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Education for Occupational Therapists to Develop the Role of Healthcare Leaders in Screening, Brief Intervention, and Referral to Treatment (SBIRT)

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Abstract

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Keywords

Substance use disorders, occupational therapy education, healthcare promotion, SBIRT

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Education for Occupational Therapists to Develop the Role of Healthcare Leaders in Screening, Brief Intervention, and Referral to Treatment (SBIRT)

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ABSTRACT

This mixed methods study explored the development, content, and impact of best practice post-professional clinical doctorate education related to assisting persons with substance use disorders (SUDs) using screening, brief interventions, and referral to treatment (SBIRT). A blended learning curriculum was developed and outcomes were measured through various participant report surveys. Results indicated that participants reported positive change in their understanding of SBIRT content; however, mixed beliefs exist in attitudes and perceptions towards individuals with SUDs. This article will discuss the overall impact of the SBIRT training on the occupational therapy students enrolled in a post-professional Occupational Therapy Doctorate Program. A total of 24 students participated in this research study.

BACKGROUND

As issues with substance misuse continue to grow in our society, healthcare professionals need to be prepared to meet the needs of these clients from the very first point of contact. Occupational therapists can be a part of the critical mission to address these issues through post-professional education in screening, brief interventions, and referral to treatment (SBIRT). Post-professional occupational therapy doctorate (OTD) students are a prime target for this education as they are positioned for the greatest impact for practice change. Since they are continuing their education while maintaining clinical practice, the impact can be immediate. Additionally, occupational therapists provide direct care intervention aimed at helping persons whose lives have been disrupted to develop, recover, and improve their daily living function.

According to the Substance Abuse and Mental Health Services Administration (SAMHSA) 2014 National Survey on Drug Use and Health, over 27 million people, or 10.2% of the United States population, are dependent on alcohol and/or illicit drugs

(SAMHSA, 2015a). These statistics continue to rise quickly, from 8.6% of the population just 5 years prior. Of these recent reports, 7.1 million people met the criteria for an illicit drug use disorder over the past year. The misuse of prescription drugs is second only to marijuana as the nation's most common drug problem after alcohol and tobacco, leading to troubling increases in opioid overdoses over the past decade. In addition to the opioid epidemic, growing numbers of adolescents are reporting illegal use of drugs and alcohol. According to the 2015 Youth Risk Behavior Surveillance System (YRBSS) overview completed by the Center for Disease Control and Prevention (CDC), 63.2% of adolescents have had alcohol, 38.6% have used marijuana, and 21.7% were offered, sold, or given an illegal drug on school property (CDC, 2016).

These staggering numbers have prompted a national movement towards prevention and care across the United States. Unfortunately, as evidenced by a recent systematic review, "occupational therapy's contribution to the understanding and treatment of addictive behaviors is poor," prompting a further need for educational programs around addiction and substance use (Rojo-Mota, Pedrero-Perez, & Huertas-Hoyas, 2017, 7105100030p3). In an effort to provide post-professional OTD students tools to use in their respective practice settings for clients who have substance use disorders (SUD), this study was designed to measure the impact of the SBIRT training on the occupational therapy students enrolled in a post-professional OTD Program.

Educating Occupational Therapists for a Role in Substance Use Interventions

In contemporary literature regarding the best practices for educating healthcare practitioners to effectively work with persons who have SUD, the authors found little specific to training occupational therapists. Stoffel and Moyers (2004) suggest the following four evidence-based interventions that fall within the scope of practice for occupational therapy and SUDs: (1) brief interventions (such as SBIRT), (2) cognitive-behavioral therapy, (3) motivational strategies, and (4) 12-Step treatment programs. Brief interventions are defined as a short session (as little as 5 minutes) where the focus is to investigate a potential substance use issue and motivate the client to take action for change (Barry & Panel, 1999; Davoudi & Rawson, 2010; Stoffel & Moyers, 2004). A systematic review (Soderlund, Madson, Rubak, & Nilsen, 2011) found that training healthcare professionals in motivational interviewing demonstrated favorable outcomes in changing clients' lifestyle choices. The length of education of the studies contained in the systematic review varied considerably with a median of 9 hours.

Screening, Brief Interventions, and Referral to Treatment (SBIRT)

There is a clear need for occupational therapists to identify persons who may be misusing substances and those at risk of developing a SUD, so they can facilitate treatment interventions which holistically work toward healthy lifestyles and engagement in productive occupations. It has also been identified in the literature that there is a call for improvement to demonstrate occupational therapy's distinct value in SUD treatment (Amorelli, 2016). Results from the study conducted by Egan and Cahill (2017) indicate that while mental health content, including education on SUDs and SBIRT practice, is prevalent in most occupational therapy academic programs, it is widely varied in its delivery.

While the SBIRT model has been documented in the literature over the past fifteen to twenty years, it is widely being recognized in current research and practice as a practical tool to address SUDs in a variety of settings. Screening and brief interventions identify individuals who are at-risk with respect to substance misuse and provides them with a motivational intervention intended to promote addressing the problem (Davoudi & Rawson, 2010). SBIRT is a public health-based model that uses screening tools in a variety of settings, by a variety of healthcare professionals to allow for “teachable moments.” These interactions apply motivational interviewing techniques to increase awareness about levels of risk and provide opportunities to reduce substance use or seek out further treatment (SAMHSA, 2015b). According to Agley et al. (2016), SBIRT training needs to include procedural/educational and clinical skills, such as motivational interviewing and assessing readiness for change, as well as address and alleviate barriers that may affect clinical practice. These barriers are described as perceptions of insufficient time, lack of knowledge, negative attitudes toward individuals who use substances, low self-efficacy, and perceived financial limitations (Holland, Pringle, & Barbetti, 2009; Puskar et al., 2013).

Several studies have reported on the short-term and long-term benefits of SBIRT interventions (Estee, Lee, & He, 2006; Fleming, Barry, Manwell, Johnson, & London, 1997; Wilk, Jensen, & Havighurst, 1997). Benefits include decrease in frequency and severity of alcohol use, reduction of the risk of trauma by 47%, increase in individuals who enter treatment appropriately, and decreased hospitalizations up to three years post intervention.

RESEARCH OBJECTIVES

The overall goal of the SBIRT student training program was to effectively train occupational therapy post-professional students to identify and address substance misuse concerns among patients using an evidenced-based method of screening and intervention. In an effort to study the impact of the SBIRT training on the occupational therapy students enrolled in a post-professional OTD Program, several research questions guided this study:

- 1.) What changes in core knowledge, attitudes, and perceptions related to SUD occur as a result of SBIRT training?
- 2.) How do participants self-assess their SBIRT use in practice 30 days after training?
- 3.) To what degree is SBIRT utilized by occupational therapists in practice 6 months post training?

METHOD

Study Design

The university’s SBIRT Student Training grant was funded by SAMHSA’s Center for Substance Abuse Treatment (CSAT) for a large scale, multi-disciplinary three year program. The grant supports training for students and faculty. Within the grant, faculty are encouraged to conduct research and to disseminate their findings, but no funding is specifically designated for this purpose.

Institutional Review Board approval for this study to gather outcomes from the participating occupational therapy students was received through the sponsoring institution with a letter of understanding from the participating health science programs. While students in several disciplines were receiving the SBIRT education, the methodology and outcomes described in this paper address only the occupational therapy students who were enrolled in the post-professional OTD leadership course in the Fall 2015 and Spring 2016 semesters. A mixed methods study design was employed to gather outcomes from the students enrolled in these courses. Three separate instruments were used in this study. (1) Survey of Attitudes and Perceptions (SAP-1) was administered pre-post; (2) a self-assessment of proficiency based on students providing a brief intervention at 30 days post training; and (3) a Clinical Encounter survey at 6 months post training was analyzed to share the outcomes of this research.

Participants

The students recruited for this study were recruited from those in the post-professional OTD Program at this University. Each OTD student in the program was a practicing licensed occupational therapist taking classes online with a short residency requirement to earn their advanced clinical doctorate. All students in the program were provided the SBIRT education in the first semester of the program, within the leadership course. Typically, there were 12 to 18 students per cohort group. All students were invited to participate in this research related to measuring the outcomes of the SBIRT education. A total of 24 students consented to the research between the two courses: 9 students of the 36 students in the Fall of 2015 and 15 of 18 students in the Spring of 2016. The OTD student participants were all female with a diverse range of years in practice, ranging from 2 to 27 years of experience. The average length of experience for these practitioners was 12 years. The settings the students reported practicing in included outpatient clinics, home health, skilled nursing facilities, and school-based practice.

Background of the Post-Professional Doctorate Leadership Course

The Occupational Therapy Leadership and Professionalism course is taken in the first semester of the online doctoral program. Leadership topics couched within the contemporary aspects of society are highlighted with an attempt to have students consider leadership roles that are important in their workplace, communities, state and the nation.

The information contained in the SBIRT modules was well aligned with the curricular threads and was purposely chosen to be included in the leadership course for several reasons. First, this course is one of two courses where the online students come to campus for a face to face interaction providing the opportunity for students to practice the skills used in screening, brief interventions, and motivational interviewing. Second, more importantly, the content was aligned with having students act as leaders in practice change. The practice change overtly covered within the SBIRT curricula was to provide students with the skills to recognize and provide holistic intervention for potential patients / clients they treat or persons they come in contact with who have SUD.

Survey Instruments

SAP instrument. The Survey of Attitudes and Perceptions (SAP) instrument was designed by University of Pittsburgh, School of Pharmacy, Program Evaluation and Research Unit (PERU) to evaluate changes in core knowledge, attitudes, and perceptions in health professional trainees on both alcohol and drug use. This survey was administered to trainees before exposure to SBIRT training (SAP-1) and upon completion of training (SAP-2).

To address all areas of SUDs, the SAP survey incorporates questions from the validated instruments in the literature known as the Alcohol and Alcohol Problem Perceptions Questionnaire (AAPPQ) (Anderson & Clement, 1987) and the Drug and Drug Problem Perceptions Questionnaire (DDPPQ) (Gorman & Cartwright, 1991). Both tools have been found to have a high construct and content validity and have been reliable tools to measure attitudes of individuals who work with drug and alcohol users (Watson, Maclaren, & Kerr, 2007).

Four core knowledge components (Understanding of what constitutes a standard drink, Drinking limit across age and gender, Identification of Best Screening Tool, and Use of Brief Intervention to Initiate Patient Behavior change) were assessed at pre-training and post-training. Changes in core knowledge were analyzed upon the conclusion of training.

Perceived competence with performing aspects (screening, brief interventions, and motivational interviewing) of alcohol or other drug use-related patient care was solicited from trainees prior to training (SAP-1) and post-training (SAP-2). Participants were asked to rate their personal perceived competence on a scale of 1 to 4, with 1 being “very competent” and 4 being “not at all competent.” A mean response was calculated for each competence statement.

The SAP surveys also included a subset of the recognized AAPPQ, which measures attitudes about working with persons with alcohol use disorders (“drinkers”). Within the AAPPQ, the statements are assigned to one of six major categories, or constructs: role adequacy, role legitimacy, role support, motivation, task-specific self-esteem, and satisfaction.

Self-Assessment of Proficiency Checklist. The Self-Assessment of Proficiency Checklist (Table 1) contained 13 questions divided into 4 categories and was administered at 30 days post training. Students were requested to comment on each question and to rate their proficiency. Additional open ended questions were included which asked the participant to assess the patient’s level of risk, motivation to change and their personal assessment of the interaction.

Table 1

Self-Assessment of Proficiency Checklist

Screening
1. Accurately assessed quantity and frequency of alcohol and/or drug use.
2. Accurately identified the patient/client's level of risk related to their alcohol or other drug use using an appropriate evidence-based screening instrument.
3. Assessed possible consequences of the patient/client's behavior, such as physical, psychosocial and other consequences.
Brief Intervention
1. Asked permission to provide feedback about the patient/client's substance use.
2. Used reflection and/or open-ended questions to allow patient/client to react to screening result.
3. Provided feedback about risks associated with the patient/client's substance use behavior.
4. Negotiated a goal with the patient/client based on steps they are willing to take.
Referral to Treatment and Follow-Up
1. Recognized the patient/client's need for substance use treatment based on their screening score and/or medical/behavioral factors.
2. Suggested the use of specific community and specialty resources.
3. Arranged appropriate follow-up (MD follow-up, referral to treatment, counseling, medication, etc.)
Motivational Interviewing Spirit
1. Summarized patient/client's stated reasons for change.
2. Negotiated a treatment plan in a collaborative manner.
3. Affirmed the patient/client's strengths, ideas &/or successes.

Students were given a 30-day window to apply SBIRT within their own clinical practice, and use the Proficiency Checklist to self-assess their performance. If opportunities for clinical applications did not apply, student trainees were directed to conduct a mock application of SBIRT instead.

Clinical Encounter Survey

Procedures and data collection. Occupational therapy students in the first semester of the post-professional online doctoral program were invited to take part in the research via an email invitation delivered during their OTD Leadership and Professionalism course. The students, upon receipt of the invitation sent from the grant partner, decided if they wanted to sign the informed consent and have their results compiled and disseminated or just to complete the education program which was part of the leadership course. The SBIRT education content was developed by University of

Pittsburgh, School of Pharmacy, Program Evaluation and Research Unit (PERU). Students completed the modules, which were delivered via an outside website provided by the grantee and constituted 10% of the total grade, and each student regardless of participation in the research was awarded an SBIRT certificate upon completion of the training. Recruitment followed a systematic process delivered by the grantee which is outlined below:

- One week prior to the course start date, the OTD students were enrolled in the SBIRT portion of the course by the grant partners for registration on the SBIRT website and enrollment in the SBIRT portion of the course.
- Upon logging on to the website, students were asked to review an Informed Consent statement and indicated their choice to participate, or not, in the research which had no bearing on their grade. Students who were willing to participate in the research component of SBIRT completed the Survey of Attitudes and Perceptions (SAP-1) online, which is a self-reported student assessment of perceived competence, attitudes, and perceptions. SAP-1 had to be completed before students had access to the online curriculum. If students declined to participate in the research, then they were given access to the website and did not need to fill out the SAP-1.

Following recruitment, all students engaged with the online content via a separate website from the Leadership course and followed the described procedure below:

- Each module of the SBIRT online training became available on the dates identified by the instructor as noted in the syllabus. Students completed each module quiz as often as necessary to attain 100% (multiple attempts permitted) to affirm completion of the unit.
- An in-person skill-building workshop was scheduled during the final week at the onsite portion of the course on the University campus. This skill building workshop, delivered by both the course instructors and other members of the grant team, allowed students to practice screening, brief interventions, and motivational interviewing skills as well as to work through scenarios to increase their comfort with the content.
- On the final day of the course and upon conclusion of the in-person skill building workshop, the grant partner emailed the participants who consented to the research and instructed all participants to return to the online training site to complete the post-training survey SAP-2.
- One month after the in-person skill building workshop, the grant partner emailed the participants instructing them to return to the website to complete the 30-day follow-up survey. In addition to the final survey, students completed the self-assessment of proficiency checklist based on a brief intervention which they engaged in following a clinical encounter at their place of employment or with a relevant individual. Table 2 summarizes the timeline of the training, describes the content of the modules in the SBIRT program in further detail, and methods used to gather data from the participants.

- Six months after the training, the participants were sent the Clinical Encounter survey to determine to what degree they continued to utilize the SBIRT skills in their clinical practice.

Table 2

SBIRT Training and Data Gathering Schedule

Event	Date	Details
<p>Training Begins Pre-surveys</p>	<p>First day of the course</p>	<p>Introduction to students and distribution of log-on credentials Pre-training requirements completed, to include pre-survey on knowledge, attitudes, and perceptions (SAP-1)</p>
<p>Module 1-5 Open</p>	<p>Week 1 of course all modules were opened and students could complete at their own pace through end of week 5</p>	<p>Module 1 Introduction to SBIRT: Overview of the SBIRT process; connection to occupational therapy practice; overview of screening & screening instruments</p> <p>Module 2 Brief Intervention: Clinical benefits of brief interventions; defining the Feedback-Listening-Options (FLO) process; understanding readiness for change</p> <p>Module 3 Referral to Treatment: Recognize benefits of drug and alcohol treatment; how to facilitate access & referral to treatment; identify self-help and recovery support programs</p> <p>Module 4 Med & Psych Complications: Understand common medical and psychiatric complications associated with drug & alcohol use; review common interactions between substances and med/psych conditions; how to address these issues using SBIRT</p> <p>Module 5 Pharmacotherapy: Understand common pharmacotherapies available for management of specific SUDs; review risks and benefits of pharmacotherapies for SUDs</p>

SBIRT Workshop Post-surveys	During onsite visit Week 6	Participants complete in-person workshop on practicing key aspects of SBIRT training Complete post survey on knowledge, attitudes, and perceptions (SAP-2)
Self-Assessment	Completed within 30 days of workshop	Participants complete a self-assessment based on an actual brief intervention
Clinical Encounter Survey	Completed 6 months after training ends	Assessment of degree to which SBIRT is being used in clinical practice

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RESULTS

Changes in Knowledge, Competency, Attitudes, and Perceptions

The students were asked several core questions to measure their knowledge of substance use and their personal perceived competence with strategies to use with clients with SUD at two points in time (pre-training SAP-1 as well as post-training SAP-2). For significance testing, paired t-tests were used to analyze the difference between pre-training and post-training responses with alpha set at 0.05. In this instance, the difference between each pair of observations was calculated for each trainee who rated a statement on both the SAP-1 and SAP-2 surveys. The sample mean and standard deviation of these differences was used to calculate a t-statistic and perform paired t-tests. This process was repeated for each of the 13 perceived competency statements. The changes in their scores were compiled as a group and also reported as an aggregate number per cohort group, with all of the changes on these 13 perceived competency statements being statistically significant for the combined cohorts (see Appendix A). As evidenced in Figure 1, the mean response showing changes in the core knowledge for each of the OTD cohort groups increased from pre-training to post-training with the exception of one cohort on one question (Spring Cohort's identification of a standard drink remained the same). All other questions showed a positive change with a range of 3% improvement to 53%.

In regard to the perceived competency of specific skills taught in the SBIRT training, students were asked to rate their competency on a scale of 1=very competent to 4 = not competent both before the training and after the training. Figure 2a and 2b shows the mean response of both cohorts to each question and Figure 3 represents all questions averaged together for each cohort. Interestingly, while each question in Figure 2a and 2b shows improvement for the participants of the cohorts to a greater or lesser degree, when compiled together the degree of change is almost identical per cohort as shown in Figure 3.

Changes in Core Knowledge

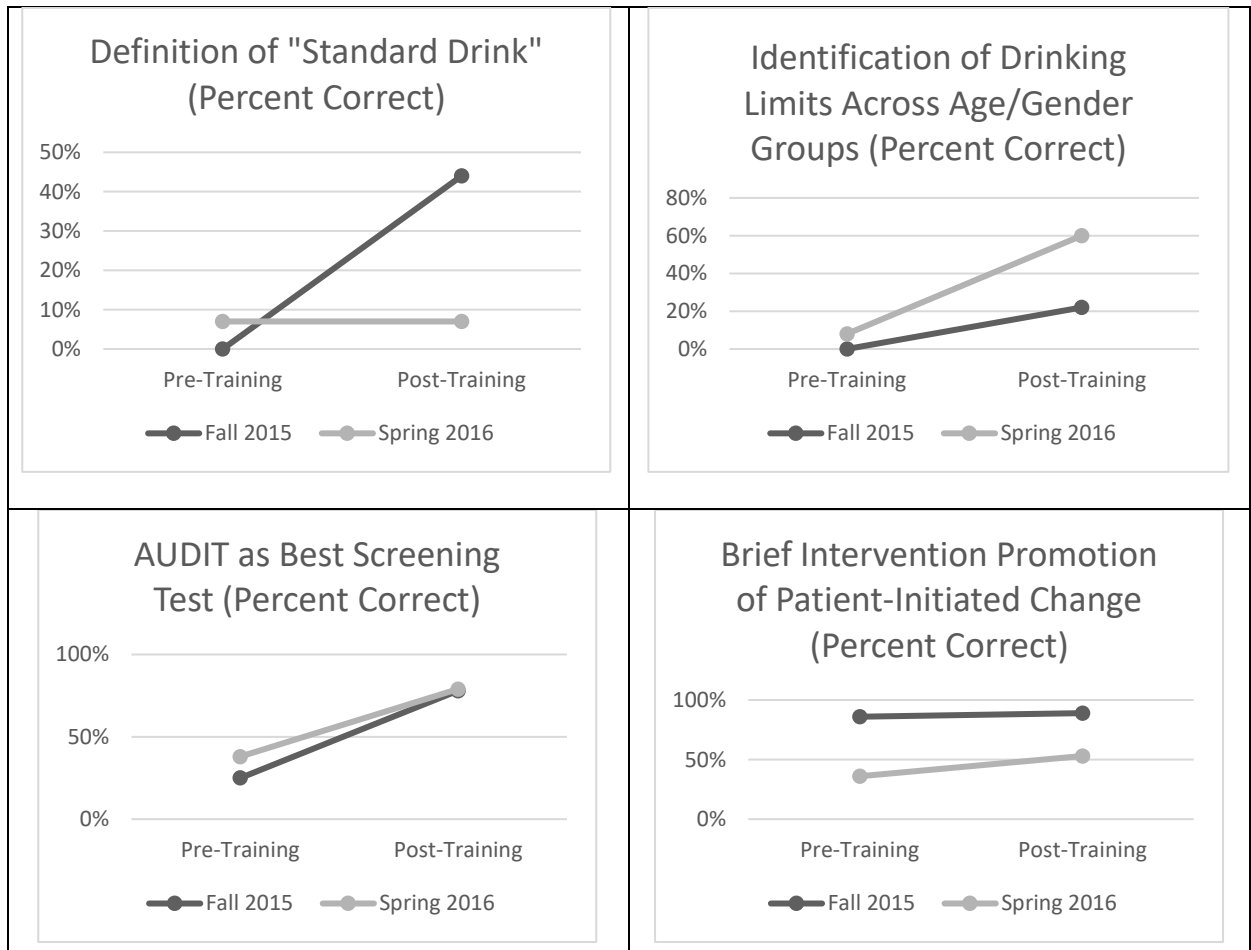


Figure 1. Changes in core knowledge as demonstrated by the percent of correct answers on 4 questions.

Perceived Competency in Specific SBIRT Skills for Fall Cohort

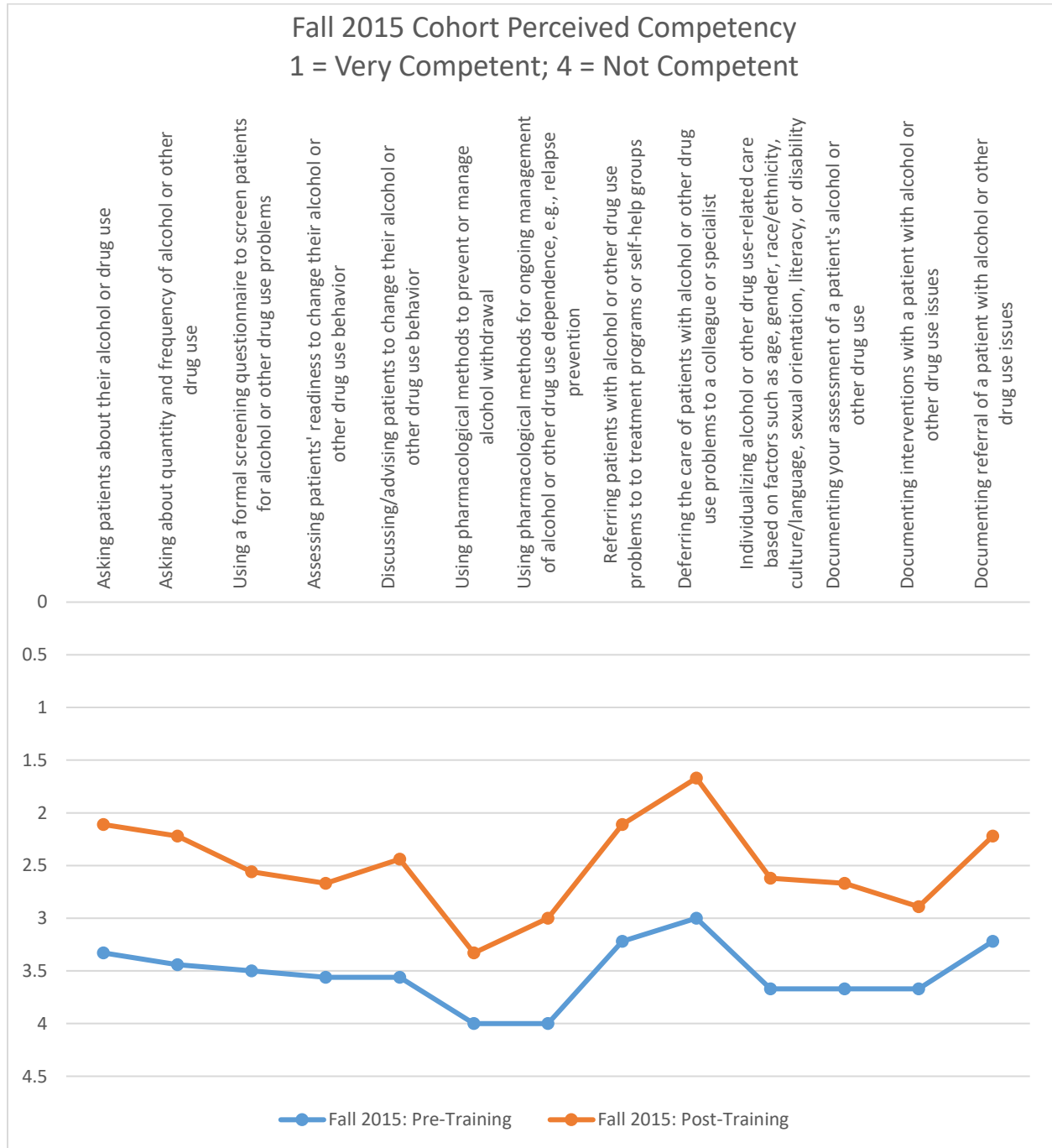


Figure 2a. Changes in perceived competency. Data represents the mean responses from pre- and post-training.

Perceived Competency in Specific SBIRT Skills for Spring Cohort

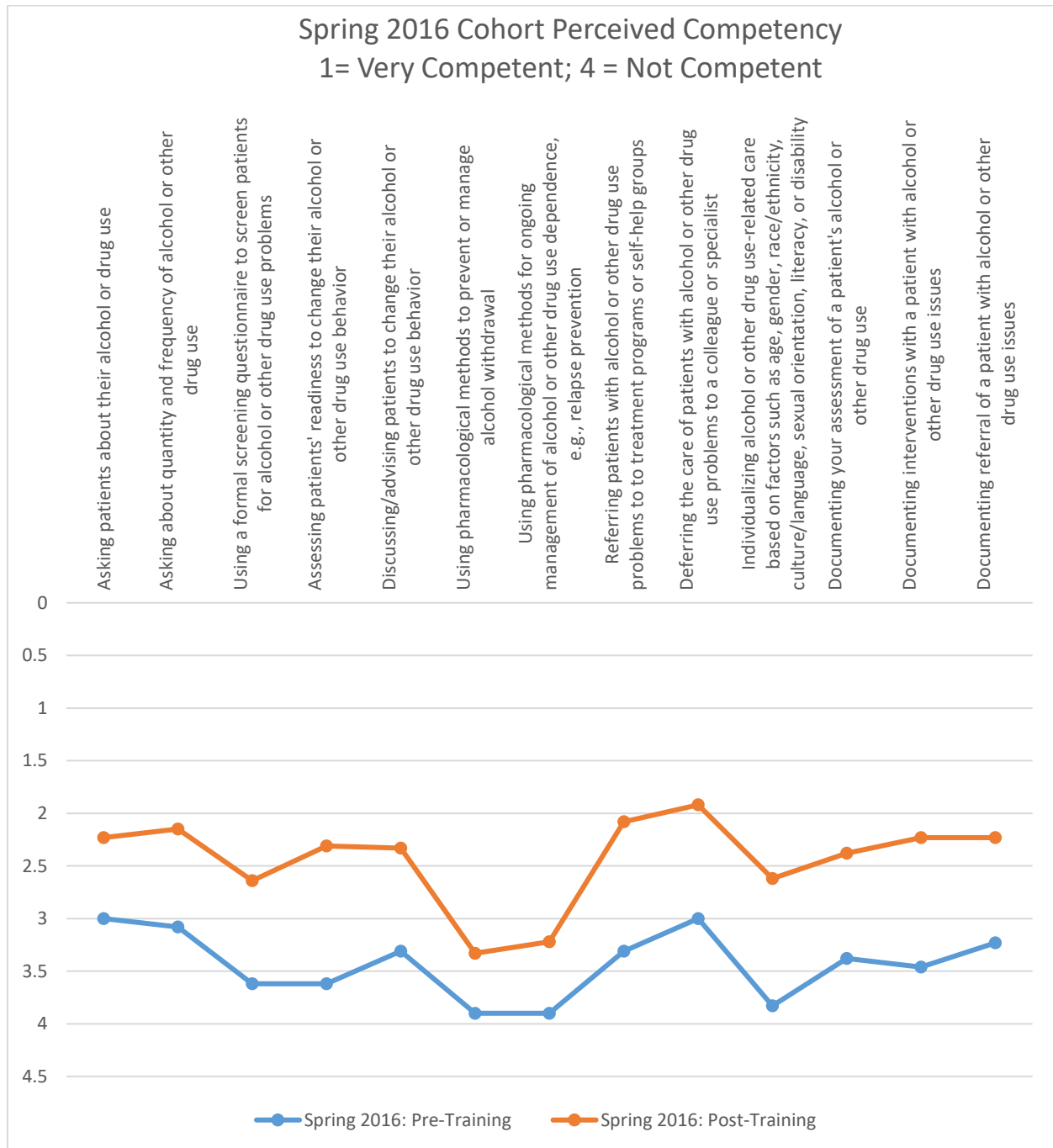


Figure 2b. Changes in perceived competency. Data represents the mean responses from pre- and post-training.

Figure 3 provides an example of results for average change in the combined perceived competency statements on the SAP surveys per cohort. The change in all individual perceived competency statements is statistically significant for the combined cohorts (see Appendix A).

Perceived Competency Change Reported in Aggregate per Cohort

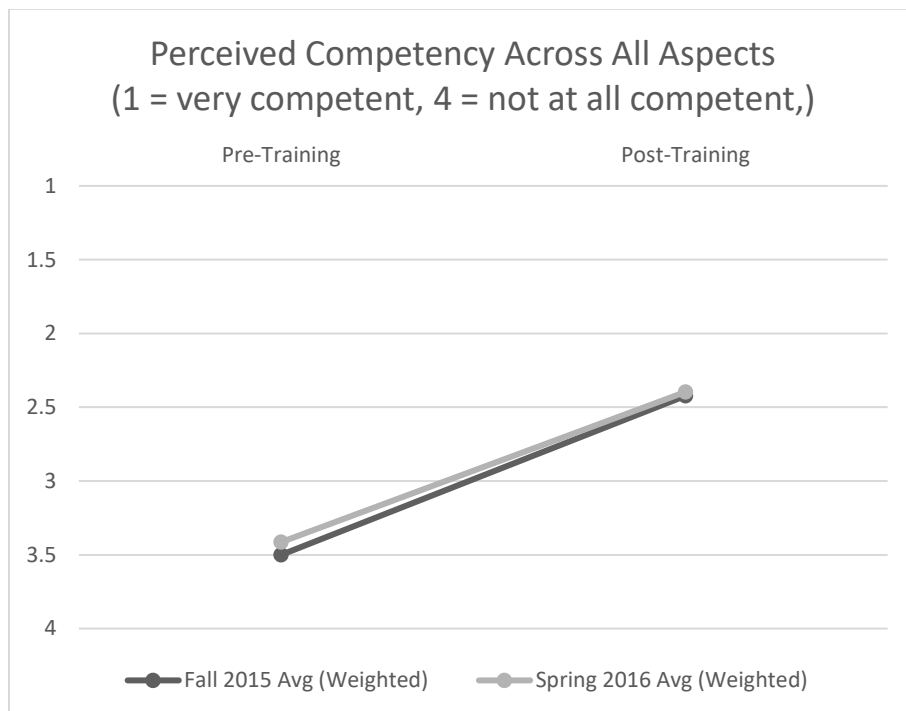


Figure 3. Changes in perceived competency per cohort all questions combined.

Part of the SBIRT training is focused upon gaining an understanding of the persons with SUD. Several of the questions on the SAP were focused on reporting the attitudes and perceptions of alcohol and drug use. Not unexpectedly, the changes in attitudes and perceptions are varied as evidenced in Figure 4 and 5. Participants reported increased working knowledge, an understanding of their potential role to identify substance misuse, and advising their patients about alcohol and drug use effects. Changes in most statements are statistically significant related to perceptions and attitudes about drug and alcohol use (see Appendices B & C). However, the reports of one cohort indicated less interest and a perception of less reward when working with drug users. The following figures separated the data between alcohol and drug use.

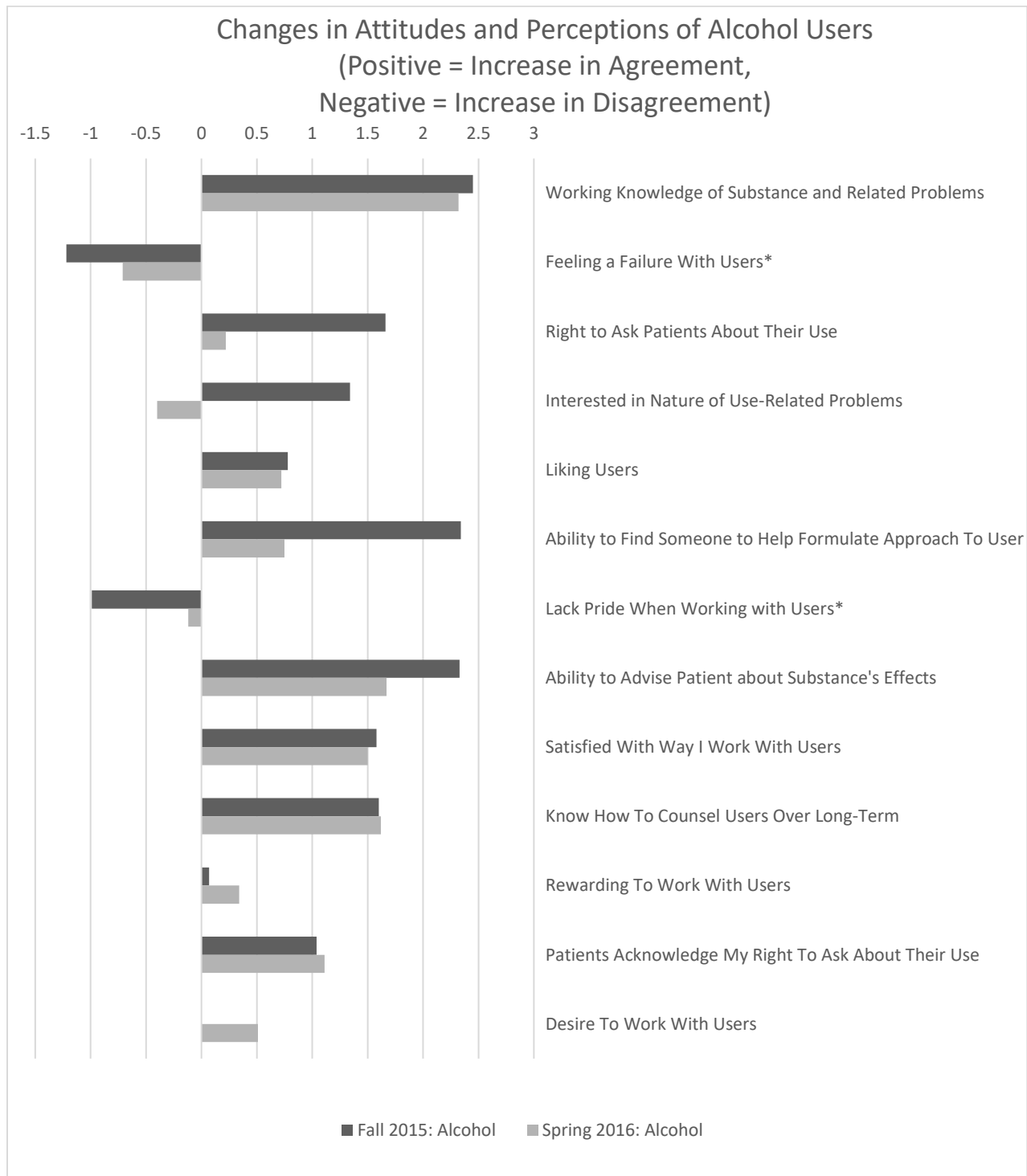


Figure 4. Changes in attitudes & perceptions regarding alcohol use. Reported are the differences in mean responses from pre- to post-training.

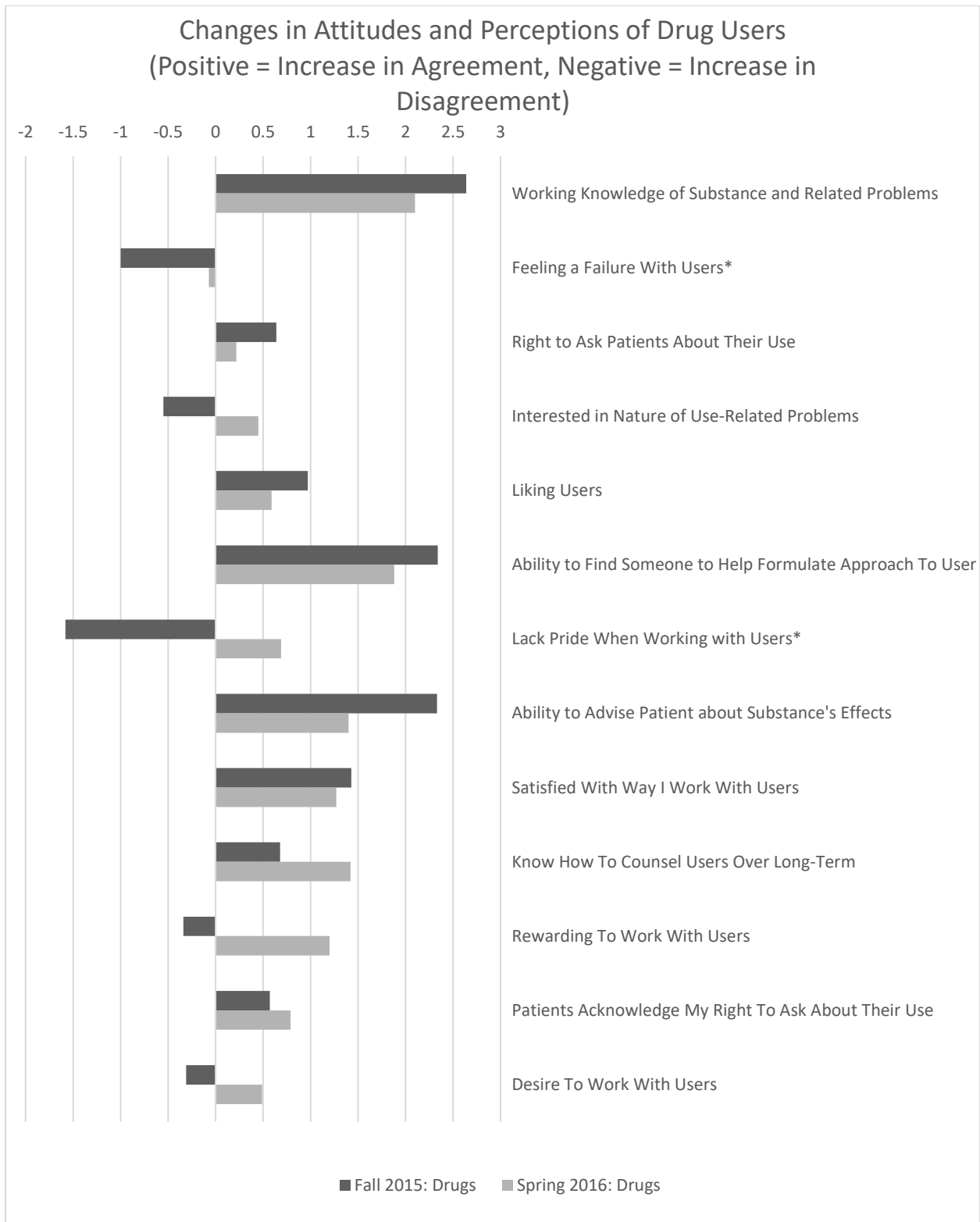


Figure 5. Changes in attitudes & perceptions regarding drug use. Reported are the differences in mean responses from pre-to post-training.

Self-Assessment of Proficiency Results

At 30 days after the training, participants were asked to report on their use of SBIRT techniques. The self-assessment allowed for reflection and reporting after performing an interview with a client or relevant individual who presented with some level of substance use. Participants were asked to record each step of the SBIRT encounter (phrases that elicited meaningful patient/client feedback, responses made by the patient, etc.). Additionally, information was collected regarding age, gender, substance used, and setting/location of the encounter. Once the student completed the self-assessment checklist, they reflected on the assessment of patient/client risk, patient/client motivation, commitment to change, and the overall assessment of the interaction. The participants at 30 days post training completed their interventions on a wide range of individuals, ranging from 15 to 75 years old, majority male, and the identified SUD's spread between addressing alcohol, tobacco, and prescription drug use. Encounters were completed in outpatient clinics, the individual's home, skilled nursing facilities and an elementary school. In addition to the demographic information, the self-assessment asked the participants multiple open-ended questions on their overall experience with the brief interventions, which will be further discussed below. When the participants rated their encounter in level of risk for substance use, four were rated at "low", seven at "moderate", and four at "high" risk. When asked about concerns related to their level of risk that were shared with the client, one student stated,

The person did not identify a consistent abuse of alcohol. However, through open-ended questions, she shared an overuse of alcohol during specific situations. She verbalized surprise at realizing this, and stated she wanted to change this.

The participants also rated their client's overall motivation and commitment to change, using a low-moderate-high scale. Based on their response, the participants were to develop an initial plan or suggested follow up. These basic interventions were consistent with occupational therapy's scope of practice and included areas such as finding other outlets for frustration, for example exercise and leisure activities, or referral to community resources, such as AA meetings.

Many of the participants shared examples of their interviewing techniques, using the O-A-R-S approach (Open ended questions, Affirmations, Reflective statements, and Summarization). The following are two sample narratives from the participants on gaining access to information from their client:

What concerns do you have about controlling your level of intoxication after you leave the facility? What are some solutions to these barriers? What I'm hearing is that you are apprehensive about limiting your alcohol use after discharge because that is a frequent thing you do with your friends. However, drinking is what caused your accident. So, what are some other hobbies or activities you might be able to do with your friends and family instead of drinking? Why do you have low confidence about lessening your drinking? How can you look at your apprehensions differently?

An additional approach was documented on tobacco cessation:

I hear you saying that you find smoking to be relaxing. Are there any other activities that you find to be relaxing? Client reported that his blood pressure and stress levels are high. Explored if there was other activities or methods that he could use to reduce stress. Client reported that if he was able to retire and I got off his case he felt that he could give up tobacco use.

When asked to discuss the overall experience with the process, participants stated a variety of thoughts related to successes, barriers, and areas for growth. One participant stated they felt the questions related to some “aha moments” for the client. She stated, “While I would not consider her a high risk for alcohol abuse on an everyday basis, her situational use of alcohol was increasing as the frequency of that cause to drink was becoming greater.” Another participant discussed the difficulty of initially bringing up the topic; several participants stated they felt intrusive, they struggled with not giving advice, and were not sure about how to begin the conversation.

Overall, the participants rated themselves as competent in using SBIRT in practice, however would like more practice in asking open-ended questions, using “silence as a tool”, and asking questions in a judgment-free manner. Another key finding was to be more mindful about starting conversations with asking permission.

Clinical Encounter Survey

Participants were again surveyed at 6 months post training and asked the degree to which they continue to use the SBIRT training in their clinical practice. Of the participants surveyed, five reported using SBIRT techniques in their practice which included frequent use of brief interventions as well as informal screens, as reported in Figure 6.

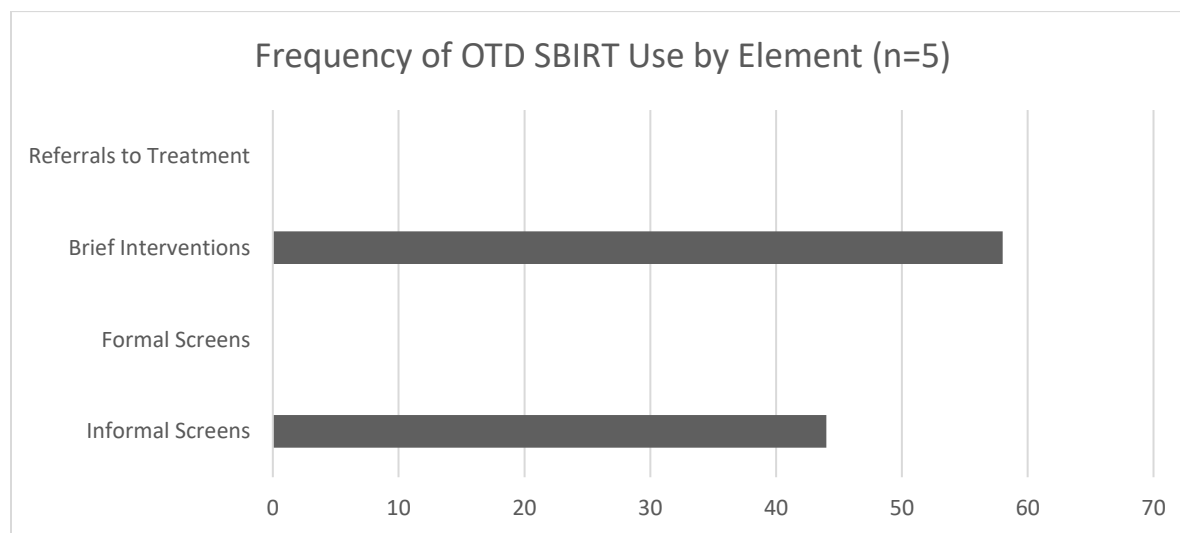


Figure 6. Frequency of SBIRT use by practicing occupational therapists 6 months post training.

For participants who did not conduct SBIRT activities in their clinical practice, reasons reported included their location, interest level, time, their readiness to complete these activities, and other (see Figure 7). “Other” was recorded most frequently as the main reason for not utilizing SBIRT in practice. Reasons provided in the category of other were: not appropriate at this facility, does not pertain to the client population, and lack of opportunity.

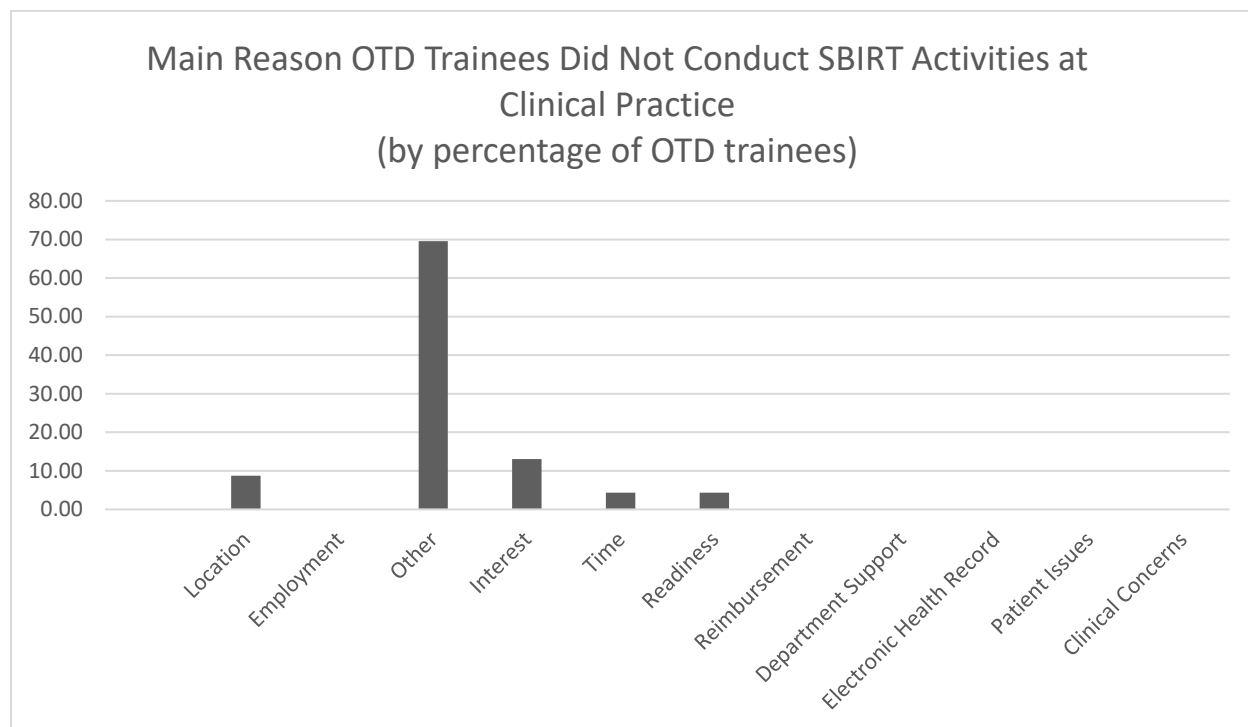


Figure 7. Reasons provided for not utilizing the techniques 6 months post training.

DISCUSSION

Education on SUDs and recovery are essential components of any occupational therapy program (Craik & Austin, 2000; Egan & Cahill, 2017). In particular, post-professional students in practice need to ensure competency on assessing and implementing appropriate interventions (to include referral) for individuals with SUDs. On July 13, 2016, the United States Senate passed the Comprehensive Addiction and Recovery Act of 2016 to strengthen prevention, treatment, and recovery efforts by empowering medical professionals and law enforcement with better tools to help individuals overcome use and/or addiction (Comprehensive Addiction and Recovery Act of 2016, 2016). As part of the medical professional team, occupational therapists work with individuals in all areas of practice who have SUD; therefore, academic programs need to be strategic in providing relevant, applicable tools for therapists to use with this population.

Overall in this study, students demonstrated positive change in their understanding of SBIRT content as measured by the improvement in core knowledge and perceived competency. Students reported an increase in their comfort with skills of knowing what

to do with patients who use drugs or alcohol, including knowing how to advise and counsel patients. While these are more of the concrete skills that are taught within the SBIRT curriculum, the degree of change did not appear as strong as what was reported for core knowledge and competency. Upon completion of the SBIRT training, participants documented that they had improved perceived competency using an actual brief intervention, as evidenced by the Self-Assessment tool. In addition, participants reported an increased ability to provide and document individualized care for persons who have SUDs. Participants also reported a lack of interest and motivation for working with persons with SUDs, which is consistent with existing literature related to SBIRT in healthcare practice (Finnell et al., 2014; Rahm et al., 2015; Thompson, 2007).

Important to note in these findings are the specific increases in the objective, knowledge based, factual measurements and the mixed findings related to areas of comfort and interest. In a study such as this, it might be expected to see doctoral students report an increase in core knowledge after content modules, quizzes, and workshops. What does not appear to significantly change is the stigma and attitudes associated with individuals who use drugs and alcohol. This is an area of continued research and growth for programs who want to facilitate change in the healthcare system and interactions with clients who present with SUDs.

Limitations

This study was limited by the fact that the student data and reflections were restricted to those of a small group of students in an online doctorate program from one academic institution. While the students represented diverse practice settings, they may not be representative from all backgrounds, particularly mental health practitioners. Due to the sensitive nature of this topic, efforts were taken by the authors to acknowledge any preconceived ideas or forced interpretations.

Conclusion

According to the centennial vision, occupational therapy is to progress as a profession to become a “powerful, widely recognized, science-driven, and evidence-based profession with a globally connected and diverse workforce meeting society’s occupational needs” (AOTA, 2006). As the profession wraps up the centennial vision and looks forward to the Vision 2025, there are even more implications for the need to address SUDs in a holistic manner. According to the Vision 2025, the four core tenets to further define occupational therapy’s role include: accessible (providing culturally responsive and customized services), collaborative (working with clients and within systems to produce effective outcomes), effective (providing evidence-based, cost-effective, and client-centered services), and leadership (occupational therapists influence in changing policies, environments, and complex systems) (AOTA, 2016). As these initiatives focus on the future direction of occupational therapy and the benefits to our clients, the use of SBIRT allows us to affect changes in health and overall health promotion through collaboration and leadership opportunities.

Implications for Education and Research

- Occupational therapy curricula should continue to widen the scope and breadth of information and training on substance use to better serve our clients.
- Future research is needed to understand the difference in education on SUDs for entry-level students versus practicing, post-professional students.
- Additional research on other substance use strategies outside of SBIRT in occupational therapy education may provide a more well-rounded view of treating this client population.

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Appendix A

Changes in Perceived Competency

Item	N	SAP-1	SAP-2	Improvement	p
Referring patients with alcohol or other drug use problems to treatment programs or self-help groups	20	3.25	2.10	1.15	0.000**
Deferring the care of patients with alcohol or other drug use problems to a colleague or specialist	20	2.95	1.80	1.15	0.003**
Individualizing alcohol or other drug use-related care based on factors such as age, gender, race/ethnicity, culture/language, sexual orientation, literacy, or disability	18	3.78	2.67	1.11	0.000**
Assessing patients' readiness to change their alcohol or other drug use behavior	20	3.60	2.50	1.10	0.000**
Asking about quantity and frequency of alcohol or other drug use	20	3.20	2.15	1.05	0.001**
Documenting interventions with a patient with alcohol or other drug use issues	20	3.55	2.55	1.00	0.001**
Asking patients about their alcohol or other drug use	20	3.10	2.15	0.95	0.001**
Discussing/advising patients to change their alcohol or other drug use behavior	19	3.37	2.42	0.95	0.000**
Documenting your assessment of a patient's alcohol or other drug use	20	3.50	2.55	0.95	0.000**
Documenting referral of a patient with alcohol or other drug use issues	20	3.20	2.25	0.95	0.000**
Using a formal screening questionnaire to screen patients for alcohol or other drug use problems	20	3.60	2.70	0.90	0.000**
Using pharmacologic methods for ongoing management of alcohol or other drug use dependence, e.g., relapse prevention	8	4.00	3.25	0.75	0.020*
Using pharmacologic methods to prevent or manage alcohol withdrawal	8	4.00	3.38	0.62	0.049*
*p < 0.05, **p < 0.01					

Note: Statements are ordered based on magnitude of change from pre-training (SAP-1) to post-training (SAP-2)

PERCEIVED COMPETENCY LIKERT SCALE			
1	2	3	4
Very Competent	Moderately Competent	Only A Little Competent	Not At All Competent

Appendix B

Changes in Attitudes and Perceptions Related to Drug Use

Item	N	SAP-1	SAP-2	Improvement	p
I feel I have a working knowledge of drugs and drug-related problems.	21	5.14	2.81	2.33	0.000**
If I felt the need I could easily find someone who would be able to help me formulate the best approach to a drug user.	20	4.25	2.25	2.00	0.001**
I feel I can appropriately advise my patients about drugs and their effects.	21	5.43	3.57	1.86	0.000**
On the whole, I am satisfied with the way I work with drug users.	15	4.93	3.47	1.46	0.005**
I feel I know how to counsel drug users over the long term.	21	6.00	4.71	1.29	0.001**
All in all, I am inclined to feel I am a failure with drug users ¹ .	14	3.21	2.14	1.07	0.026*
In general, it is rewarding to work with drug users.	14	4.79	4.00	0.79	0.043*
In general, I like drug users.	18	5.22	4.50	0.72	0.023*
I feel that my patients believe I have the right to ask them questions about their drug use when necessary.	19	4.53	3.89	0.64	0.069
I feel I have the right to ask patients questions about their drug use when necessary.	19	3.63	3.32	0.31	0.380
I feel I do not have much to be proud of when working with drug users ¹ .	17	3.59	3.41	0.18	0.753
I am interested in the nature of drug related problems and the responses that can be made to them.	22	3.32	3.23	0.09	0.780
I want to work with drug users.	19	4.89	4.84	0.05	0.853

¹These statements are negatively phrased. The average for the responses to SAP-1 and SAP-2 have been inverted to be directionally consistent with the responses to positively worded statements.
*p<0.05, **p<0.01

Note: Statements are ordered based on magnitude of change from pre-training (SAP-1) to post-training (SAP-2)

ATTITUDES & PERCEPTIONS LIKERT SCALE						
1	2	3	4	5	6	7
Strongly Agree	<<---	<----	Neutral	---->	--->>	Strongly Disagree

Appendix C

Changes in Attitudes and Perceptions Related to Alcohol Use

Item	N	SAP-1	SAP-2	Improvement	p
I feel I have a working knowledge of alcohol and alcohol-related problems.	23	4.83	2.52	2.31	0.000**
I feel I can appropriately advise my patients about drinking and its effects.	21	4.57	2.71	1.86	0.000**
I feel I know how to counsel drinkers over the long term.	21	5.90	4.29	1.61	0.000**
On the whole, I am satisfied with the way I work with drinkers.	15	4.73	3.13	1.60	0.004**
If I felt the need I could easily find someone who would be able to help me formulate the best approach to a drinker.	21	3.86	2.62	1.24	0.020*
I feel that my patients believe I have the right to ask them questions about their drinking when necessary.	17	4.94	3.76	1.18	0.013*
In general, I like drinkers.	19	4.37	3.47	0.90	0.007**
All in all, I am inclined to feel I am a failure with drinkers ¹ .	18	3.39	2.50	0.89	0.035*
I feel I have the right to ask patients questions about their alcohol use when necessary.	22	3.68	2.82	0.86	0.029*
I feel I do not have much to be proud of when working with drinkers ¹ .	15	3.27	2.60	0.67	0.100
In general, it is rewarding to work with drinkers.	15	4.20	3.93	0.27	0.452
I want to work with drinkers.	19	4.53	4.26	0.27	0.331
I am interested in the nature of alcohol-related problems and the responses that can be made to them.	23	3.26	3.00	0.26	0.579

¹These statements are negatively phrased. The average for the responses to SAP-1 and SAP-2 have been inverted to be directionally consistent with the responses to positively worded statements.

*p<0.05, **p<0.01

Note: Statements are ordered based on magnitude of change from pre-training (SAP-1) to post-training (SAP-2)

ATTITUDES & PERCEPTIONS LIKERT SCALE						
1	2	3	4	5	6	7
Strongly Agree	<<---	<----	Neutral	---->	--->>	Strongly Disagree