (b) opinion, (c) knowledge, and (d) perceived competence.

SBIRT Training for Current Study

In 2015, the first and fourth authors were recipients of a three-year training grant funded by SAMHSA and together (with another co-investigator) implemented a project entitled, *SBIRT Training with Students and Community Organizations in the Health Professions in West Michigan*. The following is an overview of the knowledge- and skill-based trainings.

Knowledge Training

The knowledge-based training occurred over two class periods through didactic-lecture format. Students completed a series of readings and video-observations as part of their training.

Although the curriculum was not piloted, the authors utilized many of the training materials provided by SAMHSA (e.g., PowerPoints, handouts). The first session goals were to develop an understanding of the following: (1) SBIRT and how substance use impacts mental and physical health (e.g., co-occurring disorders); (2) alcohol education (e.g., definition of a standard drink, risky drinking patterns); (3) identification and use of empirically-supported screening tools (e.g., AUDIT, DAST) and SUD diagnostic criteria; (4) implementation of Brief Intervention, knowledge and skill components of Motivational Interviewing, identification of stages of change, utilization of pocket guide (including readiness or "importance ruler"; Miller & Rollnick, 2013, p. 174); and (5) timing and process of referral to treatment and the importance of facilitating a "warm handoff." The second session of didactic training focused on the development of reflective and evaluative skills pertaining to SBIRT implementation. Specifically, students were introduced to the Proficiency Checklist (PC; Pringle et al., 2017), which assesses the presence or absence of SBIRT adherent skills. Students learned about the PC by watching and evaluating video demonstrations of SBIRT and then used the instrument to assist with assessment when engaging in triadic role-plays with classmates. The PC was a training tool in this study (rather than for data collection and analysis), and a copy of the instrument can be found online at https://indianasbirt.org/resources#implementation-tab. The authors discuss both the triadic role-plays and the PC in more detail later in this article.

The *Recovery Oriented Systems of Care (ROSC)* course was in a hybrid format and included an online component with web-based knowledge development activities. Specifically, class members participated in video observations, discussion board interactions, reflective exercises, and a quiz. The university's student learning management portal delivered the SBIRT activities.

Skills Training

To attend to skill-based student learning outcomes, the participants engaged in experiential role-plays both in the classroom and a mock clinical setting. For the in-class experiences, students worked in triads and used a standardized case example. In the triads, trainees rotated through roles of counselor, client, and observer. The case study provided basic client information and students could expand upon it freely to encourage dynamic responsiveness from the individual playing the counselor. While in the counseling role, the researchers advised students to remember the items listed on the PC in order to practice the utilization of SBIRT adherent skills, including attention to the Motivational Interviewing spirit that should be evident throughout an effective screening. The trainers encouraged students to directly reference their PC while playing the counselor role, if they were having difficulty during the activity. Lastly, students in the observer role used the PC to assess the trainee playing the counselor. Each role-play lasted 10 minutes and 5-minutes of peer feedback followed. During the role-plays and feedback sessions, members of the SBIRT research team rotated between groups to provide suggestions and answer questions.

After the in-class training, students engaged in a video-recorded, mock clinical experience in which they were responsible for implementing SBIRT. Prior to entering the clinical setting, students received a new standardized client case and a pre-scored AUDIT to review. Next, students entered the "counseling room" and demonstrated their SBIRT skills with the standardized client, played by a trained clinical actor or a doctoral student in counselor education. Students were unable to access the PC during this mock counseling encounter. The students then scheduled an appointment to participate in a feedback session with a member of the research team. Before the feedback session took place, the second and third authors evaluated each student's SBIRT role play session using both the PC and MD3 SBIRT Coding Scale (MD3; Pringle et al., 2017;

DiClemente et al., 2015). The MD3 Scale was not introduced to the students in the training, as emphasis was placed on the PC. As was true for the PC, the utility of the MD3 Scale was for training purposes, not data analysis or comparison. This utilization aligned with the aims outlined in the grant. The evaluators met with the students for 20 to 30 minutes to provide feedback on their SBIRT skills, adherence to the protocol, and overall PC and MD3 Scale ratings. For more detail on the training content, delivery methods, etc., refer to the publication by Lee and colleagues (2021).

Methods

After obtaining approval from the university's Human Subjects Institutional Review Board, the trainings began. Over a three-year period (2015 to 2018) a total of 199 health professionals at community agencies and 131 graduate-level students obtained training in SBIRT. Seventy-one were students in the Physician Assistant program, 32 were from the Department of Counselor Education and Counseling Psychology (CECP), and 28 were in the Social Work program and/or the addiction certificate program. The CECP trainees are the focus of the present article.

Setting

The first and fourth authors taught the SBIRT content and infused it into a course entitled *Recovery Oriented Systems of Care (ROSC).* As a cross-listed course, enrollment included students from CECP, social work, and addiction studies. Although all of the students in these courses received the training, only the CECP students could participate in the study due to the federal grant parameters.

The SBIRT training occurred over five hours (during two class periods) in five sections of *ROSC*. In an effort to recruit more participants, the researchers expanded the training to include

another course, *Counseling Practicum,* at a satellite campus. The *ROSC* and *Counseling Practicum* courses were chosen due to the alignment between their student learning outcomes and SBIRT training goals. None of the participants were enrolled in both courses. Best practices identified in the literature, other SBIRT projects funded by SAMHSA, and the CACREP accreditation standards guided the creation of the curriculum. The researchers also considered the timeline for the training and designed the delivery (a) to align with the hybrid course schedule with which students were enrolled and (b) with attention to the developmental nature of learning where knowledge is followed by opportunities for supervised application.

Participants

For this project, the researchers proposed to enroll a minimum of 20 CECP participants each year for two years, for a total of at least 40 students. As noted earlier, potential participants were recruited from five sections of the *ROSC* course and one section of *Counseling Practicum.* Inclusionary criteria were as follows: participants had to be (1) a graduate student in Counselor Education or Counseling Psychology at the university; (2) currently enrolled in *ROSC* or *Counseling Practicum*; (3) on schedule to register for *Field Practicum/Internship* within one year of the aforementioned courses; (4) complete the Human Subjects Institutional Review Board-approved informed consent document, indicating their agreement to participate. The researchers briefed the potential participants about the study at the beginning of each semester and informed them that accepting or declining research participation would not impact their course grade. In order to maintain participation anonymity from classmates throughout the courses, all students completed all the grant-related SBIRT training activities (e.g., didactic lecture, role plays, and surveys); however, the researchers only provided the study participants with the research-specific opportunities for additional evaluation and feedback.

Overall, the researchers trained 60 graduate students in the *ROSC* and *Counseling Practicum* courses. Of those 60 trainees, 32 were from CECP and 28 were from either the Social Work or the addiction studies program. Of the 32 CECP students, 24 enrolled in the study and 21 completed the demographic questions. Nineteen of the participants identified as white/European American, one black/African American, and one Asian/Pacific Islander. Twelve participants identified as female, seven as male, one indicated they were *Undecided* and one did not report. As for the questions pertaining to prior training in SBIRT, 12 indicated having *None*, four had *Limited*, and five had *Some*. Finally, 13 participants reported having no prior experience implementing SBIRT, four had *Limited* experience and four had *Some*.

Surveys

After a review of the training materials provided by SAMHSA and publications related to SBIRT student trainings, the first author created and adapted questions by domain (e.g., knowledge, opinion, perceived competency) that were then approved by the research team. The finalized surveys administered at pre-test, post-test, and 30-day follow-up consisted mostly of the same prompts, addressing each domain. The questions were answered on a 5-point Likert Scale with possible responses ranging from 1=Strongly Agree to 5=Strongly Disagree. The pre-test had 19 prompts, while the post-test and 30-day follow-up consisted of 22 prompts, as three additional questions evaluated if participants perceived an increase in competence resulting from the training. For the purposes of this study, the researchers chose the term "perceived competence" to reflect previous literature and the participant's personal assessment of their knowledge and abilities in the various aspects of SBIRT.

A total of four opinion questions assessed participants' attitudes regarding the importance and value of SBIRT and SBIRT-related intervention. The following is an example of an opinion

prompt: *Delivering brief intervention for problematic substance use is an important aspect of a direct care provider's role.* Perceived competence prompts, which accounted for 10 of the survey questions, assessed participants' beliefs about their SBIRT knowledge, skill, and abilities. One of the perceived competence prompts was: *I am confident in my ability to use appropriate, valid substance use screening tools with my patients/clients.* In the domain of knowledge, five multiple-choice questions evaluated a participant's ability to demonstrate direct understanding of SBIRT related content. For instance, students were asked: *Which of the following is NOT a commonly used screening tool for the implementation of SBIRT?* Finally, as noted earlier, the post-test and 30-day follow-up surveys included three additional items related to post-training competence such as, *The SBIRT training has improved my confidence in providing patients/clients with appropriate referrals.*

As a SAMHSA grant funded project, the Center for Substance Abuse Treatment (CSAT) satisfaction survey was required for governmental reporting purposes. This survey included 17 questions and was completed after the second in-class training session. These surveys were given to all students and post-test surveys were also collected during that same time. The CSAT baseline and 30-day follow up satisfaction surveys used in this study can be found online (SAMHSA, 2020b). Although not a learning outcome measure, the CSAT is a required element for trainees in the SAMHSA grant. All participants were emailed a 30-day follow up survey using a secure, electronic survey program.

Data Analysis

First, the researchers gathered frequency counts from the CSAT survey to determine level of satisfaction with the SBIRT training. Next, data were analyzed from the pre-test, post-test, and 30-day follow-up surveys. Overall measures of opinion, perceived competence, and knowledge

were created by taking sums of the corresponding variables for each measure. Lower values of these measures indicate better outcomes. The sign rank test, a nonparametric alternative of the paired t-test, compared the pre-test versus post-test and post-test versus 30-day follow-up measures.

Results

Of the 32 potential participants, 25 provided informed consent. Twenty-four subjects completed the pre-test survey, 22 filled out the CSAT baseline satisfaction survey, and 21 completed both the pre-test and post-test surveys. With regard to the 30-day follow-up survey, 17 of the 21 participants provided responses for the opinion questions and 16 of 21 participants gave responses for the perceived competence and knowledge questions.

On the CSAT satisfaction survey, the majority responded that they were *Very Satisfied* or *Satisfied* for most of the questions (see Table 1). To highlight, 95.46% indicated (a) the training enhanced their SBIRT skills, (b) the information from the instructor was useful, (c) the training was relevant to their career, and (d) they would recommend the training to a colleague.

All the measures were statistically significant for the pre-test versus post-test using the .05 alpha level (Table 2). Statistically significant associations were estimated for opinion ($p = .0448$), perceived competence ($p = .0014$), and knowledge ($p = .0052$). No statistically significant associations were observed for post-test versus 30-day follow-up comparisons for any of these measures (Table 2). The pre-test, post-test, and 30-day follow-up frequencies and percentages for individual questions related to opinion, perceived competence, and knowledge are displayed in Tables 3, 4, and 5. Overall, participants reportedly *Strongly Agreed* or *Agreed* to the four opinion questions (Table 3). For example, on all three surveys, 100% of participants acknowledged that their *involvement with patients/clients with problematic substance use can have a positive impact*

on patient/client outcomes and *delivering brief intervention for problematic substance use is an important aspect of a direct care provider's role.*

Table 1

SBIRT Training Satisfaction Outcomes from CSAT Survey

Variable	N	Very satisfied		Satisfied		Neutral		Dissatisfied		Very dissatisfied	
		N	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Training quality	22	14	63.64	6	27.27	2	9.09	0	0	0	0
Instruction quality	22	18	81.82	3	13.64	1	4.55	0	0	0	0
Training material quality	22	14	63.64	5	22.73	3	13.64	0	0	0	0
Overall satisfaction	22	14	63.64	6	27.27	2	9.09	0	0	0	0
Variable	N	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
		N	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Training was organized	22	13	59.09	8	36.36	1	4.55	0	0	0	0
Material was useful for dealing with s. abuse	22	17	77.27	5	22.73	0	0	0	0	0	0
Instructor was knowledgeable	22	20	90.91	2	9.09	0	0	0	0	0	0
Instructor was well prepared	22	19	86.36	3	13.64	0	0	0	0	0	0
Instructor was receptive to comments/questions	22	20	90.91	2	9.09	0	0	0	0	0	0
Currently effective in this area	22	2	9.09	9	40.91	9	40.91	2	9.09	0	0
Training enhanced skills in this area	22	11	50.00	10	45.45	1	4.55	0	0	0	0
Training was career-relevant	22	17	77.27	4	18.18	1	4.55	0	0	0	0
Expect to use information from training	22	15	68.18	6	27.27	1	4.55	0	0	0	0
Expect training to benefit clients	22	15	68.18	6	27.27	1	4.55	0	0	0	0
Training was relevant to s. abuse treatment	22	21	95.45	1	4.55	0	0	0	0	0	0
Would recommend training	22	18	81.82	3	13.64	1	4.55	0	0	0	0
Variable	N	Very useful		Useful		Neutral		Useless		NA	
		N	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Usefulness of information from instructor	22	18	81.82	3	13.64	1	4.55	0	0	0	0

Note: N is the available sample size used in the analysis out of a total of 25 subjects.

Table 2

Survey Change Comparisons

Variable	N	Pre-test				Post-test				Post-test-Pre-test Change				P-value
		Mean	*Std*	*Median*	*Range*	*Mean*	*Std*	*Median*	*Range*	*Mean*	*Std*	*Median*	*Range*	
Opinion (sum)	21	5.43	1.60	5	3,8	4.71	1.38	4	4,8	-.71	1.42	-1	-4,2	.0448*
Perc. Comp. (sum)	21	27.10	9.47	29	8,43	19.67	5.04	20	11,28	-7.43	9.77	-7.00	-24,16	.0014*
Knowledge (sum)	21	6.38	1.40	7	4,9	5.29	0.56	5	5,7	-1.10	1.58	-2	-4,3	.0052*
Variable	N	Post-test				Follow-up				Follow-up-Post-test Change				P-value
		Mean	*Std*	*Median*	*Range*	*Mean*	*Std*	*Median*	*Range*	*Mean*	*Std*	*Median*	*Range*	
Opinion (sum)	17	4.65	1.46	4	4,8	4.76	1.44	4	4, 8	.12	1.32	0	-3,4	.81
Perc. Comp. (sum)	16	19.5	4.16	20	12,26	18.81	5.10	18.5	11,28	-.69	3.72	0	-8,4	.67
Knowledge (sum)	16	5.19	0.40	5	5,6	5.44	0.73	5	5, 7	.25	0.86	0	-1, 2	.34

Note. N is the available sample size used in the analysis out of a total of 25 subjects.

* Indicates statistical significance

Table 3

Opinion Outcomes from Pre-test, Post-test, and 30-day Follow-up Surveys

Variable	N	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree	
		n	*%*	*N*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Provider has positive impact on patient/client outcomes (Pre-test Q1)	24	13	54.17	11	45.83	0	0	0	0	0	0
Post-test Q1	21	17	80.95	4	19.05	0	0	0	0	0	0
Follow-Up Q1	17	15	88.24	2	11.76	0	0	0	0	0	0
Importance of substance use screening for direct care providers (Pre-test Q2)	24	18	75.00	5	20.83	1	4.17	0	0	0	0
Post-test Q2	21	17	80.95	4	19.05	0	0	0	0	0	0
Follow-Up Q2	17	13	76.47	4	23.53	0	0	0	0	0	0
Importance of brief intervention for direct care providers (Pre-test Q3)	24	11	45.83	13	54.17	0	0	0	0	0	0
Post-test Q3	21	17	80.95	4	19.05	0	0	0	0	0	0
Follow-Up Q3	17	13	76.47	4	23.53	0	0	0	0	0	0
Importance of referrals for treatment for direct care providers (Pre-test Q4)	21	15	71.43	6	28.57	0	0	0	0	0	0
Post-test Q4	21	18	85.7	3	14.29	0	0	0	0	0	0
Follow-Up Q4	17	14	82.35	3	17.65	0	0	0	0	0	0

Note. N is the available sample size used in the analysis out of a total of 25 subjects.

Higher percentages of respondents answered *Strongly Agreed* to the 10 perceived competence questions in the post-test as compared to the pre-test (Table 4). For example, no respondents *Strongly Agreed* to "know[ing] the principles of Motivational Interviewing, including the use of the Readiness Ruler in the pre-test (Pre-test Q7), while 42.86% *Strongly Agreed* in the post-test (Post-test Q7). At pre-test, five students out of 21 (23.81%) indicated being *confident in [their] ability to use appropriate, valid screening tools with [their] patients/clients* and 52.38% of respondents marked *Disagreed* or *Strongly Disagreed* to being confident in this skill. However, at

post-test, 16 out of 21 (76.19%) indicated agreement and at 30-day follow-up, 14 out of 16 respondents (87.50%) indicated so.

In Table 5, the results of the five knowledge questions are displayed. Participants gained knowledge related to commonly used screening tools, as 41.67% were correct in the pre-test (Pre-test Q15) and after the training, 95.24% indicated the correct answer (Post-test Q18). Another example of knowledge acquisition is with the pre-test question regarding the definition of hazardous drinking patterns for males (Pre-test Q18). Sixty percent of the students answered incorrectly; however, all students answered correctly at post-test (Post-test Q21).

Table 4

Perceived Competence Outcomes from Pre-test, Post-test, and 30-day Follow-up Surveys

Variable	N	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree	
		n	*%*	*n*	*%*	*N*	*%*	*n*	*%*	*n*	*%*
Knowledge of appropriate, valid substance use screening tools (Pre-test Q5)	21	0	0	5	23.81	4	19.05	8	38.10	4	19.05
Post-test Q5	21	7	33.33	12	57.14	2	9.52	0	0	0	0
Follow-Up Q5	16	3	18.75	12	75	1	6.25	0	0	0	0
Confidence using appropriate, valid substance use screening tools (Pre-test Q6)	21	1	4.76	4	19.05	5	23.81	6	28.57	5	23.81
Post-test Q6	21	3	14.29	13	61.90	3	14.29	2	9.52	0	0
Follow-Up Q6	16	3	18.75	10	62.50	3	18.75	0	0	0	0
Knowledge of MI and Readiness Ruler (Pre-test Q7)	21	0	0	7	33.33	7	33.33	4	19.05	3	14.29
Post-test Q7	21	9	42.86	12	57.14	0	0	0	0	0	0
Follow-Up Q7	16	6	37.50	10	62.50	0	0	0	0	0	0
Confidence using MI with clients with substance use (Pre-test Q8)	21	0	0	5	23.81	6	28.57	4	19.05	6	28.57
Post-test Q8	21	5	23.81	11	52.38	4	19.05	1	4.76	0	0
Follow-Up Q8	16	5	31.25	9	56.25	2	12.50	0	0	0	0
Confidence using substance use BIs with clients (Pre-test Q9)	21	0	0	5	23.81	6	28.57	5	23.81	5	23.81
Post-test Q9	21	6	28.57	10	47.62	4	19.05	1	4.76	0	0
Follow-Up Q9	16	5	31.25	8	50	3	18.75	0	0	0	0

	N										
Knowledge of local referral resources for substance use treatment (Pre-test Q10)	21	2	9.52	6	28.57	3	14.29	8	38.10	2	9.52
Post-test Q10	21	4	19.05	6	28.57	8	38.10	3	14.29	0	0
Follow-Up Q10	16	4	25	8	50	1	6.25	3	18.75	0	0
Confidence in referring clients for further substance use assessment (Pre-test Q11)	24	2	8.33	7	29.17	5	20.83	6	25	4	16.67
Post-test Q11	21	4	19.05	12	57.14	3	14.29	2	9.52	0	0
Follow-Up Q11	16	3	18.75	9	56.25	2	12.50	2	12.50	0	0
Confidence in follow-up and reassessment of clients who received substance use BI and referral (Pre-test Q12)	24	1	4.17	5	20.83	7	29.17	7	29.17	4	16.67
Post-test Q12	21	6	28.57	12	57.14	3	14.29	0	0	0	0
Follow-Up Q12	16	4	25	8	50	3	18.75	1	6.25	0	0
Knowledge of physical health condition co-morbid with substance use (Pre-test Q13)	24	4	16.64	17	70.83	2	8.33	1	4.17	0	0
Post-test Q13	21	6	28.57	12	57.14	2	9.52	1	4.76	0	0
Follow-Up Q13	16	7	43.75	8	50	1	6.25	0	0	0	0
Knowledge of mental health condition co-morbid with substance use (Pre-test Q14)	24	5	20.83	17	70.83	2	8.33	0	0	0	0
Post-test Q14	21	6	28.57	15	71.43	0	0	0	0	0	0
Follow-Up Q14	16	8	50	7	43.75	1	6.25	0	0	0	0

Note. N is the available sample size used in the analysis out of a total of 25 subjects.

Table 5

Knowledge Outcomes from Pre-test, Post-test, and 30-day Follow-up Surveys

Variable	N	Correct		Incorrect	
		n	*%*	*n*	*%*
Knowledge of SBIRT screening tools (Pre-test Q15)	24	10	41.67	14	58.33
Post-test Q18	21	20	95.24	1	4.76
Follow-Up Q18	16	15	93.75	1	6.25
Knowledge of conditions co-occurring with alcohol use (Pre-test Q16)	24	23	95.83	1	4.17
Post-test Q19	21	20	95.24	1	4.76
Follow-Up Q19	16	15	93.75	1	6.25
Knowledge of MI questions (Pre-test Q17)	24	12	50.00	12	50.00
Post-test Q20	21	17	80.95	4	19.05
Follow-Up Q20	16	13	81.25	3	18.75
Knowledge of NIAAA hazardous drinking standards (Pre-test Q18)	20	8	40.00	12	60.00
Post-test Q21	21	21	100.00	0	0
Follow-Up Q21	16	14	87.50	2	12.50
Knowledge of MI techniques (Pre-test Q19)	20	17	85.00	3	15.00
Post-test Q22	21	21	100.00	0	0
Follow-Up Q22	16	16	100.00	0	0

Note. N is the available sample size used in the analysis out of a total of 25 subjects.

Discussion

In the past year, during the COVID-19 pandemic, the U.S. had over 100,000 drug overdose deaths; the highest number ever recorded (CDC, 2021). To illustrate the severity of this issue at the state level for example, Minnesota experienced a 31% increase in drug overdose deaths during the first half of 2020 as compared to the first half of 2019 (Minnesota Department of Health, 2020). In response to such drastic increases, state and government agencies are making efforts to expand substance abuse prevention services. One approach that could be employed by counselors to assist in this endeavor is SBIRT. Not only could this approach help curb the growing substance use-

related concerns (McCall et al., 2021), but it could also address the potential inconsistencies and deficiencies in current counselor training with regard to SUDs, co-occurring disorders, and addictive behaviors (Giordano et al., 2019; Lee & Bishof, 2015; Rogers et al., 2019). While prior research pertaining to the implementation of SBIRT training has focused on medical residency programs and other allied health professions (Clemence et al., 2016; Maslowsky et al., 2017; Sacco et al., 2017), the grant activities of this SAMHSA-funded project centered on those in counselor education.

As further evidence that SBIRT should be in a counselor's repertoire, the participants in this study believed they can have a positive impact on client outcomes for people with problematic substance use. The majority of the participants indicated a strong belief (both before and after the training) that screening for problematic substance use is an important aspect of a direct care provider's role. In addition to screening, they also reported the opinion that delivering brief interventions and offering referrals for the treatment of substance use problems is a vital part of their responsibility as a mental health professional.

The counselors-in-training were overwhelmingly satisfied with the experience and gained both knowledge and skill related to screening, brief intervention and referral. Over 95% of the students indicated the training was relevant to their career, it was useful education to obtain, and they would recommend the training to a colleague. The pre- and post-test survey comparisons indicated a significant difference before and after the SBIRT training and confirmed that the training increased students' perceived competence and knowledge. For instance, after the training participants were able to (a) identify and use various screening tools, (b) determine the definition of a "standard" drink and the recommended limits of alcohol use, (c) understand signs of co-occurring disorders, and (d) engage in Motivational Interviewing to address risky use patterns. In

addition, the comparisons between post-test and 30-day follow-up surveys revealed no significant differences, suggesting students retained the knowledge and perceived competence a month after the training ended. One potential explanation for no significant differences could be that participants continued to use SBIRT in their clinical practice following the training, something that would help in knowledge retention. The post-test and 30-day follow-up analysis also denoted that their positive opinion regarding the importance of SBIRT in their profession remained the same.

Limitations

While the results of this project indicate positive implications for SBIRT training, there were limitations. This was not a large-scale experimental study but rather involved a convenience sample from one university and focused mostly on training outcomes and level of participant satisfaction. Thus, the sample size was relatively small and there was no control group to use for comparison measures. Another limitation was that there was no item analysis (e.g., indices of discrimination) completed for the pre- and post-test surveys used in the study. The results pertain to master's-level, counselors-in-training at an institution in the Midwest and may not be generalizable to other professional fields or other counselor education students in different areas of the U.S. Moreover, the survey data is based on self-report. Participants may choose answers that are viewed as more positive and they may not be able to assess themselves accurately. Lastly, there may be sampling bias for those that chose to participate in the study and complete the surveys, which may not be fully representative of all counselors-in training.

Implications

The current study adds to previously published literature related to SBIRT training satisfaction and utility, knowledge acquisition, and perceived competence in counseling trainees.

While the aforementioned studies that focused on other health professions yielded positive results and the authors strongly encouraged the implementation of SBIRT training with their students, the evaluation of this present investigation provides further justification for the inclusion of SBIRT training in counselor education programs as well (e.g., McCall et al., 2021; Rogers et al., 2019). By embedding both knowledge *and* skill components of SBIRT into the curriculum, faculty have the opportunity to produce the addiction-related student learning outcomes required by CACREP (CACREP, 2016). As reflective counselor educators, the current authors have some recommendations for faculty who may incorporate these findings in their own programs.

The current authors recommend adding a skill-based observation element to the clinical training sequence. For example, as part of the practicum evaluation, faculty can require all students to successfully complete a substance use screening as part of their first session with all clients. Also, counselor education faculty are encouraged to initiate conversations with supervisees about the importance of SBIRT and the ongoing nature, rather than a one-time event, of the screening and assessment process. If faculty wish to embed SBIRT into their curriculum, at this time, there is a dearth of literature available to those who wish to do so. For guidance on implementing SBIRT into a counseling curriculum, see Lee et al. (2021), which offers an in-depth narrative related to the process, content, and pedagogical methods used for this training as well as lessons learned throughout the experience.

Recommendations for Future Research

Given the noted limitations, recommendations for future research regarding SBIRT training projects are identified. First, the use of a control group for comparison would add to the validity of the results. The researchers could still offer the training to the students in the control group after completion of the data collection. Even where identifying a control group may be

difficult, researchers could utilize a time-series design where the treatment group serves as its own control group. Second, the PC and MD3 Scale could be employed as a component of the research process instead of a tool for training, which would further strengthen their construct and discriminant validity. Using these measures with greater frequency may also be beneficial to student development as it could provide increased feedback and insight into areas of strength and areas for growth. For example, trainees could complete a recorded role play with an actor on three occasions: (1) prior to the training, (2) immediately after the training, and (3) one month later after the feedback session (i.e., end of the training). The role plays could be recorded in order to complete the assessment with the use of the two instruments. Delivering the training in this manner would allow for the PC and MD3 Scale to be used for training purposes in the classroom and the feedback session after the training (as the current study was designed), as well as a tool for measuring SBIRT implementation at baseline, post-training, and 30-day post training change. Finally, while SAMHSA provided the grantees with materials to help with the implementation of SBIRT into the counselor education curriculum, there is no set SBIRT content, training materials, delivery methods, or assessment tools offered in the literature. Some institutions for higher education involved with SBIRT projects and various SAMHSA grant recipients (e.g., Indiana SBIRT, SBIRT Oregon, and Yale School of Medicine) have published training materials such as videos, PowerPoints, pocket guides, and fidelity instruments on their websites to disseminate information. As such, a final recommendation is for counselor education scholars to create a formal curriculum that may be published and used by researchers to investigate the effectiveness, utility, and feasibility of SBIRT training in counseling programs.

Conclusion

The negative impact of problematic substance use on individuals and communities is long-standing and well documented. Record-setting opioid-related deaths are occurring during the COVID-19 pandemic, demonstrating that substance misuse remains an insufficiently addressed public health crisis in its own right (CDC, 2020). For over a decade, accreditation standards for counselor education programs required that students develop competencies pertaining to addictions. Despite these mandates and being well positioned to address these concerns in the field, the training that counselors have received to date within this domain has often been inconsistent and/or deficient. An efficacious approach to identifying and responding to potentially risky substance use is Screening, Brief Intervention, and Referral to Treatment (SBIRT). Although training in the SBIRT protocol has been researched within a variety of medical and allied health academic settings, this study is one of the first to provide outcomes pertaining to implementation specifically in counselor education. Findings indicated an increase in students' knowledge and perceived competence in the SBIRT protocol, in addition to participants' high level of satisfaction with the training. This study presents valuable support for the integration of SBIRT training into the counselor education curriculum. Furthermore, the authors provide recommendations for future research that could offer greater insight into the efficacy, utility, and feasibility of SBIRT training within the context of counselor education.

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