

# Clinical Preceptors' Self-Assessed Beliefs, Behaviors, and Attitudes for Interprofessional Education after an Online Professional Development Module

**Jaclyn M. Schwieterman EdD** *Athletic Training, Marietta College*

**J. Jordan Utley PhD** *Health Sciences, Grayson College*

**Anthony Breitbach PhD** *Physical Therapy & Athletic Training, Saint Louis University*

**Heidi Crocker EdD** *College of Health Sciences, University of St. Augustine*

## Abstract

**INTRODUCTION** Interprofessional education and collaborative practice is emerging at the forefront of health professions education. The Commission on Accreditation of Athletic Training Education recently added interprofessional education and interprofessional collaborative practice to the accreditation standards. In order to facilitate interprofessional education experiences and produce collaborative, team-based care athletic trainers, the development of preceptors in interprofessional education and collaboration is vital. The purpose of this study was to examine the effectiveness of an asynchronous online professional development module designed for preceptors who are part of athletic training programs, to educate them in an attempt to promote interprofessional education and collaboration in the clinical setting for athletic training students.

**METHODS** A pre-experimental retrospective pretest-posttest survey design was used to measure the effectiveness of an online asynchronous professional development module focused on interprofessional education and collaboration. The population for this study was healthcare practitioners who serve as preceptors in accredited athletic training programs.

**RESULTS** Statistical significance was found between the pretest and posttest scores for athletic training preceptors on the ISVS-21.

**CONCLUSION** These findings provide evidence that a 10-minute asynchronous online professional development module is effective in influencing preceptors' beliefs, behaviors, and attitudes toward interprofessional collaboration.

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## Implications for Interprofessional Practice

- A short 10-minute online professional development module positively impacted athletic training preceptors' beliefs, behaviors, and attitudes toward interprofessional education and collaborative practice.
- Online professional development for clinical preceptors is a scalable, cost-effective way to deliver interprofessional knowledge and skills during a pandemic.

## Introduction

Interprofessional Education (IPE) is designed to prepare health professions students for collaborative, team-based health care. The *Framework for Action on Interprofessional Education & Collaborative Practice* was developed by the World Health Organization (WHO) in 2010 and outlined the mechanisms needed for essential IPE to enable effective collaborative practice (WHO, 2010). The framework summarized the benefits of collaborative practice which included mitigating the challenges that health systems are currently facing by strengthening the health systems, and in turn, improving health outcomes (WHO, 2010).

Recently, IPE and interprofessional collaborative practice (IPCP) were considered driving forces for change in health professions curriculum (Zaudke et al., 2016). In 2012, the *Future Directions in Athletic Training Education* document outlined 15 recommendations for athletic training education, with the third recommendation to include IPE into the accreditation standards (NATA, 2012). Next, the *Examination of the Professional Degree Level for Athletic Training* document examined the change of the degree to the graduate level, which would help to facilitate IPE/IPCP in programs (NATA, 2013). Due to these recommendations and changes, athletic training education has mirrored this effort in the revamping of the professional program accreditation standards from the Commission on Accreditation for Athletic Training Education (CAATE) to include IPE/IPCP (CAATE, 2018). For example, in the 2020 revision of the standards, IPE/IPCP has been included as a stand-alone essential (CAATE, 2018). These changes to the athletic training education accreditation standards will require programs to be creative in executing IPE/IPCP experiences, aiming to graduate athletic trainers who are team-ready healthcare practitioners. As professionals,

athletic trainers collaborate in practice but have not always engaged in IPE initiatives.

Facilitating and modeling patient-centered interprofessional care requires a team approach (Berwick et al., 2008). Medical errors can cause health complications and even lead to death, to which researchers have attributed poor teamwork and communication failures as causes within the health care system (Mazzocco et al., 2009; Wilson et al., 1995). More importantly, the United States (U.S.) is positioned last in regard to performance rankings among the top 11 health care systems (Schneider et al., 2017). Furthermore, medical error ranks third in the U.S. behind cancer and heart disease, as the leading cause of death (Martin & Michael, 2016). IPE/IPCP development can help to alleviate these issues by increasing collaborative practice and improving health care outcomes within the health care system (WHO, 2010). Preceptors who model interprofessional team-based care for pre-license students stand to create change in the way healthcare is practiced today (Shrader & Zaudke, 2018).

The classroom, as compared to the clinical setting, is more widely utilized for IPE/IPCP opportunities (Chen et al., 2016). However, the number of IPE/IPCP encounters that athletic training students witness within the clinical setting is not well documented (Walker et al., 2018). Therefore, preceptor development that enables identification of opportunities and educates on ways to facilitate IPE/IPCP experience is vital to better connect the clinical setting with classroom teachings (McCutcheon et al., 2017). A preceptor is a licensed or certified health care professional that supervises athletic training students throughout their clinical experience while instructing and/or assessing patient care skills (CAATE, n.d.). Within the athletic training profession, the professional development of preceptors regarding IPE is not well documented (Breitbach &

Richardson, 2015). Educating preceptors about IPE/IPCP using various models can help facilitate IPE/IPCP experiences for students during their clinical education (Hudak et al., 2017), thereby bridging didactic and clinical education.

Health care professions such as physical therapy, respiratory therapy, nursing, and pharmacy have developed models for preceptor training to prepare and develop preceptors as interprofessional educators in the clinical setting (Dalton et al., 2007; Rye & Boone, 2009; Singer, 2006). A survey of preceptors for audiology found that there is no formal process or infrastructure to guide and prepare preceptors to teach students during their clinical placements (Brazell & Taylor, 2014). Furthermore, preceptors identified interdisciplinary approaches to patient care as an important skill for students to acquire during their clinical experience (Brazell & Taylor, 2014). Finding a way forward that is both standardized and effective is essential to moving the needle on preceptor IPE development.

Shrader and Zaudke (2018) developed the *Top Ten Best Practices for Interprofessional Precepting* based on relevant literature and their own experiences with IPCP. The authors note that future research should focus on effective models for IPE/IPCP preceptor development. The authors also note that precepting is still occurring in silos even when settings include various health care professionals. While the professional development opportunities for both IPE and precepting have increased, the combination of the two is yet to expand (Shrader & Zaudke, 2018).

In 2018, the CAATE added standards incorporating IPE/IPCP into athletic training education. In order for athletic training programs to remain compliant, curricular changes were required by July 2020, incorporating IPE/IPCP into clinical experiences (CAATE, 2018). This curricular revision makes training and professional development opportunities essential for preceptors and faculty around IPE/IPCP (McCutcheon et al., 2017). Athletic training students will be expected to work on interprofessional teams and be effective collaborators on patient care upon graduation (CAATE, 2018). In order to develop athletic training students that can think and work collaboratively, stu-

dents need to be mentored and socialized during their clinical education (Mazerolle et al., 2015).

## Literature Review

Over the last decade, IPE/IPCP were first referenced in the profession of athletic training in the *Future Directions in Athletic Training Education* document, which recommended integration of IPE into the professional and post professional programs (NATA, 2012). In 2013, the National Athletic Trainer's Association (NATA) then brought together the Interprofessional Education and Practice Work Group to develop a white paper, "Interprofessional Education and Practice in Athletic Training Education" which was endorsed by the NATA Board of Directors and, after peer review, was published in the *Athletic Training Education Journal* in 2015. In 2014, the CAATE modified only the post-professional standards for these programs to incorporate IPE/IPCP (CAATE, 2012).

Over the last few years, IPE initiatives and programs have increased in athletic training education programs (Breitbach et al., 2018). From 2012 to 2015, longitudinal research regarding IPE in athletic training education found that there was an increase from 23% to 37% in IPE initiatives in CAATE-accredited programs (Breitbach et al., 2018). These authors found that IPE initiatives and programs occurred more often in post-baccalaureate athletic training programs than the baccalaureate level. Related, one of the key findings in the *Examination of the Professional Degree Level for Athletic Training* was that graduate-level education helped to facilitate interprofessional education (NATA, 2013). Additionally, barriers that exist within the undergraduate program are removed with the implementation of the graduate-level athletic training degree and are on par with other graduate health care professions (NATA, 2013). Yet athletic training remains idle compared to other health care professions in regard to preceptor development in IPE.

## Methods

A pre-experimental retrospective pretest-posttest survey design was used to measure the effectiveness of an online asynchronous IPE professional development module on beliefs, behaviors, and attitudes of athletic

training preceptors. A retrospective pretest-posttest design affords the control of a reference shift that may occur with the participant after an increased understanding of the subject matter in question (O'Leary & Israel, 2019).

The intervention for this study was a ten-minute online asynchronous professional development module focused on IPE/IPCP in the health care setting. The module focused on preceptor readiness to model IPCP for pre-license students working with them in the clinical setting. The general outline of the module included both definitions of IPE/IPCP as well as a brief history and then connected both IPE/IPCP to profession of athletic training as well as the role of the preceptor in facilitating IPCP experiences. Following watching the module, preceptors completed the Interprofessional Socialization and Valuing Scale (ISVS)-21 survey instrument which measured beliefs, behaviors, and attitudes toward IPE/IPCP. Participants in this study were active athletic training preceptors, meaning they served as a preceptor for an athletic training student in the last twelve months. Per the 2020 CAATE accreditation standards, preceptors evaluating athletic training students' clinical skills must be a physician or a certified athletic trainer effective July of 2020 (CAATE, 2018); prior to this, programs may have had preceptors that are from peer health care professions. The data collection for this study began prior to the effective date of the new standards, therefore, the preceptors surveyed were from various health care professions.

### Instrumentation

The instrument that was used in this study was the Interprofessional Socialization and Valuing Scale-21 (ISVS-21). The ISVS-21 contains 21 self-report items used to measure the interprofessional beliefs, behaviors, and attitudes of health care practitioners (King et al., 2016). Using a Likert scale, participants rate each item as 0 = NA, 1 = not at all, 2 = to a very small extent, 3 = to a small extent, 4 = to a moderate extent, 5 = to a fairly great extent, 6 = to a great extent, or 7 = to a very great extent (King et al., 2016). The ISVS-21 is reliable to use with students or health care practitioners and can be used for clinical practice or educational opportunities to assess interprofessional socialization (King et al., 2016).

A pre-experimental retrospective pretest-posttest survey design was used to measure the influence of the module on beliefs, behaviors, and attitudes about IPE/IPCP using the ISVS-21 survey instrument. The retrospective pretest-posttest survey design has been used to measure change over a short period of time such as after an educational intervention (O'Leary & Israel, 2019). The main advantage of the retrospective pretest-posttest design is that it measures change through assessment at one timepoint, allowing for control over response-shift bias and overestimation of pretest self-assessments (O'Leary & Israel, 2019).

### Data Collection

Primary data for this study was the demographic information and responses to the ISVS-21. Demographic data was general enough that participants could not be identified by the information they provided. Participants completed the ISVS-21 in a retrospective pretest-posttest format. The data from the ISVS-21 was analyzed with descriptive and inferential statistics. Data was collected online through Survey Monkey and the data was exported into an excel spreadsheet to be coded. Once coded, IBM® Statistical Package for Social Science (SPSS) Statistics software version 26 was used for all statistical analyses. Data collected through Survey Monkey did not include any identifying information.

### Procedures

A recruitment email was sent to all 368 professional programs, excluding one program that was used to finalize the methods. A total of 29 athletic training programs agreed to participate in this study. A total of three additional emails were sent to those program administrators. The first email contained the study information to forward on to their preceptors. The email included a link to the informed consent, the online professional development module, a demographics survey, and the retrospective pretest ISVS-21. The prerecorded module was uploaded to YouTube as an unlisted video and linked within Survey Monkey, which included the demographic survey and the ISVS-21. Two weeks later, a reminder email was sent for program administrators to send on to their preceptors. Finally, three days prior to the conclusion of data collection, program administrators were sent a final email reminder to forward on to their preceptors.

Once data collection was complete, the data was exported to an excel file and coded. Once coded, the data was uploaded into IBM® Statistical Package for Social Science (SPSS) Statistics software version 26 to be analyzed. A paired-samples t-test, one-way ANOVA, and Pearson's Correlation were used to analyze the data.

## Descriptive Statistics

Overall, 83 preceptors completed some aspect of the demographics and ISVS-21 survey. Prior to data analysis, any incomplete demographics or survey responses were extracted. Demographics collected from the participants included highest degree earned, health care credential, NATA district, years in health care and in their current profession, the type of clinical setting within which they serve as a preceptor, the length of time they have served as a preceptor, and the number and types of health care students they precept. Out of N=83, N=51 completed both the demographic and ISVS-21 survey. Of the 51 preceptors that participated in the study, 50 were practicing athletic trainers and one was a physician.

## Results

The survey data was analyzed using IBM® SPSS version 26. The data was coded in excel and then uploaded into SPSS for analysis. A paired-samples t-test was conducted to compare retrospective pretest scores and posttest scores on the ISVS-21. Participants rated their knowledge of the 21-items on the ISVS-21 using a 7-point Likert scale. The Likert scale was the degree to which the participant agreed with the statement with a 7 as *To a Very Great Extent* to a 1 as *Not at All*. There was a significant difference in the scores for retrospective pretest ( $M=116.5$ ,  $SD=15.10$ ) and posttest ( $M=123.1$ ,  $SD=14.84$ ) on the ISVS-21;  $t(51)=-5.86$ ,  $p = .000$ .

A one-way between subjects Analysis of Variance (ANOVA) was conducted to compare the effect of degree level on the change score of the ISVS-21. There was not a significant effect of degree level on the change score of the ISVS-21 at the  $p<.05$  level for the three conditions [ $F(2, 47) = 1.39$ ,  $p = .258$ ].

A one-way between subjects ANOVA was conducted to compare the effect of clinical setting on the change

score of the ISVS-21. There was a not a significant effect of the clinical setting on the change score of the ISVS-21 at the  $p<.05$  level for the three conditions [ $F(2, 48) = 1.025$ ,  $p = .367$ ].

A one-way between subjects ANOVA was conducted to compare the effect of the number of professions present in the clinical setting on the change score of the ISVS-21. There was a not a significant effect of the number of professions present in the clinical setting on the change score of the ISVS-21 at the  $p<.05$  level for the three conditions [ $F(1, 49) = 1.147$ ,  $p = .289$ ].

A one-way between subjects ANOVA was conducted to compare the effect of being a preceptor for multiple professions on the change score of the ISVS-21. There was a not a significant effect of being a preceptor for multiple professions on the change score of the ISVS-21 at the  $p<.05$  level for the three conditions [ $F(1, 49) = .249$ ,  $p = .620$ ].

The Pearson correlation coefficient was computed to assess the relationship between self-reported years of clinical experience in health care and the ISVS-21 change score. There was a moderate negative correlation between the two variables,  $r = -.316$ ,  $n=51$ ,  $p=.024$ .

The Pearson correlation coefficient was computed to assess the relationship between self-reported years in current health care profession and the ISVS-21 change score. There was a moderate negative correlation between the two variables,  $r = -.332$ ,  $n=51$ ,  $p=.017$ . The Pearson correlation coefficient was computed to assess the relationship between self-reported years as a preceptor and the ISVS-21 change score. There was no correlation between the two variables,  $r = -.133$ ,  $n=51$ ,  $p=.352$ .

At the conclusion of the study, participants could answer two optional open-ended questions after they completed the ISVS-21. Although the ISVS-21 is analyzed using the sum of the scores as opposed to analyzing each question, additional questions were asked to gain more insight into the effect of the IPE/IPCP module. One respondent commented on how this module will impact their behavior moving forward by saying:

“I believe I will continue to add upon my approach in how to better create a learning envi-

ronment for my students so they may see the process of interprofessional communication not only amongst athletic trainers, but also the other professions that I am in communication with throughout an athlete's injury process so they may full understand the process of developing optimal care that is patient-centered for an athlete. In doing so I will continue to seek out more situations in which I feel could be a great overall learning experience for them to further develop their interprofessional education and collaboration skills."

And another stated,

"The language we use around students and preceptors to accurately reflect what we are doing and to share the importance of IPE and IPCP as a student-- if we incorporate these while they are in school, it may allow them more confidence and knowledge about these situations once they are in practice post-graduation."

The open-ended questions allowed participants to narrate the impact the module had on them as a health care professional and as a preceptor. Not all participants responded to the questions, however, of those that did, the majority had positive comments and ideas for how their behavior can change in the clinical setting as a health care provider and as a preceptor. The results of this study, including the open-ended responses, supported the impact of a short IPE/IPCP module on athletic training preceptors' beliefs, behaviors, and attitudes about IPE/IPCP.

## Limitations

This study is not without limitations including sampling, technology, COVID-19, and a novel application of the ISVS-21. To begin, the researchers did not have direct access to the contact information for the potential participants (preceptors of athletic training programs); this access was negotiated through the corresponding program director and may have introduced positive bias or limited participation. Next, the on-demand delivery of the intervention was dependent on technology functioning as it should, and the skill set of the participant. Alongside that, the global pandemic

posed potential time constraints on participants and may have limited the sample size. Finally, the ISVS-21 was used in a retrospective pretest-posttest design, which is somewhat novel to the tool and will pose a challenge to comparing this data with studies who employed the tool in a traditional pretest/posttest design.

## Discussion

Interprofessional education and collaborative practice have been focal points in health care over the last 20 years. Numerous interprofessional organizations, including the Interprofessional Education Collaborative (IPEC), have been instrumental in providing resources and support for health professions programs as they continue to develop IPE/IPCP opportunities in their programs (IPEC, 2016). With the increase in research around IPE/IPCP (Ratka et al., 2017), there continues to be a need to explore the preceptor's role for health care students during their clinical rotations (Chen et al., 2016; McCutcheon et al., 2017). The need to bridge the gap between didactic and clinical education is essential to prepare athletic training graduates to be team-ready health care providers.

An important aspect of health professions education is the clinical component (Mazerolle et al., 2015). During this time, students experience a dual identity in professional and interprofessional socialization (HPAC, 2019). Although there has been an increase in IPE/IPCP in the classroom, the attention to practical experiences in IPCP during the clinical portion of the curriculum has not been as strong (Chen et al., 2016). This has resulted in a disconnect from what is being learned in the classroom and what is being experienced in the clinical setting. To address this gap, preceptors need to learn about and be socialized to IPE/IPCP and be proficient in facilitation skills.

Previous studies have focused on developing faculty in IPE/IPCP to create and implement content in the classroom (Shrader et al., 2015; Christofilos et al., 2015; Pien et al., 2018); however, IPE/IPCP development has not been as prominent in the clinical setting (Chen et al., 2016). The role of the preceptor is invaluable to the education and clinical experience of the health care student in IPE/IPCP and creating a clinical site that is ready to model contemporary health care. This study focused on IPE/IPCP development of practitioners who

serve as preceptors for athletic training students. Other health care professions, such as nursing, pharmacy, physical therapy, and respiratory therapy, have models that seek to create clinical site readiness through educating preceptors to model IPCP in the clinical setting (Dalton et al., 2007; Rye & Boone, 2009; Singer, 2006). However, athletic training has yet to adopt and implement a standardized model that aims to create readiness to precept (for both the preceptor and the setting). Becoming aware of IPCP opportunities organically facilitates change in the clinical setting; preceptors need to be socialized and developed to become facilitators of IPE and IPCP (Shrader & Zaudke, 2018; McCutcheon et al., 2017). What's more, preceptor readiness (and site readiness) to facilitate IPE/IPCP clinical experiences is vital to the preparation of the pre-license health professions student (Sick et al., 2019).

The role of the preceptor is invaluable to the education and clinical experience of the health care student in IPE/IPCP. This study focused on IPE/IPCP development of practitioners who serve as preceptors for athletic training students. The results of this study demonstrate the impact of a 10-minute IPE/IPCP professional development module on athletic training preceptors using the ISVS-21 tool. It was found that the module had a significant impact on athletic training preceptor's beliefs, behaviors, and attitude about IPE/IPCP. This study also examined the type of clinical setting and the degree level of the athletic training preceptor will have no influence on their thoughts about IPE/IPCP, however, it was found that the demographic factors from this study did not influence the athletic training preceptors' beliefs, behaviors, or attitudes about IPE/IPCP. Finally, a moderate negative correlation was found between the number of years in the current profession, the number of years in health care and the change score on the ISVS-21 after the professional development module. This indicates that the increased years of experience as a health care provider did not affect the beliefs, behaviors, and attitudes regarding IPE/IPCP following the module as much as someone with fewer years of experience.

Athletic training preceptors are embedded in the clinical education of athletic training students and serve as a mentor and role model (Mazerolle et al., 2015). As preceptors become more knowledgeable of the new accreditation standards, they will, in turn, comply with

the standards which will include facilitating IPE/IPCP experiences. It is anticipated that these experiences will allow athletic training students to be more collaborative and hopefully carry this into their professional practice. Athletic training preceptors can operationalize what it means to be a collaborative health care professional. Preceptors have a great influence on the education and clinical experience of the athletic training student; therefore, it is important to provide effective development opportunities in areas such as IPE/IPCP to allow them to be the most effective preceptor they can be. Improving the clinical learning environment and clinical site readiness is also necessary in order to facilitate interprofessional collaboration during clinical education (Weiss et al., 2019).

## Conclusion

The results of this study stand to impact patients and the greater health care community. Increasing collaborative practice among health care professionals as well as health professions students may lead to improve patient-centered care and resulting patient outcomes. As stated previously by the WHO (2010), IPE/IPCP development can increase collaborative practice and improve health care outcomes within the health care system. This study found that a short 10-minute IPE/IPCP module influenced athletic training preceptors, which may lead to benefits for both students and patients by facilitating collaborative patient-centered care.

In addition, the results of this study will impact how athletic training programs develop preceptors in IPE/IPCP moving forward to meet the current CAATE standards. Preceptor preparedness to facilitate IPE/IPCP for athletic training students during clinical education will be crucial in developing collaborative ready athletic trainers who, as a part of a greater health care team, can impact the health and wellness of persons, communities, and society. Clinical site readiness for IPCP is vital for the education and experience for health professions students.

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## Corresponding Author

Jaclyn Schwieterman, EdD

Marietta College  
215 Fifth St  
Marietta, OH 45750

sj004@marietta.edu