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Collectivism, Individualism, and Interprofessional Education: A Comparison of Faculty Across  
Five Academic Health Sciences Colleges

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A dissertation

presented to

the faculty of the Department of Educational Leadership and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education in Educational Leadership

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by

S. Alicia Williams

December 2020

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Dr. Stephanie Barham

Dr. Susan Epps

Dr. Amy Johnson

Keywords: interprofessional education, culture orientation, collectivism, individualism, faculty  
development, team-based care

## ABSTRACT

### Collectivism, Individualism, and Interprofessional Education: A Comparison of Faculty Across Five Academic Health Sciences Colleges

by

S. Alicia Williams

Collaborative practice among interprofessional groups of health care providers is essential to the provision of safe and effective medical care. However, health professions training programs have not traditionally prepared students for interprofessional practice. One challenge in transforming health professions education programs has been a limited number of faculty prepared to teach students in an interprofessional learning environment. Thus, faculty development programs aimed at preparing faculty to provide interprofessional learning experiences across disciplines are increasingly important. Unfortunately, best practice in training faculty for interprofessional education programs is not well-defined.

Interprofessional education faculty development programs should aim to train faculty to model and teach interprofessional education competencies, including collaboration; however, a faculty member's culture orientation may impact their collaborative skills. Of the four subscales of the Individualism-Collectivism Scale, horizontal collectivism is the subscale most aligned with collaborative team-based competencies. Few, if any, studies have examined culture orientation in academic health science faculty. The current study explored culture orientation in academic health science faculty across five colleges at a southern university. Comparisons were made on each of the four Individualism-Collectivism subscales between academic health science faculty who had

attended and had not attended an interprofessional education faculty development program. Also, comparisons were made by faculty members' status as a first-generation student, type of courses taught, and gender. Correlations between scores on each subscale and years of teaching in higher education were also examined.

Results indicated that the faculty members who had attended the interprofessional education faculty development program were significantly higher in horizontal collectivism than faculty who had not attended this program. Also, faculty who taught clinical courses were higher in vertical individualism than faculty who taught nonclinical courses. Implications for interprofessional practice, education, and faculty development are discussed, and recommendations for future research and practice are made.

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## DEDICATION

This dissertation is dedicated to all those in my life who have supported and encouraged me to accomplish my dreams. I could never have made this journey without each of you.

First, I thank God for opening doors for me that I had long given up on and for giving me strength when life seemed too heavy and I could not find my way. “I can do all things through Christ who gives me strength.” Philippians 4:13.

Thank you to my husband. Shannon, you have supported me in every way imaginable to make this possible. Thank you for helping me smile even through the most challenging times. I could never have done this without you by my side.

Thank you to my parents for always encouraging me to never give up and for being my biggest fans.

To my children; Merissa and Chayton, you are my inspiration. Your courage and resilience gave me the strength to keep pushing forward with this degree. I am so proud of you. I thank God for you both, and I love you both more than words could ever express.

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## Chapter 1. Introduction

In 2017, approximately 250,000 deaths per year were attributed to medical mistakes making medical error the third leading cause of death in the United States (Anderson & Abrahamson, 2017). Previously, the World Health Organization (WHO) (2010) identified interprofessional collaborative practice as essential in reducing medical error and improving patient outcomes. However, change toward having interprofessional practice-ready providers has been slow (Ratka et al., 2017). Traditionally, health care practitioners have been trained as experts in their field, resulting in siloed perspectives (Hall & Weaver, 2001) and uniprofessional identities (Arndt et al., 2009) that negatively impact professionals' abilities to engage in interprofessional collaborative practice. Research over the past 50 years has established that socializing professionals to work collaboratively is a key factor in preparing health professionals to work together (Arndt et al., 2009) and that interprofessional education (IPE) is the most effective approach to prepare health care workers to move away from their silos and practice in collaborative teams (World Health Organization [WHO], 2010).

Supporting the goal to bring interdisciplinary students together to learn “about, from, and with each other” (WHO, 2010, p. 7), accrediting bodies have included IPE requirements in the accreditation standards for all academic health sciences programs (Ratka et al., 2017; Zorek & Raehl, 2013). Nonetheless, these standards vary greatly among accrediting bodies, and the degree to which accrediting bodies hold programs accountable for incorporating these standards into their curriculum varies across disciplines (Zorek & Raehl, 2013). To meet the new accreditation standards, health care disciplines have added components of IPE to their curricula (Ratka et al., 2017; Zorek & Raehl, 2013). However, because of the lack of standardization, the way that each health care program has attempted to meet these accreditation standards differs from discipline to

discipline (Zorek & Raehl, 2013). Differences in the curricula of programs have resulted in challenges for bringing interprofessional groups of students together for IPE experiences.

At present, barriers remain to fully develop an IPE curriculum (Ratka et al., 2017; Zorek & Raehl, 2013). First, the lack of consistency in accreditation standards, and thus differences in curricula between programs, complicates the ability of faculty across disciplines to work together to provide IPE experiences (Zorek & Raehl, 2013). Second, there is a deficit in the number of educators prepared to teach interprofessional groups of students across all disciplines (Ratka et al., 2017). Finally, even with some training, faculty report feeling ill-prepared to teach in IPE settings (Ratka et al., 2017). To best prepare students for collaboration in a team-based workforce, health professions programs need to identify best practices for teaching future providers to work in collaborative teams and must train faculty members to effectively deliver IPE (WHO, 2010).

Given that collaborative work among health care team members is essential for sound team-based care (Khalili et al., 2013; Watkins, 2016) and essential to decreasing medical error (WHO, 2010), addressing factors that can negatively impact providers' collaborative efforts through training is important. One of the factors that can impact collaborative efforts is the culture orientation of the individual (Triandis, 1995).

Culture orientation originated as a descriptor of cultures in terms of a society's tendency to reflect individualism or collectivism (Triandis, 1995). However, culture orientation is now used to look at individual differences among people and refers to the inclination of a person to place greater value on individual priorities versus group priorities. From the person-based perspective, individualism is associated with preferences to work alone, valuing the priorities of the individual above the group. Collectivism, on the other hand, is linked to feeling connected with others and working well in groups, valuing group priorities above individual ones. Important to IPE, these

dimensions are not static but rather can shift from individualism to collectivism, or vice versa, through training.

Because collaborative skills are essential for interprofessional work (Khalili et al., 2013; Watkins, 2016) and culture orientation impacts an individual's collaborative efforts (Triandis, 1995), culture orientation may be an important consideration for interprofessional collaborative practice and therefore IPE as well (Barrow et al., 2014). However, in a review of the literature, relatively few publications included research investigating the relationship between individualism, collectivism, and interprofessional education or practice.

Barrow et al. (2014) explored collaborative interactions in an interprofessional team-based setting and found that nurses were more collectivist in their approaches, whereas doctors were more individualistic. Iachini et al. (2019) embedded the Social Change Model, a collaborative leadership training model, into an IPE course to investigate the efficacy of this approach in fostering collaborative leadership among students; these researchers found that students experienced a shift from an individualist perspective prior to the training to a more collectivist perspective following the training. Barrow et al. (2014) suggested that focusing on the differences in culture orientation among health practitioners is important in training individuals to work collaboratively.

In the fall semester of 2018, the university in this study implemented an interprofessional faculty development program. This program was designed to give faculty an immersive experience in the exercises that they would use to teach IPE competencies to interprofessional groups of students and included, among other skills, collaborative team-based exercises (Polaha et al., 2019). If culture orientation and collaboration skills are connected and shifts occur in culture orientation with training (Triandis, 1995), then it follows that faculty who have been trained to



teach and model collaboration skills through IPE faculty development may differ in culture orientation in comparison to those faculty who have not been trained on these same skills.

The proposed study investigated culture orientation in faculty by comparing subgroups of faculty members from the five Academic Health Sciences colleges at a southern university on the four subscales of the Individualism-Collectivism Scale (INDCOL) (Triandis & Gelfand, 1998). Of interest were comparisons between faculty who had attended the formal IPE faculty development training at their current institution and faculty who had not attended the formal IPE faculty development training at their current institution.

Additional comparisons included differences in the INDCOL subscale scores between male and female faculty members, between faculty members who were first-generation college students and faculty members who were not first-generation college students, and between faculty members who teach clinical versus nonclinical courses. Finally, correlations between the number of years teaching in higher education by faculty and scores on each of the four INDCOL subscales were examined. The results of this study may help inform IPE programs for both faculty and students and add to the literature base examining the theoretical basis for IPE programs.

### **Statement of the Problem**

Culture orientation (individualism and collectivism) can impact an individual's ability to participate successfully in collaborative teamwork (Triandis, 1995). The World Health Organization (2010) has identified that interprofessional practice and collaborative teamwork are essential in preventing medical errors. Although interprofessional education is required for faculty and students to develop sound collaborative skills (WHO, 2010), there is limited information in

the literature exploring the relationship between interprofessional education and culture orientation.

### **Purpose of the Study**

The purpose of this non-experimental quantitative survey study was to examine differences in subscale scores on the 16-item INDCOL scale (Triandis & Gelfand, 1998) among faculty teaching in the five Academic Health Sciences Colleges at a southern university, in particular, the differences in INDCOL subscale scores between faculty who had attended the formal IPE faculty development training at their current institution and faculty who had not attended the formal IPE faculty development training at their current institution.

### **Research Questions**

For this study, I investigated the following research questions:

1. Is there a significant difference in scores on the four dimensions of the INDCOL between faculty who had attended the formal IPE faculty development training at their current institution and faculty who had not attended the formal IPE faculty development training at their current institution?
2. Is there a significant difference in scores on the four dimensions of the INDCOL between female and male faculty members?
3. Is there a significant difference in scores on the four dimensions of the INDCOL between faculty members who were first-generation college students and faculty members who were not first-generation college students?
4. Is there a significant difference in scores on the four dimensions of the INDCOL between faculty members who teach clinical versus nonclinical classes?

5. Is there a significant correlation between scores on each of the four dimensions of the INDCOL and the number of total years teaching in higher education?

### **Significance of the Study**

An individual's ability to participate in a collaborative activity is impacted by the culture orientation of the person (individualism or collectivism) (Triandis, 1995). The ability to collaborate in team-based activity is one competency that students need to acquire through IPE to function well in interprofessional health care teams (WHO, 2010). Further, faculty need training designed to prepare them to best model and teach these collaborative skills to students. Because culture orientation can shift with training which targets collaborative skills (Triandis, 1995), both students and faculty could experience a shift in their culture orientation through training focused on interprofessional collaborative practice or IPE. Since not all faculty receive formal IPE training, there may be faculty teaching future health care providers who have a culture orientation that does not foster collaborative skills. The literature has limited information on the relationship between culture orientation and both IPE and interprofessional practice and does not provide best practice guidelines for training IPE faculty.

This study adds to the literature by exploring the relationship between culture orientation and interprofessional education, by providing considerations for developing IPE training for faculty and students, and by adding to an understanding of collectivism, collaborative learning, and collaborative leadership as aspects for consideration of the theoretical basis for interprofessional training. The results could inform program developers in creating IPE programs for training students and in planning IPE faculty development programs. The results could also provide information to curriculum strategists regarding components needed in IPE curricula and

serve as a reference point for standardizing accreditation guidelines related to collaborative learning components across health professions disciplines.

### **Delimitations**

This study was delimited to academic health sciences faculty at a single university in the south, thus, the results may not be generalizable to other geographic areas. The study was also delimited to faculty who were teaching full-time during one calendar year. Further, faculty members who taught during the designated calendar year but left the university before the distribution of the survey through email were not included.

### **Limitations**

Certain limitations may exist in the study. Because the sample is a self-selecting sample, faculty members who volunteered to participate may be higher in collectivism than those faculty who were invited and did not participate (Finkelstein, 2010; Finkelstein, 2011). Individuals high in collectivism may volunteer more often than those high in individualism when there is no personal advancement as a motive. On the other hand, persons high in individualism may volunteer more readily when they view the activity as advancing their career or helping them to achieve personal goals.

Since participation in this study was through a survey and data was collected anonymously, there were no incentives for participating other than intrinsic ones and no opportunities for advancement of any kind, making it more likely that persons high in individualism may have self-selected out of the study. Importantly, this limitation would not be expected to increase the likelihood of a Type I error, as those individuals higher in individualism may have self-selected out of the study making the sample size more similar in collectivism from the onset. This limitation could increase the likelihood of a Type II error, as those individuals

higher in individualism may have self-selected out of the study, thereby eliminating those highest in individualism from the comparison.

The involvement of the primary researcher in the interprofessional education program at the university of study could have potentially led to bias in the design of the study or interpretation of results. Therefore, a quantitative study was selected with this in mind. The potential for bias was minimized by the use of a validated instrument that captured objective data.

### **Assumptions**

I made the following assumptions in designing this study:

1. A survey was the best method to gather this data due to a large number of potential subjects and the established validity and reliability of the INDCOL scale (Triandis & Gelfand, 1998).
2. Each faculty member in the Academic Health Sciences colleges had an equal opportunity to participate in the study.
3. Each faculty member answered the questions on the survey honestly and to the best of their ability.

### **Definitions**

To further clarify for the reader, definitions of the following terms are provided:

- **Collectivism:** When an individual's values place group cohesiveness, group norms, and group goals as a priority above their own personal interests, goals, beliefs, aspirations, preferences, or desires (Triandis, 1995)
- **Culture orientation:** The tendency of an individual to value individual versus group priorities (Triandis, 1995)

- **Horizontal collectivism:** One of the equality dimensions of Individualism-Collectivism that is associated with a desire to work for common goals though not to the point of sacrificing personal values (Triandis & Gelfand, 1998)
- **Horizontal individualism:** One of the equality dimensions of Individualism-Collectivism associated with some degree of self-autonomy but an unwillingness to sacrifice relationships for the sake of their own success (Triandis & Gelfand, 1998)
- **Individualism:** When an individual's values place personal interests, goals, beliefs, aspirations, preferences, or desires as a higher priority than that of a group or collective (Triandis, 1995)
- **Interprofessional collaborative practice:** Multiple professionals from various disciplines working together in a manner that engages other individuals at any skill level as well as patients, their family members, and their caregivers (WHO, 2010)
- **Interprofessional education:** A learning experience where learners “from two or more professions learn about, from, and with each other to enable effective collaboration” (WHO, 2010, p. 7). To be considered IPE, the learning experience must include interactive, collaborative, and experiential learning activities.
- **Vertical collectivism:** One of the hierarchy dimensions of Individualism-Collectivism associated with a potential willingness to totally submit to group norms sacrificing autonomy (Triandis & Gelfand, 1998)
- **Vertical individualism:** One of the hierarchy dimensions of Individualism-Collectivism associated with the tendency to be highly competitive placing self-desires above group goals (Triandis & Gelfand, 1998).

## Overview of the Study

Collaborative practice among interprofessional groups of health care providers is essential to the provision of safe and effective medical care (WHO, 2010). However, there is a deficit in the number of faculty members trained to prepare health care professions students to practice in interprofessional team-based settings (Ratka et al., 2017). Training programs for students and faculty must address factors that interfere with collaborative team interactions to adequately prepare future health care providers (Khalili et al., 2013; Watkins, 2016). An individual's tendency to be individualistic or collectivistic (culture orientation) is one influence on collaborative interactions (Triandis, 1995) which has received limited investigation (Barrow et al., 2014).

To examine interprofessional education and culture orientation, this non-experimental quantitative survey study examined differences in subscale scores on the 16-item INDCOL scale (Triandis & Gelfand, 1998) among faculty teaching in the five Academic Health Sciences Colleges at a southern university. I used a survey to gather demographic information including gender, first-generation status, and the number of years teaching in higher education. Participants responded to questions related to their teaching experience, whether they had or had not attended the formal IPE faculty development training at their current institution, and exposure to IPE. Levels of exposure (no to a moderate level of exposure and a high level of exposure) to IPE was defined by a modification of standards established by Kwan et al. (2009) (see Appendix A). I used the INDCOL scale to assess faculty scores on the four culture orientation domains: vertical collectivism (VC), vertical individualism (VI), horizontal collectivism (HC), and horizontal individualism (HI) (Triandis & Gelfand, 1998).

Finally, I compared INDCOL subscale scores between faculty who had attended the formal IPE faculty development training at their current institution and faculty who had not attended the formal IPE faculty development training at their current institution. I examined these variables for each of the INDCOL subscale measures and used independent *t*-tests and Pearson correlations to analyze the data.



## **Chapter 2. Review of Literature**

After the turn of the 21<sup>st</sup> century, interprofessional practice and interprofessional education (IPE) began to gain more attention. Most recently, there has been an increased focus on faculty development in IPE. This literature review includes research supporting the importance of training faculty to provide IPE and how culture orientation can impact IPE, interprofessional practice, and the teaching of interprofessional skills. First, the review provides a brief discussion surrounding the history and necessity of IPE and interprofessional practice followed by an introduction to the importance of IPE faculty development programs. Thereafter, the chapter includes an introduction to culture orientation with a review of individualism and collectivism, the four subscales of the Individualism-Collectivism Scale (INDCOL) (Triandis & Gelfand, 1998), and the applicability of these four dimensions to collaboration and team-based care.

### **History of Interprofessional Education**

#### ***Post-World War II***

During the twentieth century, advances in technology resulted in the birth of a plethora of specialties in the health care field (Hall & Weaver, 2001). In the post-World War II era, the expanse of medical knowledge became too complex for a single practitioner to absorb and effectively apply in treating patients; thus, the necessity arose for the formation of medical specialty practices (Hall & Weaver, 2001; Ludmerer, 1999). The result of this specialized model of care has been each professional practicing within their own domain, on their own stage, separated by each profession's culture and often by physical spaces as well (Hall & Weaver, 2001). As health care has become more complex, treatment now involves providers from different disciplines separately but simultaneously providing care to the same patient; however, these providers are often located in different physical locations (Baum & Axtell, 2005). Most

concerning is that this traditional system of patient care offers little opportunity for collaboration between these providers (Hall, 2005).

As this system of specialized medicine has interfered with effective collaboration among health care providers (Hall & Weaver, 2001), the resulting patient experience within this design has fallen on a continuum of frustrating to catastrophically dangerous due to a lack of communication between treatment providers (Zwarenstein & Reeves, 2002). With the combined impact of a compromised system of patient care, an increase in human longevity, and a shift in medicine toward the prevention and management of chronic disease (Hall & Weaver, 2001; Haruta et al., 2018), the input of professionals from multiple disciplines has become increasingly important (Watkins, 2016). Nonetheless, though treatment providers have been trained well within their specialty, they have not traditionally been trained to work collaboratively with other providers (Baum & Axtell, 2005).

Unfortunately, according to Fernandez (2014), trends in medicine over the past 100 years reflect that training providers of diverse professions in discrete settings does not prepare them to provide the quality of care needed in today's medicine. Providers from multiple disciplines who have been well-trained within their own profession are not automatically well-suited for a multidisciplinary setting (Parsell & Bligh, 1998). In addressing this chasm in medical practice collaboration, a new call for medical education reform has been made (WHO, 2010).

### ***Calls for Medical Education Reform***

Historically, the Flexner Report (Flexner, 1910) had served as the reform model guiding medical education since the early 1900s (Baum & Axtell, 2005). However, in a 1987 regional committee meeting, the WHO urged new reform and acknowledged the need for “coordinated action between various health and health-related sectors” (para. 2) to promote more of an

emphasis on wellness and prevention. Furthermore, the WHO (1987) specifically called for “training of health professionals in interpersonal relationship and communication skills” (para. 7).

Still, at the turn of the millennium, medical education was faced with many concerns.

Increasingly, calls for medical education reform began to address the omission of interprofessional training in the existing medical education system (Baum & Axtell, 2005).

For example, Ludmerer (1999) and Cooke et al. (2010) identified interprofessional training as an area that strongly needed transformation. Ludmerer (1999) noted the exclusion of preparation for collaborative practice in health professions training programs and called for the inclusion of integrated care in medical education. As part of this review, Ludmerer encouraged the use of integrated delivery systems in medical education. This, he suggested, would utilize a variety of specialty areas to ensure the provision of public health needs while at the same time reducing the burden on medical education programs to be everything to everyone.

Medical education in an integrated delivery system, as Ludmerer (1999) had proposed in *Time to Heal*, moved one step closer to a purer interprofessional model with the publication of *Joint Principles of the Patient-Centered Medical Home* (Baird et al., 2014). Calling for a “team of individuals at the practice level who collectively take responsibility for the ongoing care of patients” (American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, American Osteopathic Association, 2007, p. 1), leaders in this multispecialty joint venture discussed both comprehensive collaboration among providers and the use of technology to improve patient care but neglected to address the importance of educating providers in how to accomplish team-based initiatives.

In 2010, the Carnegie Foundation for the Advancement of Teaching released a new millennium call for reform (Cooke et al., 2010). Like the Flexner Report (Flexner, 1910) a

century before, Cooke et al. (2010) described the deficits in the current medical education system and included an appeal for an innovative move toward interprofessional education. In summarizing the report, Irby et al. (2010) discussed several shortfalls in the American medical education system. The authors reviewed the difficulty today's physicians have in collaborative settings as well as the limited understanding that providers have of the fragmentation in care experienced by patients. In endorsing a solution, the authors urged the incorporation of "interprofessional education and teamwork in the [medical education] curriculum" (p. 225).

Additionally, the 2010 Carnegie report addressed another limitation in the medical education structure related to interprofessional skill development. They summarized that the current system lacked the capacity to train physicians with a strong concept of professional identity (Irby et al., 2010). Having a strong confidence in one's professional abilities is an identified necessity for team-based work (Parsell & Bligh, 1998; Petrie, 1976). In accordance with this, Irby et al.'s (2010) recommendation for better preparing confident physicians was to create *collaborative learning environments*.

The WHO (2010) also identified a need for the development of IPE programs and the training of well-prepared IPE faculty. To operationalize *interprofessional*, the WHO formalized a definition of IPE as occurring "when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (p. 7). Nonetheless, there remained concerns that existing IPE programs lacked a strong theoretical foundation on which to base curriculum design (Barrow et al., 2014) and thus faculty development efforts. Though many theoretical models have been explored, there are no firmly established processes or theoretical bases on which to build IPE programs (Ratka et al., 2017).

### ***The Evolution of Interprofessional Education***

In the 1970s, the first formal attempts were made to initiate multidisciplinary medical education. Fagin (1992) noted there was a short period of effort to establish interprofessional education and practice from 1971 to 1981 especially by the American Nursing Association and the American Medical Association. This effort was realized through the formation of the National Joint Practice Commission; however, this organization dissolved in the early 1980s because of conflict (Hall & Weaver, 2001). Thereafter, according to Zwarenstein and Reeves (2002), there was little notable effort toward interprofessional collaboration accomplished for the next 20 years.

Since then, IPE evolved as a relatively new concept in health care education out of a concerted effort to bridge the gap between medical practice and medical training (Baum & Axtell, 2005). One trend that has emerged in medical education in the 21st century is a focus on outcomes and includes competency-based interprofessional training. An emphasis on outcome measures ensures students must demonstrate that they have learned and can apply knowledge to perform competently in their field.

In the new millennium, numerous changes have swiftly taken place. In response to *Time to Heal* (Ludmerer, 1999), training for students began to be more skills-based as opposed to only knowledge-based, and learning was facilitated by exposure to doctor/patient interactions sooner in the learning process (Dezee et al., 2012). Teaching strategies have shifted from a focus on knowledge only to grasping the process and establishing a connection through skills demonstration. In response to *Educating Physicians* (Cooke et al., 2010), students began to be guided toward compassionate patient interaction and cooperative interprofessional collaboration (Thelin, 2011).

As far back as the 1980s, educators have been concerned about patient-care outcomes that result from interprofessional team-based practice when individual team members have been trained separately and only within their own discipline (Baum & Axtell, 2005). According to Baum and Axtell (2005), more recent trends have moved toward training students from different professions together rather than integrating providers only after they have completed separate professional programs, the hope being that jointly educating health professions students will teach future providers to work in teams so they more adequately work in interprofessional teams once they enter practice. This model involves preceptors and students from multiple disciplines training alongside one another in the same facility (Baum & Axtell, 2005). Joint training in patient care allows all team members to learn about the services other disciplines provide and to understand how they can serve the patient in an integrated fashion.

Many disciplines within the health care field have gradually added components of IPE to their training programs, and accrediting bodies have added the inclusion of IPE to their standards of accreditation (Ratka et al., 2017; Zorek & Raehl, 2013). However, programs vary widely in how they implement IPE into their curriculum, and the standards set forth by accrediting bodies differ between disciplines (Zorek & Raehl, 2013). Additionally, accrediting bodies do not all hold their respective disciplines accountable for how these standards are implemented into a program's curriculum. Due to the lack of curricular standardization across programs, different health care disciplines, even within an institution, have varying approaches to teaching IPE; this has resulted in challenges to bringing interprofessional groups of students together to create IPE learning experiences (Zorek & Raehl, 2013).

Further, there remain concerns that existing IPE programs lack a strong theoretical base (Barrow et al., 2014), and based on a review of the literature, there are no firmly established

processes or theoretical bases on which to build these programs (Ratka et al., 2017). Guidelines for changes are numerous but are lacking outcome data verifying effectiveness (Dezee et al., 2012). Further, there remains a deficit in the number of educators prepared to train students in IPE settings (Ratka et al., 2017).

### ***Training of Faculty***

One challenge to the implementation of IPE programs is the lack of a prepared faculty base (Ratka et al., 2017). Although there is the expectation for practitioners to leave health professions programs prepared for interprofessional practice, there remains a deficit in the number of educators prepared to train students interprofessionally (Ratka et al., 2017). This shortfall has continued despite the WHO (2010) mandate calling for the preparation of faculty to deliver IPE effectively. Even with the WHO directive, little has been accomplished in the way of training faculty to teach the IPE model (Ratka et al., 2017).

Faculty development programs could be the answer for resolving this dilemma; however, Ratka et al. (2017) conducted a literature review covering publications up until December 2015 and found only 17 articles that either detailed an interprofessional education faculty development program or provided empirically investigated methods for training faculty to deliver IPE experiences. Even after 20 years of growth in IPE, there is limited availability of health care providers to teach from a team-based model.

In general, there are no training standards required for educators to teach in health professions (Jarrett et al., 2017). For example, many medical school faculty members are physicians who have little to no formal foundational instruction on teaching (Dezee et al., 2012). The extent of training for many academic health professionals occurs by voluntary completion of certificate programs or of rotations in an academic setting; however, many academic health

professionals do not pursue any formal educator training (Jarrett et al., 2017). Further, according to Jarrett et al. (2017), training programs that do expose health professions students to teaching do not do so in an interprofessional milieu.

An important first step in implementing interprofessional education is meeting the need for faculty training (Hall, 2005). Hall and Weaver (2001) cited the following challenges for medical educators providing interprofessional instruction: lack of understanding of multidisciplinary concepts, lack of knowledge of concepts from specific disciplines, and lack of motivation to learn new teaching methods. These researchers discovered that the lack of understanding of multidisciplinary concepts has been one of the main challenges for medical educators in providing interprofessional instruction (Hall & Weaver, 2001). To remedy this deficit, faculty development activities would be beneficial in teaching medical professionals how to educate learners in the competencies of IPE (WHO, 2010).

Faculty development has been identified as an effective process in preparing faculty to meet the new and rapidly changing demands faced by academic health professionals (Baker et al., 2018). Uniprofessional faculty development programs have been deemed helpful by medical educator participants, have positively changed faculty attitudes toward teaching, and have facilitated the development of knowledge and skills in teaching methods (Steinert et al., 2006). Program features in uniprofessional faculty development programs that have been successful and effective include experiential learning activities with practice and feedback, use of peer role models, adherence to an adult learning theoretical framework, and use of multiple instructional methods (Baker et al., 2018).

As Bleich (2016) discussed, medicine has not traditionally been a team endeavor, rather, training and practice in medicine have been through a lens that emphasized physician authority.



For future providers to learn to form collaborative partnerships, faculty must be able to provide feedback in a manner that facilitates a safe learning environment where each profession's input is heard and valued. This facilitation skill is not inherent and therefore interprofessional faculty development programs are key to preparing educators for these endeavors (Bleich, 2016).

Preparedness in IPE teaching refers to the “attitudes, knowledge, skills, and behaviors educators should possess to competently facilitate IPE” (Christianson, 2015, p. 16). Beyond individual preparedness, Bleich (2016) indicated that co-teaching by professionals who are both competent in their respective fields and also able to complement each other was important. In sum, there needs to be a synchronous interplay in the co-facilitator interactions so that no single discipline appears dominant over the other in the teaching environment (Bleich, 2016).

Faculty development activities could be beneficial both in training medical professionals to practice interprofessionally and in preparing them to educate learners across various health-related fields in an IPE program. Nonetheless, there continues to be very limited outcome data available to guide best practice methods for providing a multidisciplinary approach to educating providers (Ratka et al., 2017). Further, there remains a deficit in the number of educators prepared to train students in IPE competencies.

### **Role of Collaboration in Team-Based Practice**

One IPE competency that health care students need is team collaboration skills (WHO, 2010). Having the skills to work cooperatively in teams is essential to decreasing medical errors (WHO, 2010). Working from an integrated approach requires each professional to be cooperative, receptive to the input of other professionals, and willing to share their knowledge while at the same time being able to recognize and accept their own limitations (Parsell & Bligh, 1998).

Until recently, the design of the university system has been such that disciplines train independently contributing to a detachment between professions and making collaboration difficult (Hall, 2005). The structure of the learning system has resulted in fragmented relationships among disciplines and has contributed to the evolution of distinct professional identities (Keller, 2004). This can be an inhibiting factor in team-based decision making between professions (Zwarenstein & Reeves, 2002). When professionals establish ideological boundaries between their profession and other professions, it serves as a protection of autonomy and facilitates limited ability to be cooperative (Gieryn, 1983).

Others note additional aspects of the education process that interfere with interprofessional skill development. For example, as part of their training, doctors prepare to take the lead in treatment decisions which then makes it difficult for them to share the lead in interdisciplinary settings (Hall, 2005). Also, professionals without formal interprofessional training simply lack the skills required to participate in a collaborative manner (Zwarenstein & Reeves, 2002). Finally, physician training has historically focused on outcomes more so than relationships, whereas nurses and social workers find value in patients' stories and members of the clergy are most likely to value confidentiality, the physician wants just enough brief, quick, and concise information to fix a problem (Reese & Sontag, 2001).

These explanations, in sum, contribute to differences in professional cultures, which Hall (2005) identified to be the underlying cause of limited interdisciplinary teamwork. According to Hall, professions evolve by defining their boundaries and establishing the authority of their profession. This framework provides the scaffolding of a given profession's belief systems, ideologies, and jargon which are foreign to outside professions. Additionally, Hall indicated that the exclusionary aspect of professional identities leads members of a given profession to establish

a unique pattern of problem solving and decision making which further impedes interdisciplinary collaboration. The exclusive culture of individual professions can further inhibit interprofessional work as providers may have differing views of patients' needs as well as an inability to view themselves as part of a team (Zwarenstein & Reeves, 2002).

As Hall (2005) explained, interprofessional training is not about dissolving professional identity. In fact, some propose that doctors need strong confidence in their own professional identities to manage the uncomfortable feelings that can arise in collaborative interprofessional care (Baum & Axtell, 2005; Petrie, 1976). According to Hall (2005), the value of interprofessional education comes in learning the collaborative process of first interpreting medicine from one's own professional point of view and then collaborating with others who are operating from their professional points of view. The group language, as opposed to the discipline's language, then becomes the new common scaffolding, and the group develops its own culture. The group culture strengthens with repeated collaborative interchanges between group members further supporting the need for interprofessional training before entering practice (Hall, 2005).

The format of the education system is the determining force in what skills a provider enters practice with. Universities and medical programs can either foster fragmentation between professional cultures or they can foster a learning experience that precipitates shared understanding, shared learning, and shared values (Interprofessional Education Collaborative Expert Panel, 2011). Shared learning also allows professionals to become acquainted with the proficiencies of other disciplines in the clinic and to develop a common primary goal of quality patient care (Interprofessional Education Collaborative Expert Panel, 2011). Interprofessional learning offers future professionals the opportunity to develop collaborative skills alongside each

other (Zwarenstein & Reeves, 2002) as learners from multiple disciplines come together in a structured learning environment to improve communication, interpersonal, cooperation, and negotiation skills (Parsell & Bligh, 1998).

Training individuals to work in interprofessional teams results in positive outcomes as students experience changes in their knowledge and attitudes toward collaborative learning and practice (Darlow et al., 2015). Given that collaborative work among health care team members is essential for sound team-based care (Khalili et al., 2013; Watkins, 2016) and essential to decreasing medical error (WHO, 2010), addressing factors that can negatively impact providers' collaborative efforts through training is important. One of the factors that can impact collaborative efforts is the culture orientation of the individual (Triandis, 1995).

## **Culture Orientation**

### ***Cultural versus Individual Differences***

Each country, society, or group has its own culture that is defined by the norms or expectations of that group (Hofstede, 1984; Northouse, 2016). A culture is defined by what works for a group and the norms and expectations that members of the group follow. These expectations are largely learned through interactions with others, for example, parents, teachers, friends, and supervisors (Hofstede, 1984). Culture orientation originated as a descriptor of cultures in terms of a society's tendency to place a greater value on the individual or to place a greater value on the group (Triandis, 1995). These two ends of a continuum are said to reflect individualism or collectivism respectively. Triandis (1995) explained that most people are born collectivists as they have strong attachments to the family; there is a strong interdependence between a child and the family. As children grow, they detach from their families to varying degrees becoming

increasingly independent. The degree to which they detach or become individualists is largely shaped by the culture in which they are reared.

Nelson and Shavitt (2002) suggested that a person's development from collectivism to individualism is largely related to child-rearing practices in Western culture. Cultures that are more individualistic place a strong emphasis on personal achievement and demonstration of success; therefore, children are raised to seek personal goals and value individual success (Nelson & Shavitt, 2002). On the other hand, in collectivist societies, children are taught that personal interests are not as important, rather the goals of the collective supersede personal interests (Triandis, 1995). Children in collectivist societies are taught to put the norms and success of the group above their personal interests.

Countries are viewed, in general, as falling along a continuum of the main domains of individualism and collectivism; however, within a given society, individuals will show distinct differences in this overarching dimension (Triandis, 1995). In almost every society, there will be some individuals who are countercultural. Thus, whereas culture orientation originated as a descriptor for societies, the concept is now also used to delineate between individual differences among people within a society.

From the person-based perspective, individualism is associated with preferences to work alone, valuing the priorities of the individual above the group (Triandis, 1995). Collectivism, on the other hand, is linked to feeling connected with others and working well in groups, valuing group priorities above individual ones. Those who score high on collectivism prefer collaboration, and those who score high on individualism prefer to practice autonomously (Moon et al., 2018; Triandis & Gelfand, 1998). Green et al. (2005) established that, although countries may be

categorized under the primary dimensions of individualism and collectivism, there are important typological differences among individual citizens that exist within this overarching domain.

### ***Vertical versus Horizontal***

The vertical-horizontal dimension of culture orientation emphasizes how individuals view themselves the same or different and equal or unequal to others within the domains of individualism and collectivism (Soh & Leong, 2002). In horizontal societies, there is a strong emphasis on equality with little emphasis on hierarchical relationships, whereas in vertical societies, great value is placed on hierarchical position and rank (Nelson & Shavitt, 2002; Triandis, 1995). Individuals with horizontal values tend to place an emphasis on social equality and support equal rights (Soh & Leong, 2002). On the other hand, individuals with vertical values emphasize social order and view individuals as being unequal.

There is a growing body of literature that supports using the horizontal-vertical distinction to provide clarity to the various subtypes of cultural values within individualism-collectivism. For example, the results of research on individualism and collectivism in citizens from two individualistic countries, the United States and Denmark, showed a clear distinction in subscale scores (Nelson & Shavitt, 2002). Nelson and Shavitt (2002) found positive correlations between higher vertical individualism scores and higher ratings on achievement and power values among participants from the United States, whereas they found positive correlations between lower horizontal collectivism scores and lower ratings on achievement and power values among participants from Denmark.

**Vertical Individualism.** Individuals who fall within the vertical individualism plane do not view themselves as the same as others (Soh & Leong, 2002). They generally prefer to be autonomous in their actions and decisions. Persons who are high in vertical values and

individualism have been found to have higher degrees of competitiveness, drive for power, a desire for advancement, and longing for accomplishment (Shavitt et al., 2010). Vertical individualism interferes with collaborative efforts (Triandis, 1995) and therefore may not be suited for interprofessional engagement.

**Vertical Collectivism.** Vertical collectivism is also characterized by a professional hierarchy (Soh & Leong, 2002). However, although people who hold vertical collectivist values see themselves as different from others, they maintain varying degrees of interdependence. Soh and Leong (2002) found positive correlations between high vertical collectivism and high levels of conformism. Individuals high in vertical collectivism may be willing to submit to group norms sacrificing their autonomy (Triandis & Gelfand, 1998). According to Haruta et al. (2018), professionals showing vertical collectivism demonstrate a strong commitment to their profession and to others within their profession. They also have a strong understanding of their own profession's roles and have good intraprofessional collaboration in a health care setting. However, they have little awareness or comprehension of the roles of other professions in the workplace. Interprofessional collaboration may be hampered by vertical collectivism.

**Horizontal Individualism.** Individuals high in horizontal individualism view themselves as similar to others and hold varying degrees of independent behavior (Triandis, 1995). There are positive correlations between persons high in horizontal individualism and a strong sense of personal direction (Soh & Leong, 2002). Persons high in horizontal individualism are likely to view themselves similarly to how they view others (Shavitt et al., 2010). Although they may exhibit a high degree of independence, their tendency to view themselves as equals with others could potentially be conducive to interprofessional collaboration though to a much lesser degree than horizontal collectivists.

**Horizontal Collectivism.** Individuals high in horizontal collectivism view themselves as similar to others (Soh & Leong, 2002). They also show varying degrees of interdependence. Individuals high in horizontal collectivism show a positive correlation with benevolent behaviors. These individuals both value their interdependence and see themselves as equal to others (Shavitt et al., 2010). Though they value admiration for and deference to authority figures (Shavitt et al., 2010) they are not likely to sacrifice their own values for the good of the group (Triandis, 1995). Their ability to hold to their own values while still working for the good of the group may render them well suited for interprofessional engagements.

### **Culture Orientation and Collaboration**

Collaboration among team members is an essential part of delivering interprofessional team-based care (WHO, 2010). Conflict resolution abilities and conflict management styles are factors that impact collaboration (Aslan et al., 2019). Individualism and collectivism have been noted to impact conflict resolution and collaboration (Triandis, 1995). Within this overriding dimension, the four subtypes of horizontal and vertical individualism and collectivism have been found to have notable differences that impact collaborative efforts (Aslan et al., 2019).

For example, Aslan et al. (2019) examined correlations between the horizontal dimensions of collectivism as measured on the Individualism-Collectivism scale and conflict management styles as measured by scores on the Conflict Handling Styles Scale among nurses in Turkey. Higher scores on horizontal collectivism were positively correlated with integrating, avoiding, obliging, and compromising. Regression analysis showed that horizontal individualism was a significantly positive predictor of compromising; horizontal collectivism was a significantly positive predictor of compromising, integrating, and obliging; vertical collectivism was a



significantly positive predictor of compromising and integrating, and vertical individualism was a significantly positive predictor of dominating.

According to Triandis (1995), all four prototypes of horizontal-vertical individualism-collectivism have their own interpersonal patterns of interaction which may or may not foster cooperative or collaborative exchanges. For example, individuals high in vertical individualism were suggested to be highly competitive placing self-desires above group goals, whereas those high in vertical collectivism may be overyielding to authority or the collective (Triandis & Gelfand, 1998). The vertical or hierarchical aspect of both these groups negatively impacts interpersonal (and therefore interprofessional) collaboration.

In contrast, horizontal individualism was suggested to be associated with a strong sense of self-identity and autonomy but not so much that individuals will not yield to the desires of the group when appropriate (Triandis, 1995). In general, with individuals high in horizontal individualism there is an unwillingness to sacrifice relationships for the sake of their own success (Triandis & Gelfand, 1998). Similarly, horizontal collectivism was suggested to be associated with a desire to work for common goals though not to the point of sacrificing personal values. These latter two dimensions are consistent with more successful group processes and therefore would be more aligned with IPE competencies, with horizontal collectivism being most closely aligned.

### **Culture Orientation and Interprofessional Engagement**

Culture orientation has been identified as having a strong impact on interpersonal relationships (Triandis, 1995). Individualism-collectivism has been widely studied in many domains. Some of these include supply chain management (Morris, 2019), retention of probation officers (Ellis et al., 2020), and marketing (Wu et al., 2020). However, studies (e.g., Barrow et al.

2014; Iachini et al., 2019) investigating the role of culture orientation in interprofessional health care settings are limited.

Some researchers have noted findings on individualism-collectivism in investigating collaboration in a health care setting. For example, Barrow et al. (2014) explored collaborative interactions in an interprofessional team-based health care setting and found a dichotomous relationship between the interactions of nurses and doctors. During clinical interactions, nurses were observed to be more collectivist in their approaches, whereas doctors were more individualist. Nurses were also noted to be more focused on the system and following protocol and doctors worked more autonomously. Barrow et al. noted that these barriers to collaborative interprofessional relationships need to be addressed when preparing health professionals to work in the field.

In a subsequent study, Iachini et al. (2019) embedded the Social Change Model, a collaborative leadership model, into an IPE course to investigate the efficacy of this approach in fostering collaborative leadership among students. These researchers found that students experienced a shift from an individualist to a more collectivist perspective following the IPE training. They concluded that training focused on collaborative models in IPE can prepare students by shifting their perspective toward a more collaborative mindset and therefore prepare them for interprofessional practice.

Iachini et al. (2019) provided support to Triandis's (1995) suggestion that individualism-collectivism is not a static dimension but rather can shift from individualism to collectivism or vice versa, through training. These are noteworthy in the context of designing interprofessional learning opportunities for students and faculty. Since culture orientation impacts collaboration and an individual's tendency toward individualism or collectivism may shift with formal training

(Iachini et al., 2019; Triandis, 1995), culture orientation is relevant to IPE and interprofessional practice and should be addressed in training programs.

### **Chapter Summary**

The premise regarding IPE is that teaching health professionals within the context of a team will prepare them to function better as a team in practice, thereby providing more optimal patient care (Parsell & Bligh, 1998). As previously discussed, collaboration among treatment providers reduces medical error and improves patient outcomes. Further, as Richard (2013) suggested, interprofessional teams can improve treatment outcomes for specific disease states such as cardiovascular disease, diabetes, and eating disorders. Also, Christianson (2015) summarized literature showing that IPE improves student outcomes, professional practice outcomes, and patient outcomes.

Collaboration is an important competency in team-based health care (WHO, 2010). However, an individual's culture orientation (individualism or collectivism) can impact their ability to participate in collaborative activities (Triandis, 1995). Although the WHO (2010) has called for an increase in team-based practice, there remain barriers to the implementation of IPE programs that effectively teach team-based competencies (Ratka et al., 2017). One of these barriers is the limited number of faculty prepared to teach collaborative skills to an interprofessional group of students. To have successful IPE learning experiences it is imperative to have faculty who have been trained and who can model IPE competencies including team collaboration (WHO, 2010). However, collaborative skills can be hampered by multiple factors including the culture orientation of the faculty member.

Differences in individualism and collectivism have been noted between health care professionals from different disciplines (Barrow et al., 2014). Therefore, it is reasonable to expect

that some faculty could be more individualistic in their values and behaviors, whereas others may be more collectivistic. There is potential for this to impact their effectiveness in teaching and modeling collaborative skills. However, there are few guidelines on how best to implement faculty development to train faculty in best IPE methods (Ratka et al., 2017). In the literature, much of the research has been focused on IPE directly but there is minimal research focused on how to prepare educators to train students in the IPE model.

Because culture orientation can shift with training in collaborative skills (Iachini et al., 2019; Triandis, 1995), both students and faculty could experience a shift in their culture orientation through training thus helping them become better prepared for collaborative work. However, since not all faculty receive IPE training, there may be faculty teaching future health care providers who have a culture orientation that does not foster collaborative skills. The literature has limited information on the relationship between culture orientation and both IPE and interprofessional practice, and there was no information found addressing culture orientation and faculty development.

Given that culture orientation may impact collaboration efforts (Triandis, 1995) and collaboration has been said to be integral to IPE and interprofessional practice (Khalili et al., 2013), the current study examined culture orientation in academic health sciences faculty members by comparing scores on the four dimensions of INDCOL between faculty members who have and have not participated in interprofessional faculty development training programs. The results of this study may help inform IPE programs for both faculty and students and will add to the literature base examining the theoretical basis for IPE programs.

### **Chapter 3. Research Methodology**

A non-experimental quantitative survey design was used to investigate culture orientation among faculty members from the five Academic Health Sciences colleges at a southern university. Comparisons were made among subgroups of faculty on the four subscales of the Individualism-Collectivism Scale (INDCOL) (Triandis & Gelfand, 1998). Of interest were comparisons between faculty who had attended formal IPE faculty development training at their current institution and faculty who had not attended formal IPE faculty development training at their current institution.

Additional comparisons examined INDCOL subscale scores between the following independent variables: male and female faculty members; faculty members who were and were not first-generation college students; and faculty members who teach clinical versus nonclinical courses. Finally, relationships between the number of years a faculty member has taught in higher education and scores on each of the four INDCOL subscales were studied.

The four dependent variables in this study consisted of scores on each of the subscales of the INDCOL: horizontal collectivism (HC), horizontal individualism (HI), vertical collectivism (VC), vertical individualism (VI). There were five research questions with 20 null hypotheses. Independent *t*-tests and Pearson correlation tests were used to evaluate the data.

#### **Research Questions and Null Hypotheses**

This study addressed the following research questions:

1. Is there a significant difference in scores on the four dimensions of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution?

$H_{01}$ : There is no significant difference in the scores on the horizontal collectivism subscale of the INDCOL between faculty with formal IPE faculty development training at their current

institution and faculty with no formal IPE faculty development training at their current institution.

H<sub>012</sub>: There is no significant difference in the scores on the horizontal individualism subscale of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution.

H<sub>013</sub>: There is no significant difference in the scores on the vertical collectivism subscale of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution.

H<sub>014</sub>: There is no significant difference in the scores on the vertical individualism subscale of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution.

2. Is there a significant difference in scores on the four dimensions of the INDCOL between female and male faculty members?

H<sub>021</sub>: There is no significant difference in scores on the horizontal collectivism subscale of the INDCOL between female and male faculty members.

H<sub>022</sub>: There is no significant difference in scores on the horizontal individualism subscale of the INDCOL between female and male faculty members.

H<sub>023</sub>: There is no significant difference in scores on the vertical collectivism subscale of the INDCOL between female and male faculty members.

H<sub>024</sub>: There is no significant difference in scores on the vertical individualism subscale of the INDCOL between female and male faculty members.

3. Is there a significant difference in scores on the four dimensions of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses?

H<sub>031</sub>: There is no significant difference in scores on the horizontal collectivism subscale of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses.

H<sub>032</sub>: There is no significant difference in scores on the horizontal individualism subscale of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses.

H<sub>033</sub>: There is no significant difference in scores on the vertical collectivism subscale of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses.

H<sub>034</sub>: There is no significant difference in scores on the vertical individualism subscale of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses.

4. Is there a significant difference in scores on the four dimensions of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students?

H<sub>041</sub>: There is no significant difference in scores on the horizontal collectivism subscale of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students.

H<sub>042</sub>: There is no significant difference in scores on the horizontal individualism subscale of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students.

H<sub>043</sub>: There is no significant difference in scores on the vertical collectivism subscale of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students.

H<sub>044</sub>: There is no significant difference in scores on the vertical individualism subscale of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students.

5. Is there a significant correlation between scores on each of the four dimensions of the INDCOL and the number of total years teaching in higher education?

H<sub>051</sub>: There is no significant correlation between the number of total years teaching in higher education and scores on the horizontal collectivism subscale of the INDCOL.

H<sub>052</sub>: There is no significant correlation between the number of total years teaching in higher education and scores on the horizontal individualism subscale of the INDCOL.

H<sub>053</sub>: There is no significant correlation between the number of total years teaching in higher education and scores on the vertical collectivism subscale of the INDCOL.

H<sub>054</sub>: There is no significant correlation between the number of total years teaching in higher education and scores on the vertical individualism subscale of the INDCOL.

### **Population/Sample**

A non-probability self-selecting convenience sampling method was used in this study (McMillan & Schumacher, 2010); the goal was to have 25 to 30 participants in each subgroup. These subgroups were based on gender, attendance at IPE faculty development at their current



institution, the faculty member teaching clinical or nonclinical courses, and the faculty member's status as having been a first-generation or not having been a first-generation college student. The total population of approximately 450 full-time academic health sciences faculty members received invitations to participate.

The non-random sample for this study consisted of faculty members who self-selected into the study from the population of all full-time academic health sciences faculty at a southern university teaching undergraduate or graduate-level courses in the Spring, Summer, or Fall 2020 semester. The Academic Health Science colleges included Medicine, Pharmacy, Nursing, Clinical and Rehabilitative Health Sciences, and Public Health. Faculty members self-selected into the study by responding to the survey.

### **Instrumentation**

The survey consisted of two parts. The first part was the four subscales of the INDCOL: VI, VC, HI, and HC (Triandis & Gelfand, 1998) (see Appendix B) and consisted of a 16-item questionnaire that is answered on a 9-point scale, ranging from 1= "never or definitely no" to 9 = "always or definitely yes." The four dimensions include vertical individualism (VI), horizontal individualism (HI), vertical collectivism (VC), and horizontal collectivism (HC). Each of these dimensions was proposed to impact social relationships in different ways and account for individual differences within individualist and collectivist societies (Soh & Leong, 2002). This measure has been found to have good convergent and divergent validity demonstrating that the four subscales are unique dimensions (Triandis & Gelfand, 1998).

The second part of the survey was comprised of demographic questions. Participants were asked to indicate their gender by checking a box indicating "male," "female," or "alternate choice" and a box to indicate their college affiliation (College of Nursing, College of Medicine,

College of Pharmacy, College of Public Health, College of Clinical and Rehabilitative Health Sciences). Participants were also asked to indicate the total number of years they have taught in higher education by typing the number of years in a box. The survey included one “yes or no” question; participants were asked to check a box to denote whether they were or were not a first-generation college student. Next, participants were asked to check the box indicating whether they teach clinical or nonclinical courses and if they had attended or had not attended the formal IPE faculty development training at their current institution.

Finally, participants were given modified IPE exposure qualifiers used by Kwan et al. (2009) (see Appendix A) and were asked to check a box indicating true or false by each statement from the modified Kwan et al. questionnaire. These were then coded in accordance with Kwan et al. as having had no to a moderate level of exposure to IPE (no ‘true’ responses to any of the high-level statements) and a high level of exposure to IPE (at least one ‘true’ response to any of the high-level statements).

### **Data Collection**

After receiving approval from the Institutional Review Board at the university in this study, all members of the population were invited to participate in the study through an email that contained a link to the survey. Emails were sent to all academic health sciences faculty at the selected southern university inviting them to participate in an electronic survey. The email contained initial disclosures and a link to the REDCap survey (Harris et al., 2009).

Before gaining access to the survey, each faculty member was prompted to read the informed consent. After reading the consent and confidentiality statement, the faculty member was asked to check a box affirming the following points: (a) they have read and agree to the informed consent statement; (b) they are at least 18 years of age; (c) they are currently employed

full-time at the southern institution under study as a faculty member in one of the academic health sciences colleges; and (d) they taught/ were going to teach a course in the Spring, Summer, or Fall 2020 semester. After checking the boxes, the participant was to click a button marked “Enter Survey” to begin the survey.

The REDCap (Harris et al., 2009) survey included the INDCOL and a demographic survey. Faculty responses were recorded anonymously so that no identifying information was collected other than the information on the demographic survey. Two follow-up emails were sent reminding faculty to participate in the survey, one at two weeks following the initial email and one at four weeks following the initial email. Six weeks following the initial email, the data was exported from REDCap to IBM-SPSS for analysis.

### **Data Analysis**

IBM-SPSS data analysis software was used for all data analyses in this study. All tests were evaluated at the .05 alpha level. Sixteen independent *t*-tests were used to analyze the four dependent variables for Research Questions 1, 2, 3, and 4. These independent-samples *t*-tests were used to determine if there were significant differences in scores on any of the four dimensions (VI, VC, HI, and HC) of the INDCOL between faculty who had attended the formal IPE faculty development training at their current institution and faculty who had not attended the formal IPE faculty development training at their current institution, between male and female faculty members, between faculty who were and were not first-generation college students, and between faculty who teach clinical and nonclinical courses. A series of Pearson correlational coefficient tests was used to evaluate the relationship between scores on each of the four dimensions (VI, VC, HI, and HC) of the INDCOL and number of years teaching in higher education.

## Chapter 4. Results

The purpose of this non-experimental quantitative survey study was to examine differences in subscale scores on the 16-item INDCOL scale (Triandis & Gelfand, 1998) among faculty teaching in the five Academic Health Sciences Colleges at a southern university. In particular, the study examined differences in INDCOL subscale scores between faculty who had attended the formal IPE faculty development training at their current institution and faculty who had not attended the formal IPE faculty development training at their current institution.

The sample consisted of full-time academic health sciences faculty members who self-selected into the survey. Of the 459 faculty members who received an invitation to complete the survey, 45 consented to the survey but did not complete it. One person declined to complete the survey, and 127 persons consented and completed the survey. Of the 127 faculty members who completed the survey, 21 were from the College of Clinical and Rehabilitative Health Sciences; 41 were from the College of Medicine; 31 were from the College of Nursing; 15 were from the College of Pharmacy; 18 were from the College of Public Health. One faculty member did not indicate the college they were from.

Six faculty members did not respond to one of the questions on one of the subscales. There was missing data for two faculty members on the horizontal individualism scale, for two faculty members on the horizontal collectivism scale, for one faculty member on the vertical collectivism scale, and for one faculty member on the vertical individualism scale. Data collected for these faculty members was not included in the analyses for the subscale with the missing data.

Almost twice as many females ( $n = 83$ ) compared to males ( $n = 43$ ) completed the survey, and one individual indicated an “alternate choice” for gender affiliation. Fifty-nine faculty members indicated that they were a first-generation college student when they first entered college as a freshman, and 66 reported they were not first-generation college students. Two

respondents did not answer the first-generation college student question. The sample included 61 faculty who indicated they taught primarily clinical classes and 66 faculty who indicated they taught primarily nonclinical classes.

The number of years teaching in higher education reported by faculty participating in the study ranged from 1 to 42 years. The mean number of years teaching was  $M = 13.85$  with a standard deviation of  $SD = 10.60$ . Fifty-nine faculty members reported they had attended the formal IPE faculty development training at their current institution, and 63 faculty indicated that they had not attended this training. Five faculty members did not answer the question about attendance at the IPE faculty development training.

Finally, the faculty who had not attended the formal IPE faculty development training at their current institution were assigned to two groups of exposure to IPE based on their responses to questions modified from Kwan et al. (2009), no exposure to a moderate amount of exposure (having no 'true' responses to the high exposure questions) and high exposure to IPE (having at least one 'true' response to any of the high exposure questions). Five faculty members were classified as having no to a moderate amount of exposure and 58 were classified as having a high degree of exposure. Because of the low number of respondents who fell into the no to a moderate amount of exposure to IPE ( $n = 5$ ), the analyses that were conducted used only two levels of this independent variable, formal faculty development training at the current institution ( $n = 59$ ) and no formal faculty development training at the current institution ( $n = 63$ ).

### **Research Question 1**

Is there a significant difference in scores on the four dimensions of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution?

H<sub>0</sub>1<sub>1</sub>: There is no significant difference in the scores on the horizontal collectivism subscale of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution.

H<sub>0</sub>1<sub>2</sub>: There is no significant difference in the scores on the horizontal individualism subscale of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution.

H<sub>0</sub>1<sub>3</sub>: There is no significant difference in the scores on the vertical collectivism subscale of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution.

H<sub>0</sub>1<sub>4</sub>: There is no significant difference in the scores on the vertical individualism subscale of the INDCOL between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution.

Four independent-samples *t*-tests were conducted to evaluate whether the mean INDCOL subscale scores differed between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution. The INDCOL subscale score (HC, HI, VC, and VI) was the test variable, and the grouping variable was formal IPE faculty development training (yes or no). Subjects with missing data for the independent or dependent variable were excluded from this analysis. Three of the four *t*-tests were not significant (see Table 1); therefore, the null hypotheses for three of the dependent

variables (HI, VC, and VI) were not rejected. There was a statistical difference found on the HC subscale between faculty with formal IPE faculty development training and faculty with no formal IPE faculty development training.

Table 1.

*IPE Faculty Development and Each Subscale Score of the Individualism-Collectivism Scale*

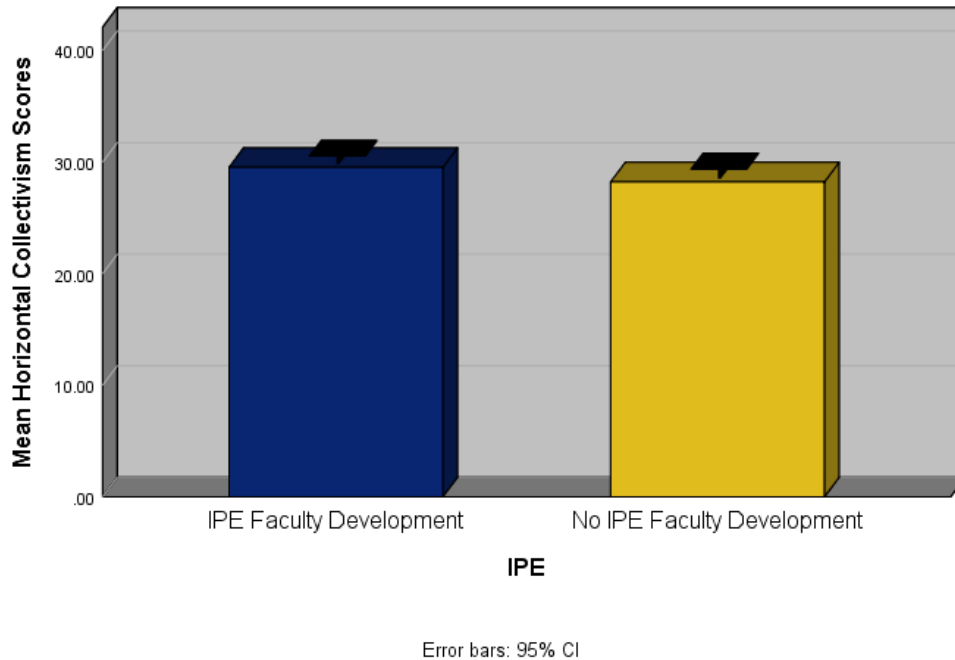
	Attended IPE Faculty Development		Not Attended IPE Faculty Development		<i>df</i>	<i>t</i>	<i>p</i>	$\eta^2$
	M	SD	M	SD				
HC	29.53	3.13	28.22	3.91	118	2.004	.047*	.033
HI	25.12	5.42	25.13	3.94	118	.014	.988	< .001
VC	26.68	4.16	25.98	3.56	119	.987	.326	.008
VI	17.37	5.40	15.63	5.14	119	1.819	.071	.027

Note: Subjects with missing data on these variables were not included in the analysis. All *t* values were evaluated at  $p < .05$ . \*Significant

An independent-samples *t*-test was conducted to determine whether the mean horizontal collectivism scores differed between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution,  $n = 120$ . The *t*-test was significant,  $t(118) = 2.00$ ,  $p = .047$ . Therefore, the null hypothesis was rejected. The index  $\eta^2$  was .033, which indicated a small to medium effect size. As shown in Figure 1, the horizontal collectivism scores were significantly higher for faculty members who had attended the formal IPE faculty development training ( $M = 29.53$ ,  $SD = 3.13$ ) compared to those who had not attended this training ( $M = 28.22$ ,  $SD 3.91$ ). The 95% confidence interval for the difference in means was .02 to 2.59.

Figure 1.

*Mean Horizontal Collectivism Scores for IPE Faculty Development Attendance*



Note. Mean horizontal collectivism scores are shown for faculty who had attended and faculty who had not attended the formal interprofessional education faculty development training at their current institution. Error bars show standard errors.

An independent-samples *t*-test was conducted to determine whether the mean horizontal individualism scores differed between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution,  $n = 120$ . The *t*-test was not significant,  $t(118) = .014$ ,  $p = .988$ . The index  $\eta^2$  was  $< .001$ , which indicated a small effect size. There was no significant difference in the horizontal individualism scores between faculty members who had attended the formal IPE faculty development training at their current institution ( $M = 25.12$ ,  $SD = 5.42$ ) and those who had



not attended this training ( $M = 25.13$ ,  $SD = 3.94$ ). The 95% confidence interval for the difference in means was -1.72 to 1.70.

An independent-samples  $t$ -test was conducted to determine whether the mean vertical collectivism scores differed between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution,  $n = 121$ . The  $t$ -test was not significant,  $t(119) = .987$ ,  $p = .326$ . The index  $\eta^2$  was .008, which indicated a small effect size. There was not a significant difference in the vertical collectivism scores between faculty members who had attended the formal IPE faculty development training at their current institution ( $M = 26.68$ ,  $SD = 4.16$ ) and those who had not attended this training ( $M = 25.98$ ,  $SD = 3.56$ ). The 95% confidence interval for the difference in means was -.70 to 2.09.

An independent-samples  $t$ -test was conducted to determine whether the mean vertical individualism scores differed between faculty with formal IPE faculty development training at their current institution and faculty with no formal IPE faculty development training at their current institution,  $n = 121$ . The  $t$ -test was not significant,  $t(119) = 1.819$ ,  $p = .071$ . The index  $\eta^2$  was .027, which indicated a small to medium effect size. Though the difference in vertical individualism scores between faculty members who had attended the formal IPE faculty development training ( $M = 17.37$ ,  $SD = 5.40$ ) and those who had not attended this training ( $M = 15.63$ ,  $SD = 5.14$ ) approached significance ( $p = .071$ ), the results were not significant. Faculty who had attended the IPE faculty development training at their current institution scored higher, but not significantly higher, in vertical individualism than faculty members who had not attended the IPE faculty development training. The 95% confidence interval for the difference in means was -.15 to 3.64.

## Research Question 2

Is there a significant difference in scores on the four dimensions of the INDCOL between female and male faculty members?

H<sub>021</sub>: There is no significant difference in scores on the horizontal collectivism subscale of the INDCOL between female and male faculty members.

H<sub>022</sub>: There is no significant difference in scores on the horizontal individualism subscale of the INDCOL between female and male faculty members.

H<sub>023</sub>: There is no significant difference in scores on the vertical collectivism subscale of the INDCOL between female and male faculty members.

H<sub>024</sub>: There is no significant difference in scores on the vertical individualism subscale of the INDCOL between female and male faculty members.

Four independent-samples *t*-tests were conducted to determine whether the mean scores on each of the INDCOL subscales differed between male and female faculty members. The INDCOL subscale score (HC, HI, VC, and VI) was the test variable, and the grouping variable was gender (male or female). Only one subject answered “alternate selection” to the gender question; therefore, because of the low *n* for this level of the variable, the data for this faculty member was not included in the analysis. Also, subjects with missing data for the independent or dependent variable were excluded from this analysis. The *t*-tests for gender for each of the dependent variables (HC, HI, VC, and VI) were not significant (see Table 2); therefore, none of the null hypotheses for the independent variable gender were rejected. There were no significant differences in scores on any of the INDCOL subscale dimensions (HC, HI, VC, and VI) between female and male faculty members.

Table 2.

*Gender and Each Subscale Score of the Individualism-Collectivism Scale*

	Male		Female		<i>df</i>	<i>T</i>	<i>p</i>	$\eta^2$
	M	SD	M	SD				
HC	28.53	3.51	29.16	3.65	122	.920	.359	.007
HI	24.58	4.89	25.38	4.71	122	.889	.376	.006
VC	26.19	3.57	26.57	4.14	122	.510	.611	.002
VI	16.56	5.11	16.15	5.43	123	.411	.682	.001

Note: Subjects with missing data on these variables were not included in the analysis. All *t* values were evaluated at  $p < .05$ .

An independent-samples *t*-test was conducted to determine whether the mean horizontal collectivism scores differed between male and female faculty members,  $n = 124$ . The *t*-test was not significant,  $t(122) = .920, p = .359$ . The index  $\eta^2$  was .007, which indicated a small effect size. There was not a significant difference in the horizontal collectivism scores between male ( $M = 28.53, SD = 3.51$ ) and female ( $M = 29.16, SD 3.65$ ) faculty members. The 95% confidence interval for the difference in means was -1.97 to .72.

An independent-samples *t*-test was conducted to determine whether the mean horizontal individualism scores differed between male and female faculty members,  $n = 124$ . The *t*-test was not significant,  $t(122) = .889, p = .376$ . The index  $\eta^2$  was .006, which indicated a small effect size. There was not a significant difference in the horizontal individualism scores between male ( $M = 24.58, SD = 4.89$ ) and female ( $M = 25.38, SD 4.71$ ) faculty members. The 95% confidence interval for the difference in means was -2.58 to .98.

An independent-samples *t*-test was conducted to determine whether the mean vertical collectivism scores differed between male and female faculty members,  $n = 124$ . The *t*-test was

not significant,  $t(122) = .510, p = .611$ . The index  $\eta^2$  was .002, which indicated a small effect size. There was not a significant difference in the vertical collectivism scores between male ( $M = 26.19, SD = 3.57$ ) and female ( $M = 26.57, SD 4.14$ ) faculty members. The 95% confidence interval for the difference in means was -1.87 to 1.11.

An independent-samples  $t$ -test was conducted to determine whether the mean vertical individualism scores differed between male and female faculty members,  $n = 125$ . The  $t$ -test was not significant,  $t(123) = .411, p = .682$ . The index  $\eta^2$  was .001, which indicated a small effect size. There was not a significant difference in the vertical individualism scores between male ( $M = 16.56, SD = 5.11$ ) and female ( $M = 16.15, SD 5.43$ ) faculty members. The 95% confidence interval for the difference in means was -1.57 to 2.39.

### **Research Question 3**

Is there a significant difference in scores on the four dimensions of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses?

H<sub>031</sub>: There is no significant difference in scores on the horizontal collectivism subscale of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses.

H<sub>032</sub>: There is no significant difference in scores on the horizontal individualism subscale of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses.

H<sub>033</sub>: There is no significant difference in scores on the vertical collectivism subscale of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses.

H<sub>034</sub>: There is no significant difference in scores on the vertical individualism subscale of the INDCOL between faculty who teach clinical courses and faculty who teach nonclinical courses.

Four independent-samples *t*-tests were conducted to determine whether the mean scores on each of the INDCOL subscales differed between faculty who teach primarily clinical courses and faculty who teach primarily nonclinical courses. The INDCOL subscale score was the test variable (HC, HI, VC, and VI), and the grouping variable was the type of courses taught (clinical or nonclinical). Subjects with missing data for the independent or dependent variable were excluded from this analysis. Three of the *t*-test values were not significant (see Table 3); therefore, the null hypotheses were not rejected for the HC, HI, and VC subscales. There was a statistical difference found on the VI subscale between faculty who teach primarily clinical courses and faculty who teach primarily nonclinical courses.

Table 3.

*Type of Course Taught and Each Subscale Score of the Individualism-Collectivism Scale*

	Clinical Courses		Nonclinical Courses		<i>df</i>	<i>T</i>	<i>p</i>	$\eta^2$
	M	SD	M	SD				
HC	28.88	3.51	28.94	3.71	123	.090	.929	<.001
HI	24.38	5.05	25.78	4.39	123	1.659	.100	.022
VC	26.37	4.05	26.51	3.84	123	.200	.842	<.001
VI	17.36	4.52	15.34	5.79	124	2.176	.031*	.037

Note: Subjects with missing data on these variables were not included in the analysis. All *t* values were evaluated at  $p < .05$ . \*Significant

An independent-samples *t*-test was conducted to determine whether the mean horizontal collectivism scores differed between faculty who teach primarily clinical courses and faculty who

teach primarily nonclinical courses,  $n = 125$ . The  $t$ -test was not significant,  $t(123) = .090$ ,  $p = .929$ . The index  $\eta^2$  was  $<.001$ , which indicated a small effect size. There was not a significant difference in the horizontal collectivism scores between faculty members who teach clinical courses ( $M = 28.88$ ,  $SD = 3.51$ ) and those who teach nonclinical courses ( $M = 28.94$ ,  $SD 3.71$ ). The 95% confidence interval for the difference in means was  $-1.34$  to  $1.23$ .

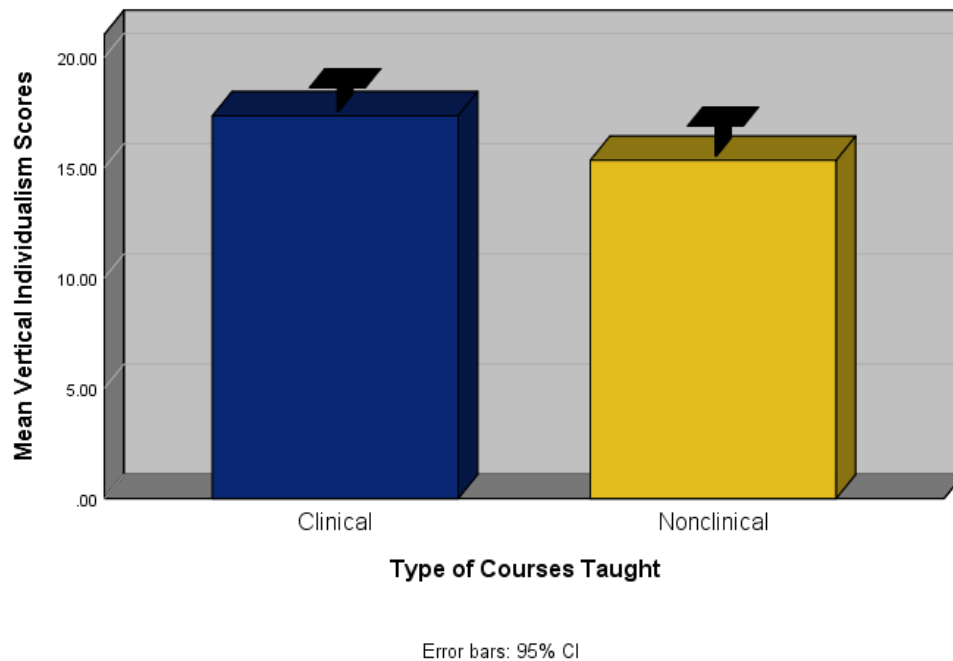
An independent-samples  $t$ -test was conducted to determine whether the mean horizontal individualism scores differed between faculty who teach primarily clinical courses and faculty who teach primarily nonclinical courses,  $n = 125$ . The  $t$ -test was not significant,  $t(123) = 1.659$ ,  $p = .10$ . The index  $\eta^2$  was  $.022$ , which indicated a small to medium effect size. Though the difference in the mean horizontal individualism scores between faculty members who teach primarily clinical courses ( $M = 24.38$ ,  $SD = 5.05$ ) and those teach primarily nonclinical courses ( $M = 25.78$ ,  $SD 4.39$ ) approached significance ( $p = .10$ ), the results were not significant. The horizontal individualism scores for faculty who teach nonclinical courses was higher, but not significantly higher, than the horizontal individualism scores for faculty who teach clinical courses. The 95% confidence interval for the difference in means was  $-3.07$  to  $.27$ .

An independent-samples  $t$ -test was conducted to determine whether the mean vertical collectivism scores differed between faculty who teach primarily clinical courses and faculty who teach primarily nonclinical courses,  $n = 125$ . The  $t$ -test was not significant,  $t(123) = .200$ ,  $p = .842$ . The index  $\eta^2$  was  $<.001$ , which indicated a small effect size. There was not a significant difference in the vertical collectivism scores between faculty members who teach primarily clinical courses ( $M = 26.37$ ,  $SD = 4.05$ ) and those teach primarily nonclinical courses ( $M = 26.51$ ,  $SD 3.84$ ). The 95% confidence interval for the difference in means was  $-1.54$  to  $1.26$ .

An independent-samples *t*-test was conducted to determine whether the mean vertical individualism scores differed between faculty who teach primarily clinical courses and faculty who teach primarily nonclinical courses, *n* = 126. The *t*-test was significant,  $t(124) = 2.176$ ,  $p = .031$ . Therefore, the null hypothesis was rejected. The index  $\eta^2$  was .037, which indicated a small to medium effect size. As shown in Figure 2, the vertical individualism scores for faculty members who teach primarily clinical courses ( $M = 17.36$ ,  $SD = 4.52$ ) was significantly higher than for those who teach primarily nonclinical courses ( $M = 15.34$ ,  $SD = 5.79$ ). The 95% confidence interval for the difference in means was .18 to 3.86.

Figure 2.

*Mean Vertical Individualism Scores for Faculty Teaching Clinical and Nonclinical Courses*



Note. Mean vertical individualism scores are shown for faculty who reported teaching clinical and nonclinical courses. Error bars show standard errors.

#### **Research Question 4**

Is there a significant difference in scores on the four dimensions of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students?

H<sub>041</sub>: There is no significant difference in scores on the horizontal collectivism subscale of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students.

H<sub>042</sub>: There is no significant difference in scores on the horizontal individualism subscale of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students.

H<sub>043</sub>: There is no significant difference in scores on the vertical collectivism subscale of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students.

H<sub>044</sub>: There is no significant difference in scores on the vertical individualism subscale of the INDCOL between faculty who were first-generation college students and faculty who were not first-generation college students.

Four independent-samples *t*-tests were conducted to determine whether the mean scores on each of the INDCOL subscales differed between faculty who were first-generation college students and faculty who were not first-generation college students. The INDCOL subscale score (HC, HI, VC, and VI) was the test variable, and the grouping variable was the faculty member's first-generation student status (first-generational or not first-generational). Subjects with missing data for the independent or dependent variable were excluded from these analyses. None of these analyses were significant (see Table 4); therefore, none of the null hypotheses were rejected. In



other words, there were no significant differences in the scores of any dimension between faculty who were first-generation college students and faculty who were not first-generation college students.

Table 4.

*Faculty Status as a First-Generation College Student and Each Subscale Score of the Individualism-Collectivism Scale*

	First-Generation College Student		Not First-Generation College Student		<i>df</i>	<i>t</i>	<i>p</i>	$\eta^2$
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
HC	28.77	4.05	29.06	3.23	121	.439	.661	.002
HI	24.52	4.77	25.57	4.78	121	1.221	.225	.012
VC	26.69	3.66	26.26	4.21	121	.599	.550	.003
VI	15.29	4.50	17.10	5.81	122	1.906	.059	.029

Note: Subjects with missing data on these variables were not included in the analysis. All *t* values were evaluated at  $p < .05$ .

An independent-samples *t*-test was conducted to determine whether the mean horizontal collectivism scores differed between faculty who were first-generation college students and faculty who were not first-generation college students,  $n = 123$ . The *t*-test was not significant,  $t(121) = .439, p = .661$ . The index  $\eta^2$  was .002, which indicated a small effect size. There was not a significant difference in the horizontal collectivism scores between faculty members who were first-generation college students ( $M = 28.77, SD = 4.05$ ) and those who were not first-generation college students ( $M = 29.06, SD 3.23$ ). The 95% confidence interval for the difference in means was -1.59 to 1.01.

An independent-samples *t*-test was conducted to determine whether the mean horizontal individualism scores differed between faculty who were first-generation college students and faculty who were not first-generation college students,  $n = 123$ . The *t*-test was not significant,  $t(121) = 1.221, p = .225$ . The index  $\eta^2$  was .012, which indicated a small effect size. There was not a significant difference in the horizontal individualism scores between faculty members who were first-generation college students ( $M = 24.52, SD = 4.77$ ) and those who were not first-generation college students ( $M = 25.57, SD 4.78$ ). The 95% confidence interval for the difference in means was -2.76 to .65.

An independent-samples *t*-test was conducted to determine whether the mean vertical collectivism scores differed between faculty who teach primarily clinical courses and faculty who teach primarily nonclinical courses,  $n = 123$ . The *t*-test was not significant,  $t(121) = .599, p = .550$ . The index  $\eta^2$  was .003, which indicated a small effect size. There was not a significant difference in the vertical collectivism scores between faculty members who were first-generation college students ( $M = 26.69, SD = 3.66$ ) and those who were not first-generation college students ( $M = 26.26, SD 4.21$ ). The 95% confidence interval for the difference in means was -.99 to 1.84.

An independent-samples *t*-test was conducted to determine if the mean vertical individualism scores differed between faculty who were first-generation college students and faculty who were not first-generation college students,  $n = 124$ . The *t*-test value approached significance; however, the result was not significant,  $t(122) = 1.906, p = .059$ . The index  $\eta^2$  was .029, which indicated a small to medium effect size. There was not a significant difference in the vertical individualism scores between faculty members who were first-generation college students ( $M = 15.29, SD = 4.50$ ) and those who were not first-generation college students ( $M = 17.09, SD 5.81$ ). Faculty who were not first-generation college students scored higher, but not significantly

higher, in vertical individualism than faculty members who were first-generation college students. The 95% confidence interval for the difference in means was -3.67 to .07.

### **Research Question 5**

Is there a significant correlation between scores on each of the four dimensions of the INDCOL and the number of total years teaching in higher education?

H<sub>0</sub>5<sub>1</sub>: There is no significant correlation between the number of total years teaching in higher education and scores on the horizontal collectivism subscale of the INDCOL.

H<sub>0</sub>5<sub>2</sub>: There is no significant correlation between the number of total years teaching in higher education and scores on the horizontal individualism subscale of the INDCOL.

H<sub>0</sub>5<sub>3</sub>: There is no significant correlation between the number of total years teaching in higher education and scores on the vertical collectivism subscale of the INDCOL.

H<sub>0</sub>5<sub>4</sub>: There is no significant correlation between the number of total years teaching in higher education and scores on the vertical individualism subscale of the INDCOL.

Four Pearson correlational coefficient tests were computed to evaluate the relationship between the number of total years teaching in higher education and each of the subscale scores on the INDCOL. The results of the analyses were not significant (see Table 5). The null hypotheses were not rejected. In general, the results suggest that there is no significant relationship between the number of years teaching in higher education and any of the INDCOL subscale scores.

The Pearson correlational coefficient values were all quite low. The Pearson correlational coefficients for horizontal collectivism ( $r = .059$ ) and horizontal individualism ( $r = .021$ ) were positive and less than .01. The Pearson correlational coefficients for vertical collectivism ( $r = -.025$ ) and vertical individualism ( $r = -.085$ ) were negative and less than .01. None of the values

approached significance indicating virtually no correlation between the variable ‘number of years teaching in higher education’ and the INDCOL subscale variables (HC, HI, VC, and VI).

Table 5.

*Years of Teaching Experience in Higher Education and Each Subscale Score of the Individualism- Collectivism Scale*

	Horizontal Collectivism	Horizontal Individualism	Vertical Collectivism	Vertical Individualism
	<i>r</i> ( <i>p</i> )	<i>r</i> ( <i>p</i> )	<i>r</i> ( <i>p</i> )	<i>r</i> ( <i>p</i> )
Years Teaching in Higher Education	.059 (.514)	.021 (.813)	-.025 (.779)	-.085 (.347)

## **Chapter 5. Summary, Conclusions, and Recommendations**

This chapter contains a summary of the findings, conclusions, and recommendations for future research. Preparing students for interprofessional practice is specified as a necessity for improving the health care system and improving patient outcomes (WHO, 2010). Best practice for how to train faculty to prepare these students is currently unestablished (Ratka et al., 2017). Examining factors that impact faculty members' abilities to successfully model interprofessional interactions and facilitate IPE engagements is essential to defining best practice guidelines for teaching IPE.

Individualism-collectivism has been studied in many realms; however, there has been little investigation of the impacts of these two domains of culture orientation on interprofessional education and practice. In general, collectivism has been found to correlate with placing the good of the group above personal goals, and individualism has been found to be associated with independence and self-interest above group norms (Triandis, 1995). Barrow et al. (2014) noted differences in collectivism and individualism among the nursing staff and medical staff at the bedside suggesting that impacts of culture orientation on interprofessional practice needed further investigation.

In this study, I investigated culture orientation in academic health sciences faculty by looking at the four subscales of individualism and collectivism: horizontal collectivism, horizontal individualism, vertical collectivism, and vertical individualism. Of particular interest were differences in faculty who had attended and had not attended a formal IPE faculty development training at their current institution. Other independent variables included gender, type of course taught (clinical or nonclinical), the status of the faculty member as having been a first-generation college student or not, and the number of years teaching in higher education. No

previous studies have been identified which explored the INDCOL subscale measures in academic health science faculty.

## **Summary**

### ***Research Question 1***

**Significant Findings for IPE Training.** The main point of interest in this study was the investigation of differences in the four subscale measures of individualism and collectivism among academic health science faculty who had and had not attended the formal IPE faculty development training at their current institution. The results of the study showed that faculty who have had the formal IPE faculty development training at their current institution have significantly higher scores on the horizontal collectivism subscale of the INDCOL in comparison to faculty who have not had the formal IPE faculty development training.

These findings suggest that faculty members who have had formal faculty development training at their institution are higher in horizontal collectivism than faculty who have not had this training. This is important as horizontal collectivism is the subscale of culture orientation that most aligns with the skills needed for interprofessional education and practice. Ideally, faculty who have had formal training in IPE would demonstrate strong skills that support collaboration and teamwork. To work as a collaborative team, interprofessional team members should have unwavering confidence in their professional knowledge and in the skills they have learned within their guild (Baum & Axtell, 2005; Petrie, 1976); however, they should also have the resolve and professional humility necessary to collaborate with professionals outside their discipline to accomplish sound, joint decision making for the patient (Hall, 2005). Further, to reach the best resolution for the patient, this decision making should be reflective of the input of all

professionals involved in the care of the patient (Schrader et al., 2013). The values reflected by the horizontal collectivism subscale align well with these abilities.

First, horizontal collectivism matches well with interprofessional teamwork in that individuals high on this subscale have been found to value interdependence while at the same time view themselves as equal to others (Shavitt et al., 2010). Having a sense of interdependence on other members of the team and the ability to see one's self as an equal partner in decision making and team functioning are essential to highly functioning teams (Zwarenstein & Reeves, 2002). Interdependence and equality support the necessary components of interprofessional collaboration Hall (2005) described. Professionals need to master the collaborative process by first interpreting health care from their own professional viewpoint and then be able to collaborate with others who are also operating from their own professional viewpoint. In this manner, the group develops their own team culture which is strengthened through repeated collaborative interchanges.

Second, horizontal collectivism matches well with interprofessional teamwork in that individuals high in horizontal collectivism are not likely to fall prey to groupthink. Kaba et al. (2016) identified groupthink as a potentially harmful outcome of collaborative group work that occurs when group members too easily conform to the ideas of the group and warned that groupthink could result in harmful outcomes for patients. According to Shivett et al. (2010), although individuals high on the horizontal collectivism subscale admire and are likely to show deference to authority, they are not likely to overly conform or sacrifice their own values for the good of the group (Triandis, 1995).

As Hall (2005) explains, interprofessional training is not about dissolving professional identity. An individual's ability to hold to their own values and the values of their profession

while at the same time working for the good of the group are qualities aligned with the skills necessary to practice in an interprofessional team. Individuals in a high-functioning team must have a strong awareness of and confidence in their personal values and professional ethics while at the same time be able to exercise the professional humility to work for common group goals. They should only follow the group recommendation to the extent that it does not compromise their own professional judgment and ethical standards. There must be a willingness and ability to cooperate, negotiate, and have crucial conversations (in other words, the ability to resolve conflict) when disparate ideas arise (Parsell & Bligh, 1998). These components of collaboration are all imperative in order to reach decisions that do not compromise the well-being of the patient under care.

High scores on horizontal collectivism are associated with the skills needed for sound collaborative work including the need for having these crucial conversations. The combined interdependence and inclination not to be overly yielding to group norms provides the framework to address conflict that arises in teams. Conflict is a natural part of all group work; thus, conflict resolution skill is required for sound collaboration (Aslan et al., 2019). Horizontal collectivism is a significantly positive predictor of compromising, integrating, and obliging as measured by the Conflict Handling Styles Scale. These predictors are attributed to horizontal collectivist thinking that reflects seeing one's self as a member of a group who holds equality with all other members.

Based on Aslan et al.'s (2019) summary of these conflict resolving styles, an integrating style takes into consideration all perspectives, including one's own, in resolving conflict. Compromising protects the interests of all parties but asks all parties to surrender something to reach a solution, and obliging styles place an emphasis on mutual interests in trying to resolve conflict. All of these conflict resolution aspects related to horizontal collectivism align with the



ability to have crucial conversations with other team members in an effort to find safe and effective resolutions for patients who ideally should be the mutual interest in a high-functioning team.

Though these results show that faculty members who have been through the formal IPE faculty development training at their institution are higher in horizontal collectivism, these results must be interpreted with caution. Because this study followed a nonexperimental design, the data cannot be interpreted that the IPE faculty development training strengthened horizontal collectivism for these faculty, only that there is a significant difference noted between faculty who have and have not had this training.

Other explanations could be offered for the differences found. For example, individualism and collectivism impact volunteer behavior (Finkelstein, 2010, 2011). Although, both individualism and collectivism are linked to volunteer behavior, motives for volunteering between the two groups differ. Collectivists tend to volunteer when there is a greater good or an opportunity to help, whereas individualists tend to volunteer when they see the activity as furthering their career or personal interests. Because these faculty members volunteer to participate in IPE and the IPE faculty development training at their institution, the differences in horizontal collectivism may exist before training and thus potentially could have impacted their decision to participate in the IPE faculty development program to begin with.

**Other Findings for IPE Training.** The results on the other three dependent variables (vertical individualism, horizontal individualism, and vertical collectivism) in this study for the independent variable, IPE faculty development training, were not significant though the results for vertical individualism approached significance. These findings are consistent with suggestions by Triandis (1995) that these domains are not as conducive to the collaborative practices that

would be associated with interprofessional engagements thus making it unlikely that faculty with formal IPE training would differ from faculty with no formal IPE training.

First, horizontal individualism is associated with an unwillingness of individuals to sacrifice relationships for their own success; however, these individuals also exhibit a high degree of independence (Shavitt et al., 2010). Though not completely incompatible with interprofessional principles, the higher levels of independence seen with high scores for horizontal individualism may interfere with the professional making a shift from their profession's unique pattern of problem-solving and decision making described by Zwarenstein and Reeves (2002) toward interprofessional collaboration. Additionally, they follow mostly a compromising conflict resolution pattern (Aslan et al., 2019) which is missing the important components of integrating and obliging that are aligned with interprofessional collaboration.

Second, vertical collectivism is positively correlated with conformity (Soh & Leong, 2002); therefore, persons high in vertical collectivism may be too willing to submit to the group which is not consistent with IPE principles. In interprofessional engagements, team members should be able to collaborate in order to improve patient outcomes that are informed from multiple professional perspectives; however, too much conformity may result in groupthink which would negatively impact patient outcomes (Kaba et al., 2016). Further, although vertical collectivism is associated with collaboration it is usually in intraprofessional collaboration as opposed to interprofessional collaboration that vertical collectivists are well versed. Strong intraprofessional collaboration tendencies may interfere with interprofessional interactions (Haruta et al., 2018). Thus, the values associated with vertical collectivism may make it difficult for a professional to move away from the profession-centric belief systems, ideologies, and jargon described by Hall (2005) which are foreign to outside professions; this mindset would impede

collaborative interprofessional work and would not be expected in faculty with formal IPE training.

Finally, the result for differences in vertical individualism scores between faculty with and without the IPE faculty development training approached significance; this was an unexpected finding. Persons high in vertical individualism are generally very competitive, prefer autonomy, and place self-interest above the group (Shavitt et al., 2010; Triandis & Gelfand, 1998). They have also been found to be dominating in conflict management styles (Aslan et al., 2019). These are all traits that would be counterproductive to interprofessional practice and interprofessional education. There was a similar effect for vertical individualism in clinical versus nonclinical faculty members (discussed below). Though no analyses were planned at the inception of this study for controlling for the effects of other variables, more sophisticated analyses are recommended to determine if this effect could be impacted by having had more clinical versus nonclinical teachers who participated in the IPE faculty development training comprising the sample.

### ***Research Question 2***

Although previous culture orientation research has rendered mixed results when examining the effects of gender, in this study, there was no gender difference for any of the Individualism-Collectivism subscales. Triandis (1995) suggested that females, because they are often in caregiver roles, are more collectivistic and that men are more individualistic because of their societal roles which foster greater independence. This was supported by Hui (1988) who found similar results in students from the United States and Hong Kong. However, as reviewed by Ayyash-Abdo (2001), other researchers (e.g. Kashima et al., 1995; Miller, 1994) found no gender

effect for individualism-collectivism, and still others (e.g. Ho & Chiu, 1994) found females to be higher in both individualism and collectivism.

Shifts in gender roles since Triandis's (1995) initial work may account for the absence of a gender effect in the current study. Females in higher education academic health sciences may have societal roles that are less distinct from males working in the same field. Supporting this idea, Schwartz and Ruble-Lifschitz (2009) suggested that higher levels of education and higher levels of socioeconomic status contributes to gender roles that are more similar and equal. Since the subjects in the current study were all faculty members in the academic health sciences, they are all assumed to have graduate degrees and above. This observation is noteworthy and may help explain the lack of a gender effect in the current study.

### ***Research Question 3***

**Significant Findings for Courses Taught.** The results of the study suggest that academic health science faculty members who teach primarily clinical courses are higher in vertical individualism than academic health science faculty members who teach primarily nonclinical courses. Though these findings are not surprising, there could be some concern, from a modeling perspective, that faculty members teaching clinical courses may be patterning attitudes and beliefs for learners that are hierarchical and self-focused in nature. This is especially true as the health care system moves in the direction of more integrated practice (WHO, 2010).

Although not aligned with interprofessional education and practice, the findings that teachers of clinical courses are higher in vertical individualism is not surprising. Vertical individualism is characterized by a dominating conflict resolution style (Aslan et al., 2019), a high level of competitiveness, a greater desire for autonomy (Triandis & Gelfand, 1998), and a greater longing for a sense of accomplishment (Shavitt et al., 2010). The statements from the INDCOL

that measure vertical individualism include the following: “It is important that I do my job better than others,” “Winning is everything,” “Competition is the law of nature,” and “When another person does better than I do, I get tense and aroused” (Triandis & Gelfand, 1998). Because of the competitive nature of some health professions academic programs, it is not surprising that clinical faculty members may hold these beliefs.

Health professions programs, in particular medical schools, are highly competitive programs and involve years of vigorous academic engagement (Webb et al., 2010). Further, faculty teaching clinical courses are likely to be licensed providers who have gone through rigorous programs and licensure processes. Thus, individuals high in vertical individualism may be drawn to the competitive and achievement-oriented nature of health professions programs; this could explain the results that faculty teaching clinical courses are higher in vertical individualism.

Nonetheless, high levels of individualism are noted to interfere with collaborative efforts (Triandis, 1995). Aslan et al. (2019) noted that vertical individualism was a significantly positive predictor of dominating traits in resolving conflict. This dominating conflict resolution style is especially noteworthy given the role of modeling in health professions education. Modeling interprofessionalism has been identified as an important component of preparing learners to work in a team-based environment (Ratka, 2017; WHO, 2010). For example, students who can observe faculty modeling team interactions report feeling more confident in their ability to participate in a team meeting (Selle et al., 2008). If clinical instructors who are high in vertical individualism model dominating behaviors and hierarchical attitudes and beliefs for their students, this could be counterproductive to cultivating professionals with the collaborative skills needed to successfully provide care in a team-based environment.

Mitigating this finding, however, are the trends in the data which show that although faculty members teaching clinical courses scored higher in vertical individualism than those teaching nonclinical courses, their mean vertical individualism scores trended lower than the means on the other subscales of vertical collectivism, horizontal individualism, and horizontal collectivism. The fact that the mean scores for vertical individualism were lower than the other subscales may provide a balance in how these cultural orientations manifest themselves in the teaching environment.

**Other Findings for Courses Taught.** There were no significant findings for the other three dependent variables (horizontal collectivism, horizontal individualism, and vertical collectivism) for the independent variable type of courses taught. The mean horizontal collectivism scores in faculty who teach primarily clinical courses and nonclinical courses were nearly the same. Similarly, the mean vertical collectivism scores for faculty who teach primarily clinical courses and faculty who teach primarily nonclinical courses were nearly the same. However, the mean horizontal collectivism and vertical collectivism scores for all faculty members, regardless of the type of courses taught, were relatively high.

First, the lack of a significant finding for horizontal collectivism and vertical collectivism between clinical and nonclinical faculty and relatively high means across all groups, indicate that both these groups are high in collectivism. This could reflect the volunteer effect discussed previously (Finkelstein, 2010, 2011). Because all faculty member participants volunteered for this study by way of an anonymous response to an email, there is the possibility that all participants in the pool were higher in collectivism. Individuals high in collectivism may volunteer more often than those high in individualism when there is no personal advancement as a motive. Since the study used an anonymous data collection method, there were no incentives for participating other

than intrinsic ones. It is possible that faculty members who were higher in individualism self-selected out of the study by not volunteering to participate resulting in a sample that was higher in collectivism across the board.

Finally, the results for horizontal individualism scores between faculty members who teach primarily clinical courses and those who teach primarily nonclinical courses were not significant; however, the results approached significance. The horizontal individualism scores for faculty who teach nonclinical courses was higher but not significantly higher than the horizontal individualism scores for faculty who teach clinical courses. Horizontal individualism is characterized by some degree of self-autonomy but an unwillingness to sacrifice relationships for the sake of their own success (Triandis & Gelfand, 1998). These results coupled with the significant effect for vertical individualism between faculty teaching clinical and nonclinical courses (discussed above) suggest that there are some substantial differences in culture orientation between these two groups.

The differences in the two individualism measures (vertical and horizontal) between faculty who teach primarily clinical and nonclinical courses may require further investigation to determine if these two groups differed in any other significant ways. For example, there could be differences between the two groups based on the colleges represented in the two levels of the independent variable, clinical versus nonclinical courses taught. Forty-one of the 127 faculty members in this study were from the College of Medicine. If the College of Medicine faculty were not evenly distributed across groups, this could account for some of the difference in individualism measures between groups.

Medicine has not traditionally been focused on fostering team engagements; rather, training and practice in medicine have been through a lens that emphasized physician authority

(Bleich, 2016). As Barrow et al. (2014) noted, physicians demonstrated more individualism in the study investigating bedside behavior than nurses in the same study. Finally, as previously mentioned, differences in the competitive nature of clinical programs may attract individuals who are high in individualism and this could also account for the differences between faculty who teach clinical and nonclinical courses.

#### ***Research Question 4***

There were no significant differences between faculty who were first-generation college students and faculty who were not first-generation college students on any of the dimensions of INDCOL. This is not consistent with previous studies which have shown that first-generation college students are described as having a culture of interdependence that is aligned with collectivism and struggle with the independence that characterizes the culture in higher education (Stephens et al., 2012). Overall, first-generation students have been found to identify with statements that reflected interdependence compared to their non-first-generation peers, and this trend continued throughout their college career (Philips et al., 2020).

Aligned with the findings of Stephens et al. (2012) and Philips et al. (2020), trends in the results of the current study for vertical individualism showed that faculty members who were not first-generation college students were higher but not significantly higher in vertical individualism scores in comparison to faculty members who were first-generation college students. The lack of significance on this measure may reflect a moderate sample size; however, it could also reflect that the first-generation effect begins to shift once an individual reaches professorship.

Research on the impact of first-generation college students at the graduate level and faculty level is limited. The fact that the scores for vertical individualism were lower, though not significantly lower, for faculty who were first-generation college students compared to faculty



who were not first-generation college students aligns with suggestions by Gardner (2013) that even at the doctoral level first-generation college students are more likely to exhibit interdependent behaviors and maintain strong familial allegiances which are congruent with collectivism and are less likely to exhibit the stronger indicators of independence that are congruent with individualism.

Gardner's (2013) summary suggested that the differences in interdependent and independent cultural values between first- and second-generation students do not resolve at the attainment of an undergraduate degree. Given that in this study the differences in vertical individualism between faculty who had and had not been first-generation college students approached significance, it could be possible that this first-generation effect continues even when an individual achieves faculty status. The fact that differences between faculty who had and had not been first-generation college students approached significance is worthy of further investigation and could inform faculty development decisions.

#### ***Research Question 5***

The results of the study suggest that there is no significant relationship between the number of years teaching in higher education and any of the Individualism-Collectivism dimensions. The values of these correlations did not approach significance. These findings would suggest that the time spent in higher education does not impact one's culture orientation.

#### **Conclusions**

Traditionally, health care practitioners have been trained as experts in their field, resulting in siloed perspectives (Hall & Weaver, 2001) and uniprofessional identities (Arndt et al., 2009) which negatively impact professionals' abilities to engage in interprofessional collaborative practice. Interprofessional education is the key to improving the health care system. By breaking

down these silos and creating a culture where all professions can work collaboratively through IPE, academic health science programs can promote the best outcomes for patients. When providers are proficient at working in teams, medical error is reduced, and patient outcomes improve. Having faculty members who are prepared to model and teach interprofessional competencies is essential for IPE to be effective.

The results of this study related to IPE faculty development are encouraging and may suggest that the methods for preparing IPE faculty are working. Cultivating a culture orientation for IPE faculty that is aligned with modeling and teaching IPE competencies increases the potential for learners to be well-prepared for team-based practice. Whether the faculty in this study were higher in horizontal collectivism before joining the IPE program or they become stronger in the values of horizontal collectivism as a result of their participation in the IPE faculty development program is unclear. What is clear is that the faculty in this study who were involved in IPE faculty development scored high on the Individualism-Collectivism subscale horizontal collectivism; this subscale is most aligned with team-based attitudes and beliefs. Since nearly all faculty who teach in IPE at the institution in this study have attended the IPE faculty development program, the results suggest that the faculty who are teaching in the IPE program hold those values that align well with modeling and teaching team-based competencies to learners.

The most concerning finding of this study was that faculty teaching primarily clinical courses were higher in vertical individualism than faculty teaching primarily nonclinical courses. This finding could suggest that faculty teaching clinical courses may have attitudes, beliefs, and behaviors that are not reflective of sound team-based principles. If true, there is the potential for these faculty to model values that are inconsistent with the team-based principles needed in

today's health care settings. However, additional evaluation for this variable is needed to eliminate potential confounds such as college representation across groups.

Also, the trends in the data showed that although faculty teaching clinical courses scored higher in vertical individualism than faculty teaching nonclinical courses, the vertical individualism scores trended lower for faculty of clinical courses than their scores on all three of the other INDCOL subscales. The fact that the mean scores for vertical individualism were lower than the other subscales may provide a balance in how these cultural orientations manifest themselves in the teaching environment.

Finally, of interest and worthy of further investigation, are the results for the first-generation variable. The difference in faculty who were and were not first-generation college students neared significance on the vertical individualism measure. A review of the literature on this topic did not discover studies looking at the first-generation effect on faculty. Further, according to Gardner (2013), there is little research on the impact of the first-generation effect on students at the graduate level. As the limited data shared by Gardner suggests, the first-generation effect does not disappear once an individual has achieved an undergraduate degree. There is a possibility that this first-generation effect continues even after an individual has transitioned into a faculty role.

### ***Implications for Interprofessional Practice***

The results of this study offer important considerations for interprofessional practice. The results suggest that there are differences in culture orientation between faculty members who have and have not had the interprofessional faculty development training at their institution. Horizontal collectivism is reflective of those values, beliefs, and behaviors that closely align with the principles and competencies of interprofessional education and practice. It is noteworthy that all

but five of the faculty who had not attended the IPE faculty development training did report having had high levels of exposure to interprofessional education experiences as measured by the modified guidelines from Kwan et al. (2009). This suggests that exposure does not equate to an intentional immersive experience in interprofessional education. Faculty with high exposure still scored lower in horizontal collectivism than faculty with the IPE faculty development training. Zwarenstein and Reeves (2002) suggested that professionals without formal interprofessional training simply lack the skills required to participate in a collaborative manner. With the caveat in mind that, as discussed previously, this was not an experimental design and the difference in horizontal collectivism could be suggestive of a volunteer effect (Finkelstein, 2010, 2011) rather than a true effect of training, it is also quite possible that an immersive training results in a change in culture orientation aligned with interprofessional values.

Iachini et al. (2019) demonstrated that a shift in individualism and collectivism can be brought about through intentional educational programming aimed at impacting culture orientation. By embedding the Social Change Model, a collaborative leadership model, into an IPE course in an effort to foster collaborative leadership among students, these researchers found that students experienced a shift from an individualist to a more collectivist perspective following the IPE training. The findings in the current study could be reflective of a similar result for faculty.

From a practice perspective, these results should serve as a reminder that exposure to IPE does not equate to a practitioner being fully prepared to practice in a team-based model. Leaders in health care systems should be mindful of this when employing teams of providers. As Polaha et al. (2019) reported, students who have been through an immersive IPE experience perform differently on mock interviews and use language that is reflective of interprofessional principles

and competencies. Leaders in practice setting should seek to hire health care professionals who have had immersive experiences that reflect intentional efforts at teaching IPE.

Additionally, practitioners must be mindful that not all their colleagues may have had the same level of training in interprofessional competencies that they themselves have had. In practice, individuals who have had team-based training may need to advocate for similar training for their colleagues. Leaders may consider providing immersive interprofessional training experiences within their organizations to foster team-based values and behaviors. This is especially true in settings with team members who have not had immersive IPE experiences while in their health professions training programs.

### ***Implications for Interprofessional Education***

The implications for IPE are similar to those listed for interprofessional practice. The results of this study, which suggest that faculty who have had formal interprofessional education score higher on horizontal collectivism than faculty without this training, may indicate a need to require faculty who will be teaching interprofessional skills to have an immersive IPE training experience. This is supported by the fact that all but five of the faculty in this study without the formal IPE faculty development training reported having had high levels of exposure to interprofessional education as measured by modified indicators of high and no to moderate interprofessional education exposure (Kwan et al., 2009). This suggests there were differences in those with exposure to interprofessional education and those with an intentional immersive experience through formal IPE training.

As previously mentioned, others have suggested that training can bring about shifts in individualism and collectivism (Iachini et al., 2019; Triandis, 1995). Iachini et al. (2019), for example, demonstrated that a shift in individualism and collectivism can be brought about

through intentional programming aimed at impacting culture orientation. The findings from the current study could be reflective of a similar result for faculty. Though this study is limited in its ability to suggest that the IPE faculty development training caused a shift in culture orientation, the finding is worthy of additional study and could support the need for IPE programs to be more intentional in the curriculum they build so that they are designing programs with immersive experiences in IPE as opposed to exposure only to IPE principles.

These findings may also be informative for accrediting bodies, which vary markedly in the requirements set forth for interprofessional education across the various academic health sciences (Zorek & Raehl, 2013), in addressing the interprofessional education requirements for health professions programs. The results of this study may suggest that immersive experiences establish the values and behaviors that are consistent with effective team collaboration skills though more research is needed to establish this with certainty.

### ***Implications for Interprofessional Faculty Development***

Implications for IPE faculty development programs are similar to those suggested for interprofessional practice and IPE student programs. The faculty development program at the institution in this study was designed to provide faculty an immersive experience in learning the IPE competencies of teams and teamwork, values and ethics, communications, and roles and responsibilities which mirrored the experiences they would be delivering to students (Polaha et al., 2019). Differences in horizontal collectivism between the faculty who had this training and those who had not had this training suggest that the immersive experience potentially brought about a change in culture orientation for those faculty members who participated.

Again, an important consideration is the fact that all but five of the 63 faculty without the IPE faculty development training at their institution did report having high degrees of exposure to

IPE. The biggest difference between these two groups is the immersive IPE experience received through the faculty development training at their institution. Again, this must be interpreted with caution as the differences noted in this study could have been related to other causes and this was not an experimental design. However, the finding is worthy of additional study. Additionally, individuals designing faculty development trainings may want to consider programs that move beyond exposure to IPE to a more immersive IPE experience.

Further, academic health science programs may want to consider having IPE training for all faculty teaching clinical courses. Because clinical faculty scored higher in vertical individualism, which is more reflective of hierarchical values and beliefs, IPE training may be indicated as an attempt to help all faculty be successful in modeling team-based principles. Faculty teaching clinical courses are all training students who will be working in health care settings. Because the health care system is steadily transforming toward a more integrated, team-based model, it is likely that most health professions students will eventually be working under this team-based approach. Therefore, all faculty must be able to model the values and behaviors consistent with team-based principles for students. For consistency, modeling team-based competencies should not be limited to the faculty who are teaching in the formal IPE programs. This is especially true since not all students in the academic health sciences can engage in the IPE programs.

### **Recommendations for Future Research**

This study generated interesting findings that are worthy of further research. These recommendations for research include the following:

- Examining culture orientation in IPE faculty at other institutions and with other faculty development programs in order to provide more generalizable conclusions.

- Repeating this study at the current institution with a quasi-experimental design in order to determine whether immersive faculty development programs can bring about change in culture orientation.
- Repeating the current study with a more sophisticated design and evaluation process in order to examine interaction effects among independent variables. For example, a more elaborate design would provide an ability to examine if there are other factors, such as college affiliation, that could account for significant differences in clinical faculty versus nonclinical faculty in vertical individualism. Also, in some studies gender was found to be a moderating effect across INDCOL subscale measures (e.g., Zhang et al., 2011); however, the current design did not evaluate for this.
- Recruiting a larger sample size by using a mechanism other than email in order to make comparisons across colleges would also be recommended. Recruiting participants through a mechanism other than an email could reduce the volunteer effect and could reduce the number of faculty that consent but then do not complete the survey (45 faculty members consented to the study and opened the survey but did not complete the survey). This study was conducted during a global pandemic making face-to-face recruitment impossible. To recruit faculty face to face, for example at a faculty meeting, may increase the number of participants and decrease the potential for a volunteer effect to impact the data. Though faculty would still be volunteering, individuals who self-selected out of the email survey may continue with the survey under a face to face recruitment situation. Recruitment by email makes it easy for potential participants to self-select out of the study. Those who continue with the survey may, by nature, be different in their culture orientation than those who opt-out.



- Comparing faculty members with exposure to interprofessional education experiences and faculty members who have had an immersive experience in interprofessional education in order to expand the literature in this area. This information could inform curriculum and faculty development program developers as well as accrediting bodies regarding the most effective techniques for teaching interprofessional education competencies and skills.
- Studying the first-generation effect at both the graduate student and faculty level in order to inform support programs for graduate students and faculty development programs.

### **Recommendations for Practice**

Just as the results of this study call for additional investigation in several areas, they offer several considerations for practice as well. These recommendations for interprofessional practice, interprofessional education, and faculty development include the following:

- When recruiting practitioners or educators, employers should be mindful that individuals who have had exposure to IPE may differ in their interprofessional skills compared to those individuals who have had a fully immersive IPE experience.
- Employing immersive IPE training experiences within practice settings may help facilities to have a more team-based, practice-ready workforce that is well-versed in interprofessional competencies and collaborative skills.
- Academic health science programs should consider having all faculty engage in interprofessional education training so that students have consistent nonhierarchical and collaborative attitudes and behaviors modeled for them by all faculty members.
- At a minimum, academic health science programs should consider having all faculty who teach in interprofessional education programs participate in an immersive IPE training experience.

- Faculty development programs, as a whole, should consider how first-generational effects may continue to impact first-generation students even into a faculty position.

### **Closing Remarks**

Further research into IPE faculty development is necessary to break down the silos in our health care system and foster team decision making. There is an urgent need for trained professionals who have the values and skills to collaborate with other providers in order to find the best treatment options for patients. At a system level, there must be mechanisms in place that support collaboration among team members. This extends to systems issues such as reimbursement models and physical infrastructure that is beyond the scope of this study. However, part of the physical infrastructure includes a well-trained workforce that has the values and skills needed to provide team-based care. Training professionals within their own guilds and then bringing them together to work in teams is not sufficient and could, in some cases, be catastrophically detrimental for patients. Therefore, interprofessional education is a necessity for having a workforce that is ready for interprofessional practice. This creates a more pressing need to train faculty in a manner that allows them to model and facilitate interprofessional learning experiences so that all students leave their programs, not with fragmented relationships and ideological professional boundaries, but with the team-based competencies and skills that are needed to readily provide quality team-based care and improved patient outcomes.

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## APPENDICES

### Appendix A: Definitions of IPE Exposure Level

The following information adapted from Kwan et al. (2009) was used to define no to a moderate level of IPE exposure and a high level of IPE exposure for faculty. Faculty were provided these definitions and asked to select which category best described their exposure to IPE.

#### **No to Moderate Level of Exposure to IPE:**

Either as a participant or a facilitator, I have

1. Been involved in lectures [or presentations] in my discipline where the lecturer was from a different discipline and talked about a clinical topic matter
2. Been involved in lectures [or presentations] in my discipline where the lecturer was from a different discipline and the topic was health profession roles and how to work together
3. Been involved in lectures [or presentations] along with other learners who were from one or more other disciplines and the lecture was on a clinical/practice topic
4. Been involved in lectures [or presentations] along with other learners who were from one or more other disciplines and the topic was health profession roles and how to work together
5. Been involved in hands-on activities such as workshops with learners from other disciplines where the topic was a clinical/practice area
6. I have not been involved in any such activities

## **High Level of Exposure to IPE**

Either as a participant or a facilitator, I have

1. Been involved in hands-on activities such as workshops along with other learners who were from one or more other disciplines where the topic was health profession roles and how to work together
2. Been involved in clinical practice settings where I was taught by teachers from other disciplines
3. Been involved in clinical practice settings where I was learning and practicing with learners who were from one or more other disciplines and we were taught by teachers from one discipline
4. Been involved in clinical practice settings where I was learning and practicing with learners who were from one or more other disciplines and we were taught by teachers who were from two or more disciplines

## Appendix B: Individualism and Collectivism Scale

### Individualism and Collectivism Scale

This scale is also known as the Culture Orientation Scale.

#### **Reference:**

Triandis, H. C. & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology*, 74, 118-128.  
<https://doi.org/10.1037/0022-3514.74.1.118>

#### **Description of Scale:**

The Individualism and Collectivism Scale is a 16-item scale that measures four dimensions of culture orientation or collectivism and individualism. These four dimensions include the following:

- Vertical Collectivism – Individuals see themselves as a part of a collective. They willingly accept the hierarchy and inequity within the collective.
- Vertical Individualism – Individuals see themselves as autonomous. They recognize and fully accept the inequality among individuals.
- Horizontal Collectivism – Individuals see themselves as part of a collective; however, they perceive each of the members of a collective as equal.
- Horizontal Individualism – Individuals see themselves as autonomous. They also believe that the ideal is that there is equality among all individuals.

**Scale:** The items should be mixed up prior to administering the questionnaire. All items are answered on a 9-point scale, ranging from 1= never or definitely no and 9 = always or definitely yes.

**Horizontal individualism items:**

1. I'd rather depend on myself than others.
2. I rely on myself most of the time; I rarely rely on others.
3. I often do "my own thing."
4. My personal identity, independent of others, is very important to me.

**Vertical individualism items:**

1. It is important that I do my job better than others.
2. Winning is everything.
3. Competition is the law of nature.
4. When another person does better than I do, I get tense and aroused.

**Horizontal collectivism items:**

1. If a coworker gets a prize, I would feel proud.
2. The well-being of my coworkers is important to me.
3. To me, pleasure is spending time with others.
4. I feel good when I cooperate with others.

**Vertical collectivism items:**

1. Parents and children must stay together as much as possible.
2. It is my duty to take care of my family, even when I have to sacrifice what I want.
3. Family members should stick together, no matter what sacrifices are required.
4. It is important to me that I respect the decisions made by my groups.

**Scoring:**

Each dimension's items are summed up separately to create a VC, VI, HC, and HI score.



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