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**Interprofessional Socialization of Nursing Students After Participating in Interdisciplinary
Rounds in an Intensive Care Unit**

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Abstract

Background: Nursing engagement in interprofessional collaboration leads to safe and quality healthcare for patients. In order to effectively engage in interprofessional collaboration, nursing students must socialize among healthcare providers from various disciplines. **Purpose:** The purpose of this project was to examine pre-licensure nursing students' beliefs and attitudes towards interprofessional socialization and collaboration following their participation in interdisciplinary rounds in an intensive care unit (ICU) setting. **Methods:** A mixed-methods, cross-sectional design was used to collect data from undergraduate nursing students at a private university. Following an ICU clinical rotation, participants completed the Interprofessional Socialization and Valuing Survey-21 (ISVS-21) and two qualitative questions. **Results:** Thirty-one nursing students from the entire sample ($N = 33$) reported they were able to participate in interdisciplinary rounds. Although not statistically significant, results suggested those with prior exposure to interprofessional activities and who participated in rounds had a higher mean ISVS-21 score. Feelings of intimidation were highlighted as a barrier to participation. The following themes emerged from reflective questions: nursing role in patient advocacy, better understanding of the nursing role and roles of other team members, awareness of the value of interdisciplinary rounds, and teamwork. **Conclusion:** For new graduate nurses to succeed in their new role, they need interprofessional educational experiences that focus on interprofessional collaboration and socialization skills. Findings highlight positive outcomes from active participation in interprofessional collaboration in the clinical setting, although barriers are still present. Further research is warranted to identify ways to alleviate the intimidation factor and better prepare nursing students for transition into the workplace as registered nurses.

Keywords: interprofessional socialization, interprofessional collaboration, pre-licensure nursing students, interprofessional education, interdisciplinary rounds

Introduction and Background

Interprofessional collaboration and socialization among healthcare professionals has become a priority focus among accrediting and governing healthcare organizations (Center for Disease Control and Prevention [CDC], 2018; Institute of Medicine [IOM], 2015; World Health Organization [WHO], 2010). According to the WHO (2010), interprofessional collaboration occurs when “multiple health workers from different professional backgrounds work together with patients, families, caregivers, and communities to deliver the highest quality of care” (p.7). In order to effectively collaborate, evidence shows that healthcare professionals need to socialize, which is the “process of bringing learners from across different professional programs together to learn with, from, and about each other” (Khalili, 2013, p. 12). Healthcare professionals are required to work in a complex environment and must be knowledgeable not only of their specific roles and responsibilities, but also roles and responsibilities of other healthcare team members (Mahmood et al., 2021). A variety of healthcare professionals are included in interprofessional healthcare teams, such as physicians, nurses, pharmacists, social workers, respiratory therapists, and many others.

Interprofessional collaboration and socialization among healthcare teams can lead to improvements in patient access to healthcare interventions, job satisfaction among healthcare professionals, medical resource utilization, patient involvement in decision making, safety and quality assurance, and coordination of complex health systems (World Health Professions Alliance [WHPA], 2019). Traditionally, the culture of healthcare training and practice has been to work in silos, meaning that professionals typically work with individuals in their own discipline rather than working collaboratively across disciplines (Vega & Bernard, 2017). However, over the past few decades a team-based approach utilizing interprofessional

collaboration and socialization has been recognized as a way for healthcare teams to foster the triple aim of improving patient care, improving population health, and reducing per capita healthcare costs (Institute for Healthcare Improvement [IHI], 2019; Vega & Bernard, 2017). Coordination of interprofessional collaboration has been shown to reduce the risk of patients being readmitted to the hospital by 19% (Tricco et al., 2014). Patients receiving treatment from an interprofessional healthcare team reported being satisfied with and confident in the care they received (Vega & Bernard, 2017). Healthcare professionals also reported they believe interprofessional collaboration interventions improve the quality of care and patient safety (Kara et al., 2015).

Interdisciplinary rounds are an example of interprofessional collaboration and socialization in the hospital setting. Interdisciplinary rounds allow multiple healthcare professionals, the patient, and/or family members to meet and interact on a regular basis during the patient's stay to ask questions, get clarification, and discuss patient goals among all team members.

Interdisciplinary rounds allow every team member to discuss and share critical information regarding the patient's plan of care. However, when interprofessional collaboration does not occur across disciplines, the healthcare team's performance suffers as well as the patient's safety and quality of care (IOM, 2015; Vega & Bernard, 2017). Miscommunication among healthcare professionals is often cited as a root cause to medical errors (Vega & Bernard, 2017).

Need for Interprofessional Education

The WHO (2010) and WHPA (2019) encourage incorporation of interprofessional education (IPE) into undergraduate nursing curriculum to better prepare future nurses for interprofessional collaboration and socialization in the clinical setting. Healthcare professional students who are provided IPE experiences demonstrate better interprofessional collaborative

practice competencies than students without IPE experiences (Homeyer et al., 2018). Berkow et al. (2008) conducted a national benchmark survey to assess nursing leaders' (e.g., chief nursing officers, nurse managers, nurse educators, etc.) satisfaction with new graduate nurses' readiness to practice. The Readiness for Practice Tool included nine competencies, such as communication with the interprofessional team, ability to work as part of a team, recognition of when to ask for assistance, ability to accept constructive criticism, interpretation of physician and interprofessional orders, communication with physicians, conducting appropriate follow up, conflict resolution, and delegation of tasks (Berkow et al., 2008; Hopkins & Bromley, 2016). The nurse leaders' satisfaction ratings among the nine new graduate nurse interprofessional competencies varied, but each of the interprofessional collaboration competency satisfaction scores were less than 40% (Berkow et al., 2008). Hopkins and Bromley (2016) conducted a similar study to compare results and found that nurse leaders' satisfaction ratings for interprofessional competencies were higher than the national benchmark study (Berkow et al., 2008). For example, 63% of nurse leaders were satisfied with new graduate nurses' ability to communicate with the interprofessional team, whereas the national benchmark study only reported 38% were satisfied. Therefore, the variability among new graduate nurses', experienced nurses', and nurse leaders' satisfaction with new graduate nurse interprofessional competencies warrant further investigation.

Problem Statement

The literature is lacking evidence that describes the use of interdisciplinary rounds as an active learning experience that improves nursing students' perceptions of and engagement in interprofessional collaboration and socialization. Historically, research on clinical education outcomes has focused on improving or measuring the impact of attaining technical skills, such as

inserting a foley catheter or intravenous catheter, rather than non-technical skills, such as interprofessional communication (Pires et al., 2016). Although a nursing student's professional identity is still developing in their last semester, it is important to evaluate the progress of development in beliefs, behaviors, and attitudes towards interprofessional collaboration and socialization prior to the transition into the workplace as a new graduate registered nurse. IPE simulations and workshops have been proven to be effective learning experiences; however, evidence supporting IPE learning activities during clinical rotations in an intensive care unit (ICU) setting are limited (Seaman et al., 2018). It is not clear as to whether pre-licensure nursing student participation in interdisciplinary rounds in an ICU setting aids in closing the "preparation to practice" gap regarding interprofessional collaboration and socialization or if this experience better prepares nursing students to work in a collaborative context. Interprofessional socialization and collaboration skills are necessary for registered nurses in all healthcare settings to improve patient outcomes and provide holistic care.

Purpose

The purpose of this scholarly project was to examine pre-licensure nursing students' beliefs and attitudes towards interprofessional collaboration and socialization following their participation in interdisciplinary rounds in an ICU setting. This scholarly project aimed to increase understanding of the active learning experience pre-licensure nurses have related to interprofessional collaboration and socialization during clinical rotations. Based on findings from previous research, the project leader hypothesized that accelerated pre-licensure nursing students would have positive beliefs and attitudes towards interprofessional collaboration and socialization after participating in interdisciplinary rounds in an ICU setting.

Review of Evidence

The project leader explored Academic Search Premier, Cumulative Index to Nursing and Allied Health Literature (CINAHL) Complete, EBSCO eClassics Collection (EBSCOhost), MEDLINE Complete, SocINDEX with Full Text, and Google Scholar databases for appropriate literature utilizing the following terms in a variety of combinations: *undergraduate nursing students* or *nursing students* or *student nurses* or *nursing education*, *interprofessional education*, *courses* or *workshops*, *simulations*, *clinical* or *clinical setting*, *nursing role*, *interprofessional collaboration*, *interprofessional socialization*, and *barriers*.

Interprofessional Education Experiences

Courses or Workshops

Throughout the literature, courses and workshops varied regarding duration, participation, and format (e.g., in-person, virtually, or combination of both), but all shared the commonality of lectures, presentations, or group work. Robertson et al. (2021) identified IPE courses or workshops as commonly used pedagogical approaches for IPE because they are considered to be low-stakes environments for healthcare students to learn. Of the IPE courses and workshops reviewed that were conducted for only one day, the results were mostly positive with significant growth in knowledge level, readiness for interprofessional learning, team learning, and better understanding of other professionals' roles (Robertson et al., 2021; Simko et al., 2017; Wong et al., 2017). However, Poindexter (2016) compared the impact of attending a virtual Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®) training, an interprofessional workshop, and a simulated training event and reported the virtual TeamSTEPPS® training as the least effective teaching strategy, but the most cost-effective. Varying curricula were used for each of the courses or workshops, and some studies did not

explicitly state curriculum used (Poindexter, 2016; Robertson et al., 2021; Simko et al., 2017; Wong et al., 2017).

Similar to the one-day courses and workshops, workshops that were held over a longer period (e.g., several days or weeks) had comparable results of greater knowledge, better understanding and importance of other health professionals' roles, and more confidence in participating in collaboration (Byrne & Connor, 2020; Sanko et al., 2020; Venville & Andrews, 2020). Participants in the study by Sanko et al. (2020) reported they were able to identify deficiencies in their own knowledge and skill after attending an interprofessional course. When more than one type of healthcare professional student (e.g., nursing, medical, pharmacy) participated in an IPE workshop or course, better understanding of other health professional roles was a common outcome (Byrne & Connor, 2020; Sanko et al., 2020; Simko et al., 2017; Venville & Andrews, 2020; Wong et al., 2017).

Simulations

The use of simulations to integrate IPE into undergraduate nursing curricula is common and continues to be heavily researched. Simulations, like courses and workshops, provide students with a safe environment to learn. However, students are not able to actively practice non-technical and technical nursing skills in courses or workshops as they are able to in simulations. Liaw et al. (2019) and Poindexter (2016) reported that an interprofessional didactic training followed by a simulation provided the highest level of evidence for incorporating team behaviors with positive clinical outcomes, teamwork performance, and attitudes towards interprofessional collaboration. Nursing and healthcare professional faculty may have more control during the simulation than in clinical rotations. IPE simulation development varied in terms of curricula and scenarios used. For example, Sweigart et al. (2016) utilized

TeamSTEPPS® case studies and Banks et al. (2019) used the Interprofessional Education Collaborative (IPEC, 2016) core competencies.

Several positive outcomes and deficiencies were identified in the literature regarding IPE simulations. Increased readiness for interprofessional learning and appreciation of working with other disciplines were reported as positive outcomes following IPE simulations (Banks et al., 2019; Burford et al., 2020). Specifically, Burford et al. (2020) found that nursing students consistently had higher identification scores than medical students, which was attributed to the differences in IPE experiences, such as differing opportunities to work with other healthcare professionals during training. Sweigart et al. (2016) and Wilcox et al. (2017) found significant positive attitude changes toward working in teams, leadership, situation monitoring, mutual support, and communication following an IPE simulation. However, healthcare students reported communication as a challenge during IPE simulations because they were unsure what to share and how much to share (Banks et al., 2019). Role clarification competencies were another common area of deficient knowledge reported by healthcare students following IPE simulations (Banks et al., 2019; Kleib et al., 2021).

Labrague et al. (2018) and Marion-Martins and Pinho (2020) conducted systematic reviews to assess the impact of IPE simulations on nursing students and healthcare students, respectively. Both systematic reviews reported interprofessional communication, teamwork, and collaboration were competencies that were commonly used for the evaluation of IPE simulations (Labrague et al., 2018; Marion-Martins & Pinho, 2020). Satisfaction in learning together, positive attitudes, and readiness towards interprofessional learning were all healthcare student outcomes of IPE simulations (Labrague et al., 2018; Marion-Martins & Pinho, 2020). Labrague et al. (2018) added appreciation of interprofessional team roles and self-confidence or self-

efficacy as common outcomes among the studies reviewed. Marion-Martins and Pinho (2020) noted that nursing academics use IPE simulations more than other healthcare disciplines, and authors rarely report how scenario activities contribute to the development of each competency.

Clinical Settings

A variety of interprofessional clinical settings, such as internal medicine, ambulatory/outpatient, palliative, and aged care, were evaluated to determine their efficiency of incorporating the IPE concepts students learned in the classroom into clinical practice (Grymonpre et al., 2016; Jakobsen et al., 2017; Mink et al., 2021; Seaman et al., 2018; Shustack et al., 2021). Jakobsen et al. (2017) found that medical and nursing students reported an overall better learning experience with direct patient contact and task-based learning after working in an interprofessional outpatient orthopedic clinic. Seaman et al. (2018) reported that nursing students had a greater change in beliefs, behaviors, and attitudes toward interprofessional collaboration and socialization compared to medical students after an ambulatory care clinical placement. However, a survey by Palese et al. (2019) revealed a large number of undergraduate nursing students reported having little to no IPE opportunities in the clinical setting.

Positive outcomes of interprofessional clinical placements were reported, such as significant increase in students' self-perceived ability to work with others and greater appreciation for the interprofessional team (Mink et al., 2021; Seaman et al., 2018; Shustack et al., 2021). Conversely, undesired outcomes regarding discomfort with being a team leader or speaking out within the team were also reported after interprofessional clinical rotations (Shustack et al., 2021). Grymonpre et al. (2016) found only a modest impact of the interprofessional clinical placement experience on mentoring teams' interprofessional collaborative practice among the four clinical placements evaluated in their study. In a

qualitative synthesis by Lim and Noble-Jones (2018), positive outcomes of interprofessional clinical settings outweighed negative outcomes. Positive outcomes of interprofessional clinical settings included better understanding of roles, improved communication and teamwork (Lim & Noble-Jones, 2018). Negative outcomes of interprofessional clinical settings included disparity within the team, unsatisfactory learning experiences, and negative interprofessional observations (Lim & Noble-Jones, 2018).

Barriers to Interprofessional Education and Collaboration

Several hindrances were identified by nursing programs regarding non-technical skills training for pre-licensure nursing students. In a systematic review by Reeves et al. (2016) that included research from a variety of health and social care groups (e.g., physicians, pharmacists, paramedics, nurses, occupational therapists, speech and language pathologists, social workers, and others), the following three categories were used to describe barriers to IPE implementation: presage, process, and product. Homeyer et al. (2018) conducted a qualitative study, which included data from semi-structured questionnaires and focus group interviews with medical and nursing education experts and agreed with Reeves et al. (2016) on several barriers to IPE implementation. Presage referred to the context of IPE, such as drivers, logistics, curriculum demands, management support, and input from stakeholders (Homeyer et al., 2018; Reeves et al., 2016). Process referred to the approach to learning, such as instructor style, educational theories that underpin delivery, assessment, use of intraprofessional versus interprofessional collaboration, or distance learning for each activity (Homeyer et al., 2018; Reeves et al., 2016). Product referred to the learners' collaborative competencies including knowledge, skills, and attitude development, as well as the effect of these competencies on direct patient care (Homeyer et al., 2018; Reeves et al., 2016). Challenges to simulation-based team training, such as difficulty

focusing on team-based competencies versus task-based competencies, meeting the needs of multiple learners, anticipation of learner responses, and measuring teamwork successfully, were outlined by Benishek et al. (2020) in a healthcare simulation interprofessional training textbook. In a qualitative study by Gordon et al. (2017), intergroup contact anxiety was highlighted as a barrier to improving non-technical skills in an interprofessional simulation environment among participants from the medical, nursing, pharmacy, and occupational therapy professions.

In addition to barriers to IPE implementation, barriers to interprofessional collaboration among healthcare professionals in the clinical setting were also identified by qualitative studies that included a variety of healthcare professionals, such as nurses, physicians, nursing assistants, pharmacists, occupational and physical therapists, social workers, and others (Eriksson & Mullern, 2017; Goldman et al., 2018; Vestergaard & Norgaard, 2018). The hierarchical organizational structures in healthcare, unequal medical responsibility among healthcare professionals, decision-making power, limited opportunities for workplace learning, and financial barriers were highlighted throughout the literature as obstacles to performing effective interprofessional collaboration in clinical settings (Eriksson & Mullern, 2017; Goldman et al., 2018; Vestergaard & Norgaard, 2018). Gilles et al. (2020) distributed an online questionnaire among physicians, nurses, and pharmacists and found that financial barriers, compared to patient and professional barriers, affected the extent to which interprofessional collaboration was executed within integrated care initiatives. Financial barriers included inappropriate patient reimbursement, inadequate funding for supportive tools, and inadequate payment or compensation (Gilles et al., 2020). Cultural and organizational factors, such as poor understanding of the concept of interprofessional collaboration, busyness, and poor commitment to interprofessional collaboration, were highlighted by Vestergaard and Norgaard (2018).

Interprofessional Collaboration and Socialization during the COVID-19 Pandemic

The COVID-19 pandemic certainly impacted the healthcare system as well as the implementation of IPE. However, the COVID-19 pandemic also revealed the importance and need for advancement of interprofessional collaboration and socialization skills due to the increasing complexity of patient care and management, conflict management, and interaction with the healthcare team (Belarmino et al., 2020). Healthcare professionals identified barriers that deterred the implementation of effective interprofessional collaboration and socialization during the pandemic.

Physical barriers and the shift to virtual care were two of the main challenges that emerged during the COVID-19 pandemic that hindered interprofessional collaboration and socialization among healthcare professionals, patients, and families (Houchens & Tipitneni, 2020). Additionally, Houchens and Tipitneni (2020) found that social distancing policies and wearing of face masks, which are necessary to reduce the transmission of COVID-19, decreased reciprocity of nonverbal communication cues and diminished the volume and clarity of spoken words. Most healthcare systems implemented no-visitor policies for patients hospitalized with COVID-19, which led to feelings of isolation and made critical activities (e.g., discharge planning and education) difficult (Houchens & Tipitneni, 2020). Some healthcare team members opted or were required to work remotely to reduce transmission of COVID-19 and to conserve personal protective equipment, which led to a loss of camaraderie, less fellowship, depersonalization, and disconnection within the team (Houchens & Tipitneni, 2020). The increase in electronic consults threatened effective collaborative communication and teaching among primary and consulting teams, which potentially led to greater miscommunication, less-effective patient care, and reduced satisfaction among the healthcare team (Houchens & Tipitneni, 2020).

Nursing Role in Interprofessional Collaboration

Several articles cited the critical role that nurses play when it comes to first-line patient care and promotion as well as implementation of interprofessional collaboration (Bochatay et al., 2017; De Luca et al., 2021; Homeyer et al., 2018; Karam et al., 2018). Bochatay et al. (2017) noted that nursing was portrayed as a supportive role for patient management by nurses and medical residents because nurses contributed to reasoning, made suggestions, and planned patient care around physicians' decisions. However, Karam et al. (2018) concluded that due to nurses' professional status and close interactions with patients, they had the ability to assume the lead role in collaborative practice in the clinical setting. Being proactive, making decisions, case understanding involvement, sharing technical information, and contributing to team building were strongly expressed by nurses as nursing role perceptions and actions (Bochatay et al., 2017).

Khalili and Orchard (2020) and Rossler et al. (2020) recommended that nursing students should be exposed to and socialized among other healthcare professionals early in their undergraduate educational programs to mitigate the development of professional stereotypes and to help with the transition to collaborative practice. Khalili and Orchard (2020) interviewed a variety of healthcare professionals after conducting two interprofessional socialization workshops. Nursing students reported they learned about healthcare professions they did not know existed and became aware of their bias that the nursing profession was better and more useful regarding patient care than other healthcare professions (Khalili & Orchard, 2020). Rossler et al. (2020) noted that interprofessional collaboration practice behaviors and professional socialization are fundamental requirements for a successful transition into the workplace for nurses.

Theoretical Framework

The interprofessional socialization framework (IPSF) served as the theoretical framework for this scholarly project. Proposed by Hossein Khalili (2013), the IPSF explains the process of interprofessional socialization for healthcare professional students and how it leads to readiness for interprofessional collaborative patient-centered practice (IPCPCP). Derived from the social identity theory and intergroup contact theory, the IPSF was developed and tested by “assessing the impact of an interprofessional socialization-based IPE program intervention on students’ dual identity development and socialization process” (Khalili, 2013, p. 26). Moreover, the IPSF supports the use of clinical IPE learning experiences as a way to promote interprofessional socialization and prepare nursing students to partake in IPCPCP. The IPSF constructs and relationships are displayed in Figure 1.

The following constructs are included in the IPSF: career selection and training, uniprofessional identity, personal factors (e.g., IPE beliefs and behaviors, individualist-collectivist orientation, and IPE previous experiences), breaking down barriers, interprofessional role learning, dual identity development, and readiness for IPCPCP (Khalili, 2013). The IPSF explains that healthcare professional students first select their career path and begin training in their prospective disciplines. Healthcare professional students initially engage in uniprofessional training (e.g., nursing students train with nursing students), which develops their uniprofessional identity. Once uniprofessional identity is developed, the healthcare professional students move through the three stages of the interprofessional socialization process.

Personal factors, such as IPE beliefs and behaviors, individualist-collectivist orientation, and IPE previous experiences, influence each stage of the IPSF (Khalili, 2013). Throughout the literature, IPE beliefs are defined as enhanced understanding or knowledge of interprofessional

collaboration (King et al., 2010; King et al., 2016). Furthermore, IPE behaviors are defined as student's competent articulation of one's role, displaying interprofessional collaboration behaviors and skills, and ability to function as an interprofessional team member (King et al., 2010; King et al., 2016). Although IPE attitudes were not explicitly addressed by the IPSF, beliefs and attitudes are often used interchangeably. IPE attitudes were included as another personal factor for this scholarly project and are defined in the literature as appreciation and value towards interprofessional collaboration (King et al., 2010; King et al., 2016). Lastly, someone with an individualist orientation focuses on their own personal interests over the needs of the group; however, someone with a collectivist orientation focuses on the interests or needs of the group to which they belong (Khalili, 2013). Khalili (2013) theorized that healthcare professional students with positive previous IPE experiences, high interprofessional beliefs, and a collectivist orientation respond more favorably to the socialization process than those who lack or have negative previous IPE experiences, low interprofessional beliefs and behaviors, and an individualist orientation.

The IPSF suggests there are three stages a nursing student must experience to be ready to engage in IPCPCP: 1) breaking down barriers, 2) interprofessional role learning, and 3) dual identity development (Khalili, 2013). In the first stage of the IPSF, the students must break down barriers in order to eliminate misconceptions and hostility against one another in open and trusting environments, such as simulations and clinical rotations (Khalili, 2013). For example, Kleib et al. (2021) conducted an interprofessional simulation among nursing and respiratory therapy students and found that interaction among the two disciplines allowed the students "to recognize the importance and value of understanding other professionals' scopes of practice and how different professional roles complement each other" (p. 5).

After breaking down barriers, nursing students are able to begin interprofessional role learning and practicing interprofessional collaboration among the healthcare team, which is considered the second stage of the IPSF (Khalili, 2013). Prior to the intervention this scholarly project examined, the nursing students were required to participate in various simulations and clinical rotations throughout their program of study. Opportunities to participate in simulations and clinical rotations allowed the students to break down barriers in safe, trusting environments in order to engage in interprofessional socialization and role learning. In a study by Seaman et al. (2018), nursing and medical students were able to interact with healthcare professionals supporting the care of patients with chronic illnesses in an interprofessional placement at an ambulatory clinic. The opportunity allowed the students to participate in collaborative patient reviews and assist in the delivery of outpatient care with other healthcare professionals (Seaman et al., 2018).

After nursing students engage in interprofessional role learning and practice interprofessional collaboration, they advance to the third stage of the IPSF, which is when the students develop a dual identity (Khalili, 2013). “Students with a dual identity view their practice simultaneously as a member of their own profession and as a member of an interprofessional collaborative team” (Khalili, 2013, p. 12). During this final stage, nursing students not only gain a sense of belonging to their own profession but also their interprofessional community (Khalili, 2013).

As the IPSF suggests, positive IPE experiences allow pre-licensure nursing students to respond more favorably to the interprofessional socialization process and be prepared to engage in IPCPCP (Khalili, 2013). In order to accomplish a positive IPE experience, the IPSF supports participation in interdisciplinary rounds as an intervention to promote interprofessional

socialization and prepare nursing students to engage in IPCPCP. As nursing students transition into the workplace as a new graduate registered nurse, their dual identities will prosper as they continue to gain a sense of belonging to the nursing profession as well as the interprofessional community (Khalili, 2013). Readiness for IPCPCP is the ultimate goal of the IPSF and a competency that is required of new graduate nurses (Hopkins & Bromley, 2016; Khalili, 2013).

Project Design

A mixed-methods, cross-sectional, online survey-based design was chosen to collect quantitative and qualitative data from a sample of accelerated pre-licensure nursing students at a private university in Nashville, Tennessee. The chosen methodology of this project allowed for examination and exploration of pre-licensure nurses' beliefs and attitudes towards interprofessional socialization and collaboration following a clinical rotation, during which there was an opportunity to participate in interdisciplinary rounds in an ICU setting. The project design also facilitated quality improvement for the nursing program and this specific clinical rotation related to IPE. This scholarly project was approved and exempt from full review by the Belmont University Institutional Review Board.

Needs Assessment

Before the implementation phase of the scholarly project, a needs assessment was conducted among the Spring 2021 Experiential Learning (ELIV) clinical course faculty to detect areas for potential improvement. The needs assessment aimed to identify 1) which facilities allowed students to participate in interdisciplinary rounds in an ICU setting, 2) which clinical faculty encouraged student participation in interdisciplinary rounds in an ICU setting, and 3) approximately what percentage of students participated in interdisciplinary rounds in an ICU setting. The project leader gained access to the Spring 2021 ELIV clinical faculty's email

addresses through the ELIV clinical course coordinator. The needs assessment was distributed by sending the Qualtrics survey link to the Spring 2021 ELIV clinical faculty via email. The project leader, the project leader's faculty advisor, and ELIV clinical course coordinator were the only individuals able to access the password-protected responses from the clinical faculty survey. The needs assessment allowed the project leader to estimate how many students would have the ability to participate in interdisciplinary rounds in an ICU setting. In addition, the ELIV clinical course coordinator used the information to make the participation in the interdisciplinary rounds in an ICU setting more intentional for the ELIV clinical course. For example, the ELIV clinical course coordinator was able to ensure students would be placed in clinical sites that allowed students the opportunity to participate in interdisciplinary rounds.

Project Setting

This scholarly project took place at a private, Christian university in Nashville, Tennessee, during the students' fall semester of 2021. The university's undergraduate nursing program has had a steady increase in enrollment over the last five years (M. Mathews, personal communication, October 5, 2021). As of Fall 2021, the university's undergraduate nursing program had over 700 nursing students enrolled (M. Matthews, personal communication, October 5, 2021). The university's nursing school offered three undergraduate nursing program track options to earn a Bachelor of Science in Nursing (BSN) degree, which included a traditional program, accelerated second-degree program, and a bridge program in which registered nurses (RNs) with an associate degree can earn a BSN (Belmont University, n.d.). The traditional and accelerated programs required nursing students to complete the same undergraduate nursing courses (Belmont University School of Nursing, n.d.-a, n.d.-c). However, accelerated students may complete the program in a minimum of 16 months and were required to

take courses during the summer semester (Belmont University School of Nursing, n.d.-a). For the RN to BSN bridge program, the focus was on preparing students, who were already RNs, for positions in management and leadership (Belmont University School of Nursing, n.d.-b).

Undergraduate Nursing Curriculum

In addition to general education courses, the undergraduate traditional and accelerated nursing programs required students to complete nursing prerequisite courses before advancing to upper-level nursing courses (Belmont University School of Nursing, n.d.-a, n.d.-c). Upper-level nursing courses included foundational and experiential courses. Experiential courses aimed to prepare students for clinical experiences and build upon one another (Belmont University School of Nursing, n.d.-a). Table 1 displays the undergraduate nursing program course summary in more detail.

Nursing students enrolled in the ELIV clinical course have successfully completed courses, such as Nurse as Team Member and Perspectives in Healthcare. The Perspectives in Healthcare course introduced broad concepts and topics regarding interprofessional collaboration included in the TeamSTEPPS® curriculum, which was developed by the Agency for Healthcare Research and Quality (AHRQ, 2019) to enhance students' professional communication and teamwork skills. Conversely, the Nurse as Team Member course provided a more detailed description and analysis of team member roles and responsibilities (T. Zellars, personal communication, March 3, 2021). Furthermore, the course focused on explaining intra- and interprofessional team structure, distractors, and disrupters (T. Zellars, personal communication, March 3, 2021). TeamSTEPPS® curriculum and training videos were utilized towards the end of the Nurse as Team Member course to summarize the content discussed in previous lectures (T. Zellars, personal communication, March 3, 2021). In addition to the TeamSTEPPS® curriculum,

the instructors reviewed the IPEC (2016) core competencies and sub-competencies with the students (T. Zellars, personal communication, March 3, 2021). There were several team-based learning activities, self-assessment questionnaires, and in-class educational activities embedded into the course as well to facilitate learning of the concepts (T. Zellars, personal communication, March 3, 2021).

ELIV Clinical Rotation

During the ELIV clinical course, students were required to complete a total of six clinical shifts in an ICU in Nashville, Tennessee. Each ELIV clinical shift focused on a nursing concept the students were taught in previous courses. Specifically, the fourth clinical shift focused on the concept of collaboration (A. Waterman, personal communication, August 24, 2021). Students were expected to research certain collaboration questions prior to the clinical shift (A. Waterman, personal communication, August 24, 2021). During the clinical shift, students were expected to connect the concept of collaboration to different patient scenarios and assignments (A. Waterman, personal communication, August 24, 2021). At the start of their clinical shift, students were assigned patients that would allow them to focus on collaboration within the interdisciplinary team (A. Waterman, personal communication, August 24, 2021). Students received handoff report with the nurse assigned to their patients, provided patient care (e.g., medication administration, wound care, activities of daily living), participated in interdisciplinary rounds, and performed a variety of technical nursing skills as able (A. Waterman, personal communication, August 24, 2021). During and following each clinical experience, ELIV clinical faculty communicated with the students to assess their learning and reflect on their clinical experience (A. Waterman, personal communication, August 24, 2021).

ELIV clinical rotations in the ICU setting gave students a unique opportunity to socialize and collaborate with a variety of healthcare professionals, such as physicians, respiratory therapists, pharmacists, dietitians, nurses, physical therapists, occupational therapists, speech and language pathologists, and social workers. However, the clinical rotations were conducted during the COVID-19 global pandemic. Even before the COVID-19 pandemic, ICUs were known as highly stressful environments for healthcare professionals. Not only were the ICUs at full capacity during these ELIV clinical rotations, but students were also required to social distance and wear full personal protective equipment.

Project Population

Purposive sampling was used to identify accelerated pre-licensure nursing students who were enrolled in the ELIV clinical course during the fall semester of the 2021-2022 academic year. To enroll in the accelerated nursing program, students were required to have a previous bachelor's degree and successful completion of specific prerequisite courses, such as microbiology, human anatomy and physiology, chemistry, psychology, human development, nutrition, statistics, and religion (Belmont University School of Nursing, n.d.-a). The ELIV clinical course was the final clinical rotation for senior nursing students and occurred in the final semester of a four-semester accelerated second-degree BSN program (Belmont University School of Nursing, n.d.-a). Through this course, 63 senior accelerated pre-licensure nursing students had the opportunity to participate in interdisciplinary rounds in an ICU setting (A. Waterman, personal communication, August 10, 201).

To be included in this scholarly project, participants were required to be at least 18 years of age or older and enrolled in the ELIV clinical course in the fall semester of the 2021-2022 academic year. Participants who had not completed all ELIV clinical shifts in an ICU setting

during the fall semester of the 2021-2022 academic year were excluded. Actual participation in interdisciplinary rounds in an ICU setting were not considered as inclusion or exclusion criteria. If the participant did not have the opportunity to participate in interdisciplinary rounds in an ICU setting during the ELIV clinical course, they were still encouraged to complete the survey.

Sources of Data/Data Collection Instruments

Participants submitted one survey after completing their final ELIV clinical rotation at a local hospital's ICU. Participants' beliefs and attitudes toward interprofessional socialization were measured using the Interprofessional Socialization and Valuing Scale-21 (ISVS-21), which elicited quantitative data. Qualitative data were obtained from open-ended, reflective questions exploring in more detail how participants' felt about their experiences.

The ISVS-21 is a unidimensional tool that asks participants to rate their current beliefs and attitudes towards interprofessional socialization (King et al., 2016). The ISVS-21 is a previously published scale by King et al. (2016). Permission was obtained from the author via email as well as the Flintbox repository, a registered trademark of Wellspring Worldwide, LLC. The ISVS-21 was developed as a modified shorter version of the original psychometrically validated ISVS (King et al., 2010; King et al., 2016). The original ISVS surveys (e.g., ISVS-34 and ISVS-24) have been used in several research studies to evaluate various IPE settings utilized in health science programs including, but not limited to, medical, nursing, dental, occupational therapy, and physical therapy. Although many research articles utilized the newer ISVS-21, findings using the original ISVS tool are still considered valuable due to the evidence of construct validity provided (King et al., 2016). The ISVS-21 had strong internal consistency with a Cronbach alpha of .988, 95% CI .985-.991 (King et al., 2016).

In addition to the ISVS-21, the online survey included questions to gather general demographic information about age and gender. Additional questions were included to assess the participants' 1) previous interprofessional work experience, 2) previous experience in interprofessional activities thus far in the nursing program, and 3) ability to participate in interdisciplinary rounds in an ICU. Since the target population included second degree-seeking students, it was important to consider their previous interprofessional work experience. Prior to the ELIV course, students participated in required (e.g., group activities during class or simulations) and optional (e.g., Meharry Interprofessional Program) IPE activities that had the potential to influence students' beliefs and attitudes towards interprofessional collaboration and socialization.

Participants were also asked to identify barriers that hindered them from participating in interdisciplinary rounds in the ICU setting. The survey included an optional reflective question to capture qualitative context for student experiences. The reflective questions asked the pre-licensure nursing students, "Did the participation in interdisciplinary rounds change how you see your role in collaborative practice? If so, how did it change?" See Appendix A for the entire 31-question survey that was distributed to the participants.

Qualtrics was used to build the survey online and collect data from participants. The project leader estimated that it would take less than 10 minutes for participants to complete the entire 31-question survey. Both the project advisor and biostatistician reviewed the Qualtrics survey prior to distributing the survey to the accelerated pre-licensure nursing students.

Data Collection Process/Procedures

The project leader attended two separate class periods to present project information to potential participants. During the presentation, the project leader discussed the purpose,

importance, goals, and requirements of the scholarly project prior to distributing the Qualtrics survey link. Dates of completion of ELIV clinical shifts varied among participants. During the presentation, the project leader emphasized that participants were not to complete the survey until they completed all ELIV clinical shifts. COVID-19 protocols were followed including social distancing and wearing of face masks. After the project leader met with the second class in November 2021, the Qualtrics survey was distributed to all participants via email.

To optimize the response rate, planned weekly emails were sent to remind and encourage participants to submit the survey after completing their ELIV clinical shifts. Additionally, the project leader provided an incentive to participate, which was a drawing for a \$50 Visa gift card. Two participants were randomly selected to win. To be eligible for the incentive, participants must complete the survey and voluntarily submit their contact information (e.g., name and email) via an additional Qualtrics link that was included at the end of the survey. This method allowed participants to remain anonymous and ensure no identifiable information was linked to any responses.

The implied consent form was included on the first page of the Qualtrics survey, which explained the project's purpose, benefits, risks, voluntary nature of participation, and that by submitting the survey, participants were implying consent (See Appendix B). Participants were reminded that responses to the survey did not affect their grade or completion of the ELIV clinical course. All responses were uploaded to Qualtrics, which was password-protected. The responses were then saved on a password-protected computer in an encrypted file, which was only accessible by the project leader. Extracted deidentified data were shared with the project leader's faculty advisor.

Data Analysis

Once completed, data from the online Qualtrics survey were exported to IBM Statistical Packages for Social Sciences (SPSS) Version 28 software for data cleaning and analysis. The identified independent variables in the study were the pre-licensure nurses' participation in interdisciplinary rounds and prior exposure to interprofessional activities. The identified dependent variables in the study were the pre-licensure nurses' ISVS-21 mean scores. The ISVS-21 utilizes a 7-point Likert scale with 1 meaning "not at all" and 7 meaning "to a very great extent" (King et al., 2016). To score ISVS-21 responses, each of the 21 responses per participant were added together and then divided by 21 to obtain an overall total mean score (King et al., 2016). Therefore, ordinal data gathered from the Likert scale were transformed into scale data by calculating the total mean score. Higher mean scores indicate stronger beliefs and attitudes demonstrating the value of interprofessional socialization (King et al., 2010).

Descriptive statistics were used to describe demographic characteristics. An independent samples *t*-test was used to compare the ISVS-21 mean scores among those who had prior exposure and those who did not have prior exposure to interprofessional activities through previous work or school experiences. Descriptive statistics were used to describe 1) the ISVS-21 mean scores among those who were able to participate in interdisciplinary rounds and those who were not and 2) individual ISVS-21 response rates and percentages. A Spearman's correlation was conducted to assess the correlation among students who were able to participate in interdisciplinary rounds zero times, 1-5 times, 6-10 times, or greater than 10 times and their ISVS-21 mean scores. Thematic analysis was used to determine prevalent themes among responses to the following open-ended questions: 1) "Please give examples of barriers as to why you were unable to participate in interdisciplinary rounds in the ICU setting" and 2) "Did the

participation in interdisciplinary rounds change how you see your role in collaborative practice? If so, how did it change?"

Results

Sample Demographics

Of the 63 senior accelerated pre-licensure nursing students invited to participate in this project, 33 students completed the survey ($N = 33$). The sample's age range was 21 to 45 years old with a mean age of 25.36 years old ($SD = 4.35$). A majority of the participants were female ($n = 30, 90.9\%$) and 9.1% ($n = 3$) were male. See Table 2.

Qualitative Findings

Barriers to Participation in Interdisciplinary Rounds

Two participants ($n = 2$) reported they were unable to participate in interdisciplinary rounds in the ICU setting and provided a response to the barrier question. One reported they only witnessed the interdisciplinary rounds and did not explicitly speak or participate. The other participant reported feelings of intimidation as a barrier and stated, "I didn't know my patient that well to speak about them in rounds. The team has been following these patients for weeks or months and I just met this patient minutes ago. It is hard to add something when a team knows the patient better than you and has years of experience."

Participation Influence on Nursing Role in Collaborative Practice

Twenty-six participants ($n = 26$) answered the reflective question, "Did the participation in interdisciplinary rounds change how you see your role in collaborative practice? If so, how did it change?" Of the 26 responses to the reflective question, six responses were "no," "not applicable," or "solidified information already known." One participant reported that it was difficult to fully understand the nursing role as a student nurse and stated, "I know my

confidence and understanding will quickly change when I am out of school. However, I felt that my information was small or inadequate for discussion as they would always ask follow-up questions to my assigned registered nurse, not myself.”

Therefore, a content analysis of the other 19 responses was conducted to identify common themes. Four common themes were identified. The themes included 1) the nursing role in patient advocacy, 2) a better understanding of the nursing role and other team members, 3) more appreciation of interdisciplinary rounds, and 4) teamwork. The student nurses’ responses often overlapped and contained content related to one or more themes. See Table 3.

First Theme: The Nursing Role in Patient Advocacy. Student nurses reported a change in their view of the nurse as a patient advocate. Responses regarding patient advocacy included statements, such as “the nurse is there advocating for patients and giving the information and details” and “utilizing that time [interdisciplinary rounds] to voice concerns or ideas for the patient’s sake.” Some student nurses compared the ICU setting versus the medical-surgical setting stating that the ICU setting is more involved and nursing oriented, which “really keeps it patient-centered.”

Second Theme: A Better Understanding of the Nursing Role and the Roles of Other Team Members. A majority of the student nurses reported a better understanding of the roles of nurses and other healthcare team members after participating in interdisciplinary rounds in the ICU setting. By having various healthcare team members present during the rounds, student nurses found it beneficial to see how the nursing role fits in collaborative practice. One student nurse stated, “it [participation in interdisciplinary rounds] clearly defined everyone’s role in the care plan and made it easier for me to understand the nurse’s role.” Interdisciplinary rounds

allowed student nurses to see how much other healthcare team members rely on nurses for patient information and updates.

Third Theme: Awareness of the Value of Interdisciplinary Rounds. A few participants reported that participation in interdisciplinary rounds revealed how important rounds are for nurses and patient care. Both student nurses used statements, such as “necessity of rounds” and “more appreciation for rounds.” One participant reported interdisciplinary rounds as a valuable time for the nurse to report any concerns or ideas for the patient to the healthcare team.

Fourth Theme: Teamwork. Several student nurses highlighted that participation in interdisciplinary rounds in the ICU setting allowed them to see “how the team works together” or “how everyone fits together.” One student stated that participation in interdisciplinary rounds allowed them to “feel part of the team and able to give my input.” Another student stated the interdisciplinary rounds allowed all healthcare team members to meet and “make sure everyone is on the same page.”

Quantitative Findings

Participants Ratings of Individual ISVS-21 Statements

Descriptive statistics regarding individual ISVS-21 statement response rates and percentages can be found in Table 4. The response rates and percentages varied. However, for example, the following statements were consistently rated higher by majority of the students: “I have gained a greater appreciation for the importance of a team approach,” “I have gained more realistic expectations of other professionals on a team,” and “I have gained an appreciation for the benefits in interprofessional teamwork.” In contrast, the following statements were not

consistently rated as high by majority of the students: “I am able to share and exchange ideas in a team discussion” and “I am able to negotiate more openly with others within a team.”

Prior Exposure to Interprofessional Activities

Through Previous Work Experiences or Career Paths. Of the 33 students included in this project, 21 (64%) reported exposure to interprofessional activities through previous work experiences or career paths prior to the ELIV clinical rotation and 12 (36%) did not. Levene’s test indicated equal variances ($F = 3.72, p = .063$). Although there was some evidence for a higher ISVS-21 mean score among those who had prior exposure to interprofessional activities through previous work experiences or career paths ($M = 5.66, SD = 0.77$) compared to those who did not ($M = 5.20, SD = 1.36$), the results were not statistically significant ($t(31) = 1.23, p = .226$, 95% CI [-0.30, 1.21]). Further, Cohen’s effect size value ($d = 0.45$) suggested a low to moderate practical significance. See Table 5 for descriptive statistics and the results of the independent samples t -test.

Through the Nursing Program. Of the 33 students included in this project, 16 (48%) reported they had exposure to interprofessional activities through the nursing program prior to the ELIV clinical rotation and 17 (52%) did not. Levene’s test indicated equal variances ($F = 2.46, p = .13$). Although there was some evidence for a higher ISVS-21 mean score among those who had prior exposure to interprofessional activities through the nursing program ($M = 5.79, SD = 0.68$) compared to those who did not ($M = 5.21, SD = 1.22$), the results were not statistically significant ($t(31) = 1.69, p = .10$, 95% CI [-0.12, 1.30]). Cohen’s effect size value ($d = 0.59$) suggested a moderate practical significance. See Table 5 for descriptive statistics and results of the independent samples t -test.

Participation in Interdisciplinary Rounds

Of the 33 students included in this project, 31 (93.9%) reported they were *able* to participate in interdisciplinary rounds in the ICU setting during the ELIV clinical rotation and 2 (6.1%) reported they were *not able* to participate. On average, students who were *not able* to participate in interdisciplinary rounds ($n = 2$) had lower ISVS-21 mean scores ($M = 3.67$, $SD = 2.42$) than students who were *able* to participate in interdisciplinary rounds ($n = 31$, $M = 5.61$, $SD = 0.83$). See Table 6. Inferential statistics were not computed because only two student nurses were *not able* to participate in interdisciplinary rounds in the ICU setting.

A Spearman's correlation test was performed to assess the relationship among students who were able to participate in interdisciplinary rounds zero times, 1-5 times, 6-10 times, or greater than 10 times, and their ISVS-21 mean scores. The correlation coefficient ($N = 33$, $r_s = .230$) suggested a small positive monotonic relationship; however, the results were statistically not significant ($p = .198$). Correlation results are displayed in Table 7.

Discussion

In recent years, especially during the COVID-19 pandemic, the complexity of patient care has impacted implementation of interprofessional collaboration and IPE and emphasized the importance of interprofessional collaboration among healthcare professionals. The need for healthcare teams to work together to provide holistic care and improve patient outcomes, especially in the ICU setting, is more evident during this health crisis than ever before. The purpose of this scholarly project was to examine pre-licensure nursing students' beliefs and attitudes towards interprofessional collaboration and socialization following their participation in interdisciplinary rounds in an ICU setting. The primary aim of this scholarly project was to increase understanding of the active learning experiences pre-licensure nursing students have

related to interprofessional collaboration and socialization during clinical rotations in the ICU setting. IPE is considered an effective strategy in nursing education to promote interprofessional socialization, thus leading to higher quality interprofessional collaboration as new graduate nurses (Khalili, 2013). The results of this scholarly project highlighted that exposure to IPE learning opportunities influenced nursing students' beliefs and attitudes towards interprofessional socialization. Although barriers were reported, nursing student participation in interdisciplinary rounds in the ICU setting positively impacted their view of the nursing role in collaborative practice. Furthermore, the more times a student nurse participated in interdisciplinary rounds, the more positive their beliefs and attitudes towards interprofessional socialization were.

Prior Exposure to Interprofessional Activities

This scholarly project was primarily focused on the valuation of interprofessional socialization associated with participation in interdisciplinary rounds. However, because the participants were senior accelerated pre-licensure nursing students, many of the participants had prior exposure to interprofessional activities through previous work experiences, career paths, and the nursing program. Previous experiences may have impacted their beliefs and attitudes towards interprofessional collaboration and socialization. Although all nursing students were involved in simulations that included at least one other healthcare team member, such as a physician, in previous semesters, half of the participants in this project reported they were exposed to interprofessional activities through the nursing program and half reported they were not. Participants may not have realized they were participating in interprofessional activities during simulations because their professors were playing the role of another healthcare

professional (e.g., physician or social worker). Some may have had more opportunities to participate in interprofessional activities through previous clinical rotations.

Results suggested that involvement in interprofessional activities in alternative settings prior to the final nursing program clinical rotation led to more positive beliefs and attitudes towards interprofessional socialization, as evidenced by higher ISVS-21 mean scores (previous work experience or career paths: $M = 5.66$; nursing program: $M = 5.79$). These findings are similar to those by El-Awaisi et al. (2021), King and Violato (2021), MacKenzie et al. (2017), and Salam et al. (2015) who reported that previous IPE exposure, whether through didactic courses or clinical experiences, tend to improve knowledge and attitudes towards IPE. Therefore, more involvement in interprofessional activities, no matter the setting, could lead to more positive beliefs and attitudes towards interprofessional socialization and collaboration.

Participation in Interdisciplinary Rounds

In a study conducted by Palese et al. (2019) examining IPE experiences of undergraduate nursing students, a large number of students reported having little to no IPE opportunities in the clinical setting. However, this scholarly project found that majority (93.9%) of nursing students included in this study were able to participate in interdisciplinary rounds in the ICU setting. In another study examining beliefs, behaviors, and attitudes among nursing and medical students, nursing students had a significant improvement from pre-test to post-test scores regarding interprofessional socialization and collaboration after an ambulatory clinical rotation (Seaman et al., 2018). Although this scholarly project did not include a pre-test to compare, nursing students who were able to participate in interdisciplinary rounds had a higher mean ISVS-21 score ($n = 31$; $M = 5.61$) than those who were not able to participate ($n = 2$; $M = 3.67$). While the results were not statistically significant and only a small monotonic relationship was determined, more

participation in interdisciplinary rounds led to more positive beliefs and attitudes towards interprofessional socialization. In a similar study by Copenhaver and Crandel-Williams (2020), experimental and control groups were utilized to compare social work students' and nursing students' knowledge and beliefs regarding interprofessional collaboration. A robust improvement in interprofessional collaboration knowledge and beliefs scores were noted in the experimental group; however, a small sample size limited their ability to establish significance (Copenhaver & Crandel-Williams, 2020).

Barriers

Of the 33 participants included in this project, only two reported they were not able to participate in interdisciplinary rounds. One participant reported intimidation as a barrier to participating in interdisciplinary rounds in the ICU setting. However, participants rated statements, such as "I am able to share and exchange ideas in a team discussion" and "I am able to negotiate more openly with others within a team," lower on the ISVS-21 scale, which suggested feelings of intimidation. Barriers to IPE in the clinical setting were identified throughout the literature. Several studies have highlighted lack of support, time commitment, and resource constraints as barriers to practice interprofessional collaboration for healthcare professional students (El-Awaisi et al., 2021; Homeyer et al., 2018; Reeves et al., 2016). In a study exploring nursing students' perceptions of roles and responsibilities following an IPE experience that included other healthcare professional students (e.g., physician assistant, pharmacy, and physical therapy students), feelings of intimidation were also reported by nursing students (Furr et al., 2020). Similarly, in a qualitative study by Hendricks et al. (2017), hesitancy of skill, or reluctance to engage in interprofessional patient-centered rounding due to lack of confidence, was reported as a barrier to performing interprofessional collaboration among

various healthcare team members working in four acute care units in a large urban hospital. In addition to hesitancy of skill, high turnover of team membership, unstructured rounding, and skepticism about interprofessional practice were also reported as barriers to interprofessional collaboration (Hendricks et al., 2017).

Several aspects of the ICU are intimidating for students. The stressful and fast-paced environment, overall culture, and the hierarchical models used present challenges to implementing effective interprofessional collaboration and education in the ICU setting (Gary et al., 2021; Lyons, 2018). Rather than a team-based clinical decision-making approach, a hierarchical medical model is often followed in the ICU, which favors physician decision-making (Gary et al., 2021; Lyons, 2018). As Lyons (2018) explained, high acuity, severity, and timing of patient deterioration often depend on the quick and autonomous decision-making of the team leader. However, the validity and integrity of the interprofessional team are hindered when solely relying on the team leader to make decisions without perspective input from other team members (Lyons, 2018).

Nursing Role in Collaborative Practice

Nursing students included in this scholarly project were asked if and how their participation in interdisciplinary rounds changed their view of their role in collaborative practice. The following four themes emerged: 1) gaining a better understanding of the roles of nurses and roles of other healthcare team members, 2) nursing roles in patient advocacy, 3) teamwork, and 4) awareness of the value of interdisciplinary rounds. The ISVS-21 individual response rates and percentages also validated these themes. Majority of the participants consistently rated statements regarding an enhanced awareness of the nursing role, more realistic expectations of other professionals, and greater appreciation for a team approach and benefits of

interprofessional teamwork “to a very great extent”. These were positive outcomes highlighted by this scholarly project and throughout current IPE literature (Davis et al., 2021; Furr et al., 2020; Hovland et al., 2018; Nikendei et al., 2016; Seaman et al., 2018). Nursing students included in similar studies by Furr et al. (2020) and Seaman et al. (2018) reported they learned more about the critical role nurses play in patient advocacy after their IPE experience. Davis et al. (2021) and Hovland et al. (2018) found that healthcare professional students from various disciplines had increased perceptions of their roles and responsibilities, other team members’ roles and responsibilities, and teamwork after participating in interprofessional simulations. Nikendei et al. (2016) surveyed medical, nursing, and physiotherapy students after participating in interprofessional round training and found that students valued rounds more after the training. However, students reported that interprofessional rounds did not offer the best opportunity for interprofessional learning because interprofessional action after rounds were of more interest (Nikendei et al., 2016).

Implications for Practice

Limited data exist examining nursing student beliefs and attitudes following their participation in interdisciplinary rounds in the ICU setting. The findings of this scholarly project can guide future recommendations not only for research of IPE but also to improve IPE experiences in clinical nursing courses. Specific recommendations for the clinical nursing course include incorporating 1) participation in interdisciplinary rounds in the ICU setting as a requirement for the course and 2) an assignment after participation to allow students to reflect on their experience of participating in the interdisciplinary rounds. This scholarly project found that majority of the nursing students were able to participate in interdisciplinary rounds, despite

challenges of the COVID-19 pandemic. Therefore, future participation in interdisciplinary rounds should be achievable.

The intimidation factor reported by nursing students in this scholarly project should be addressed prior to participation by pre-licensure nursing students in interdisciplinary rounds. Before this clinical rotation begins, clinical faculty supervising nursing students could meet with the clinical site to discuss student participation in interdisciplinary rounds so there is clear understanding of the students' participation goals. Throughout the literature, interprofessional simulations were recognized as a valuable tool to increase readiness and confidence before participation in interprofessional collaboration in the clinical setting (Connolly et al., 2021; Davis et al., 2021; Hovland et al., 2018). Interprofessional simulations allow healthcare professional students the opportunity to practice individual, discipline-specific technical skills and non-technical communication and collaboration skills to develop a treatment plan for their simulated patient (Davis et al., 2021; Hovland et al., 2018). Participation in interprofessional simulations was shown to increase healthcare professional students' interprofessional communication, leadership, and teamwork skills and further clarify each member's roles and responsibilities (Connolly et al., 2021; Davis et al., 2021; Hovland et al., 2018). Students reported that further development of these skills increased their self-confidence and empowered them to speak up, when necessary, during interprofessional rounds as future RNs and contributing members of healthcare teams (Connolly et al., 2021; Hovland et al., 2018).

Currently, at the project site, the graduate nursing program requires students to participate in an IPE event each year with other healthcare professional students, such as physical therapy students, occupational therapy students, and pharmacy students. However, undergraduate nursing students are not included in this event. Expansion to include undergraduate nursing students

should be considered as this would allow for interprofessional socialization among a variety of healthcare professional students and potentially alleviate feelings of intimidation prior to the ELIV clinical rotation in the ICU setting.

As another strategy to address intimidation, educators can incorporate activities that enhance students' self-efficacy. Self-efficacy is an individual's internal beliefs that he or she is capable of performing a certain behavior (American Psychological Association, n.d.). By enhancing self-efficacy, nursing students may feel more empowered to engage in interdisciplinary rounds with other health care professional students.

Strengths, Limitations, and Future Directions

A strength of this scholarly project is the mixed methodology used to collect qualitative data, which provided more context as to how nursing students' understanding of the nursing role in collaborative practice changed after participating in interdisciplinary rounds in the ICU setting. Additionally, those who were not able to participate in interdisciplinary rounds were able to note barriers they faced by responding to the open-ended survey questions. This project would not have been possible without strong stakeholder buy-in. In addition to the qualitative data, this scholarly project provided the clinical course coordinator with quantitative data regarding clinical sites that allowed students to participate and how often students were able to actively participate in interdisciplinary rounds.

Although there were strengths to this project, there were also some notable limitations. First, the sample size was relatively small ($N = 33$). A larger sample size would have increased the accuracy and generalizability of the results. Furthermore, the sample only included one cohort of accelerated nursing students, therefore the findings may not be generalizable to all nursing students. The nursing students' clinical rotations in the ICU setting occurred during the

COVID-19 pandemic. Although COVID-19 was not listed as a barrier by nursing students, the clinical course coordinator reported several clinical rotations in ICUs were delayed due to surges in COVID-19 cases. Wearing full personal protective equipment, such as masks and face shields, to care for patients with COVID-19 also limits the reciprocity of nonverbal communication cues and diminishes the volume and clarity of spoken words, which impacts the quality of interprofessional communication among the team (Houchens & Tipitneni, 2020). Therefore, the COVID-19 pandemic certainly served as a limitation for the number of times nursing students were able to participate in interdisciplinary rounds in the ICU setting and the quality of their participation.

This scholarly project provides more insight into prelicensure nursing students' active learning experience related to interprofessional collaboration and socialization during clinical rotations in the ICU setting. More research is recommended to further evaluate how the COVID-19 pandemic impacted IPE implementation in the clinical setting for pre-licensure nursing students and healthcare professional students as a whole. Additionally, more research is recommended during non-pandemic years to further examine nursing students' beliefs and attitudes towards interprofessional collaboration and socialization after participating in interdisciplinary rounds in the ICU setting. This scholarly project found that most of the participants were able to participate in the interdisciplinary rounds in the ICU at least one to five times. However, more research should be conducted to see how pre-licensure nursing students can maximize their interprofessional socialization and collaboration experience and alleviate barriers.

Conclusion

As the complexity of patient care increases, interprofessional collaboration will become even more essential to safe and quality healthcare for patients. For new graduate nurses to succeed in their new role, they need previous experience with interprofessional collaboration and socialization. Various IPE experiences exist, such as courses, workshops, simulations, and clinical rotations, to allow nursing students and other healthcare professional students to gain interprofessional collaboration and socialization exposure during their respective training. Findings of this project highlight positive outcomes from active participation in interprofessional collaboration in the ICU setting. Additionally, this project supports other research that suggests intimidation as a barrier to nursing participation in interprofessional collaboration. Further research is warranted to identify ways to alleviate the intimidation factor, allow nursing students to maximize their IPE experiences in the clinical setting, and better prepare them for their transition into the workplace as registered nurses.

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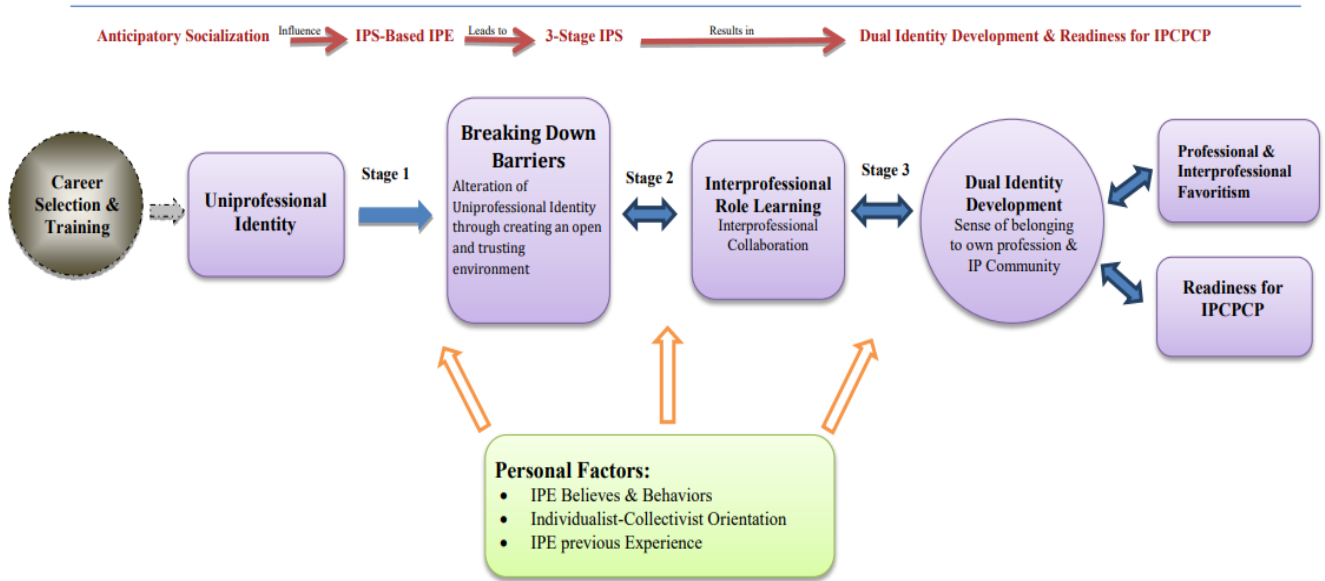
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Figure 1

The Interprofessional Socialization Framework



Note. Reprinted from “Interprofessional Socialization and Dual Identity Development Amongst Cross Disciplinary Students,” by H. Khalili, 2013, *Electronic Thesis and Dissertation Repository*, p. 22. (<https://ir.lib.uwo.ca/etd/1742>). Copyright 2013 by Hossein Khalili.

Table 1

Program Course Summary

Introductory Courses	Foundation Courses	Experiential Courses
<ul style="list-style-type: none"> • Perspectives in Health Care • Diversity in Health Care • Wellness, Assessment, and Health • Foundational Skills Lab 	<ul style="list-style-type: none"> • Introduction to Pharmacology • Lifespan Nutrition • Nursing Research • Nurse as Scholar • Pathophysiology/Pharmacology I • Therapeutic Nutrition • Pathophysiology/Pharmacology II • Nurse as a Team Member • Pathophysiology/Pharmacology III • Populations and their Contexts • Nurse as a Leader • Senior Capstone 	<ul style="list-style-type: none"> • Foundation of Care Management • Foundation of Experiential Learning • Care Management I • Experiential Learning I • Care Management II • Experiential Learning II • Care Management III • Experiential Learning III • Focused Experiential Learning • Care Management IV • Experiential Learning IV • Preceptorship

Note. Reprinted from “Accelerated 2nd degree track,” by Belmont University School of Nursing, n.d.-a, Program Options and Course Summary Section.

(<https://www.belmont.edu/nursing/programs/acceleratedbsn.html>)

Table 2*Sample Demographics*

Characteristic	<i>n</i> (%)
Age (years)	
21-25	24 (72.8)
26-30	6 (18.2)
31-35	2 (6)
36-40	0 (0)
41-45	1 (3)
Gender	
Male	3 (9.1)
Female	30 (90.9)
Other	0 (0)

Note. $N = 33$. The mean age of the sample was 25.36 and standard deviation was 4.35.

Table 3

Participation Influence on Nursing Role in Collaborative Practice and Frequency of Explanations

Theme	Frequency
The nursing role in patient advocacy	4
A better understanding of the nursing role and the roles of other team members	11
Awareness of the value of interdisciplinary rounds	2
Teamwork	5

Note. The total number of frequencies ($n = 22$) does not equal the total number of responses ($n = 26$) to the reflective question, “Did the participation in interdisciplinary rounds change how you see your role in collaborative practice? If so, how did it change?” The responses often overlapped and contained content related to one or more themes. Additionally, six responses ($n = 6$) were “no, not applicable, or solidified information already known.”

Table 4*Participant Ratings and Percentages of Individual Interprofessional Socialization and Valuing Scale-21 Statements*

	N/A	Not at all	To a very small extent	To a small extent	To a moderate extent	To a fairly great extent	To a great extent	To a very great extent
	<i>n</i> (%)							
I am aware of my preconceived ideas when entering into team discussions.	0 (0.0)	0 (0.0)	0 (0.0)	4 (12.1)	11 (33.3)	9 (27.3)	7 (21.2)	2 (6.1)
I have a better appreciation for using a common language across the health professional in a team.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.0)	11 (33.3)	10 (30.3)	11 (33.3)
I have gained an enhanced awareness of my own role on a team.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (12.1)	11 (33.3)	10 (30.3)	8 (24.2)
I am able to share and exchange ideas in a team discussion.	0 (0.0)	0 (0.0)	0 (0.0)	4 (12.1)	9 (27.3)	7 (21.2)	7 (21.2)	6 (18.2)
I have gained an enhanced perception of myself as someone who engages in interprofessional practice.	0 (0.0)	0 (0.0)	1 (3.0)	0 (0.0)	9 (27.3)	7 (21.2)	10 (30.3)	6 (18.2)
I feel comfortable being the leader in a team situation.	0 (0.0)	0 (0.0)	0 (0.0)	5 (15.2)	11 (33.3)	12 (36.4)	3 (9.1)	2 (6.1)

	N/A	Not at all	To a very small extent	To a small extent	To a moderate extent	To a fairly great extent	To a great extent	To a very great extent
	<i>n</i> (%)							
I feel comfortable in speaking out within the team when others are not keeping the best interests of the client in mind.	0 (0.0)	0 (0.0)	0 (0.0)	3 (9.1)	9 (27.3)	10 (30.3)	6 (18.2)	5 (15.2)
I feel comfortable in describing my professional role to another team member.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	7 (21.2)	10 (30.3)	10 (30.3)	6 (18.2)
I have a better appreciation for the value in sharing research evidence across different professional disciplines in a team.	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (18.2)	7 (21.2)	8 (24.2)	12 (36.4)
I am able to negotiate more openly with others within a team.	1 (3.0)	0 (0.0)	0 (0.0)	1 (3.0)	8 (24.2)	9 (27.3)	7 (21.2)	7 (21.2)
I have gained an enhanced awareness of roles of other professionals on a team.	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.0)	3 (9.1)	9 (27.3)	8 (24.2)	12 (36.4)
I am comfortable engaging in shared decision making with clients.	1 (3.0)	0 (0.0)	0 (0.0)	2 (6.1)	5 (15.2)	8 (24.2)	7 (21.2)	10 (30.3)
I feel comfortable in accepting responsibility delegated to me within a team.	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (15.2)	5 (15.2)	13 (39.4)	9 (27.3)

	N/A	Not at all	To a very small extent	To a small extent	To a moderate extent	To a fairly great extent	To a great extent	To a very great extent
	<i>n</i> (%)							
I have gained a better understanding of the client's involvement in decision making around their care.	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (18.2)	7 (21.2)	8 (24.2)	11 (33.3)
I feel comfortable clarifying misconceptions with other members of the team about the role of someone in my profession.	1 (3.0)	0 (0.0)	0 (0.0)	2 (6.1)	3 (9.1)	10 (30.3)	10 (30.3)	7 (21.2)
I have gained greater appreciation of the importance of a team approach.	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.0)	5 (15.2)	12 (36.3)	14 (42.4)
I feel able to act as a fully collaborative member of the team.	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (9.1)	7 (21.2)	12 (36.3)	10 (30.3)
I feel comfortable initiating discussions about sharing responsibility for client care.	1 (3.0)	0 (0.0)	1 (3.0)	1 (3.0)	5 (15.2)	4 (12.1)	10 (27.3)	11 (33.3)
I am comfortable in sharing decision making with other professionals on a team.	1 (3.0)	0 (0.0)	0 (0.0)	1 (3.0)	4 (12.1)	6 (18.2)	13 (39.4)	8 (24.2)
I have gained more realistic expectations of other professionals on a team.	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (6.1)	6 (18.2)	10 (30.3)	14 (42.4)
I have gained an appreciation for the benefits in interprofessional teamwork.	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (3.0)	6 (18.2)	9 (27.2)	16 (48.5)

Table 5

Results Comparing ISVS-21 Mean Scores and Type of Exposure to Interprofessional Activities Prior to the ELIV Clinical Rotation

Prior exposure to interprofessional activities through...	Yes			No			<i>t</i> (31)	<i>p</i>	Cohen's <i>d</i>
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>			
Work experiences or career paths	21	5.66	0.77	12	5.20	1.36	1.23	.226	0.45
Nursing program	16	5.79	0.68	17	5.21	1.22	1.69	.10	0.59

Note. *N* = 33. ISVS-21 = Interprofessional Socialization and Valuing Scale-21; ELIV = Experiential Learning IV. Group statistics for each variable (e.g., prior exposure to interprofessional activities through work experiences/career paths or the nursing program) are shown for those who answered “yes” and who answered “no” to each question, as well as the results of *t*-tests (assuming equal variance) comparing ISVS-21 mean scores between the defined groups.

Table 6*Descriptive Statistics of ISVS-21 Mean Scores and Participation in Interdisciplinary Rounds*

	Participation in interdisciplinary rounds in the ICU setting during ELIV clinical rotation	<i>n</i>	<i>M</i>	<i>SD</i>
ISVS-21 mean score	Yes	31	5.61	0.83
	No	2	3.67	2.42

Note. *N* = 33. ISVS-21 = Interprofessional Socialization and Valuing Scale-21; ELIV = Experiential Learning IV.

Table 7

Spearman's Correlation between Participation in Interdisciplinary Rounds Frequency and ISVS-21 Mean Scores

	Frequency in participation		
	<i>N</i>	<i>r_s</i>	<i>p</i>
ISVS-21 mean score	33	.230	.198

Note. ISVS-21 = Interprofessional Socialization and Valuing Scale-21.

Appendix A**31-Question Qualtrics Survey Completed by Participants after Final ELIV Clinical Shift**

1. Are you over the age 18?
 - A. Yes
 - B. No

2. What is your age? _____

3. What gender do you identify as?
 - A. Male
 - B. Female
 - C. Prefer not to answer
 - D. Other: _____

4. Have you participated in interprofessional collaboration through previous work experiences or career paths?
 - A. Yes
 - B. No
 - C. If yes, please explain _____

5. Have you participated in interprofessional activities (e.g., simulations, workshops, or programs involving disciplines other than nursing such as OT, PT, social work, pharmacy) **prior to the ELIV clinical rotation** through Belmont's Undergraduate Nursing Program?
 - A. Yes
 - B. No
 - C. If yes, please explain _____

6. Have you participated in interdisciplinary rounds in clinical sites **prior to the ELIV clinical rotation**?
 - A. Yes
 - B. No
 - C. If yes, please explain _____

7. Have you completed all shifts in an intensive care unit (ICU) setting for the Experiential Learning IV (ELIV) Clinical Course for the fall semester of the 2021-2022 academic year?
 - E. Yes
 - F. No

8. Were you able to participate in interdisciplinary rounds in an ICU setting during your ELIV clinical rotation?
- A. Yes
 - B. No
 - C. If no, please give examples of barriers as to why you were unable to participate in interdisciplinary rounds in an ICU setting
-
9. Approximately how many times were you able to participate in interdisciplinary rounds in an ICU setting during your ELIV clinical rotation?
- A. None
 - B. 1-5 times
 - C. 6-10 times
 - D. Greater than 10 times

At this point in time, based on my participation in interprofessional education activities and/or clinical practice...

	N/A	Not at all	To a very small extent	To a small extent	To a moderate extent	To a fairly great extent	To a great extent	To a very great extent
I am comfortable engaging in shared decision making with clients.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable in accepting responsibility delegated to me within a team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have gained a better understanding of the client's involvement in decision making around their care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable clarifying misconceptions with other members of the team about the role of someone in my profession.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have gained greater appreciation of the importance of a team approach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	N/A	Not at all	To a very small extent	To a small extent	To a moderate extent	To a fairly great extent	To a great extent	To a very great extent
I feel able to act as a fully collaborative member of the team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable initiating discussions about sharing responsibility for client care.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am comfortable in sharing decision making with other professionals on a team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have gained more realistic expectations of other professionals on a team.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have gained an appreciation for the benefits in interprofessional team work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Did the participation in interdisciplinary rounds change how you see your role in collaborative practice? If so, how did it change?

End of Survey Message:

We thank you for your time spent on taking this survey. Your response has been recorded.

If you would like to be entered in the drawing for a chance to win a \$50 Visa gift card for participation in this research, please follow the link below to enter your contact information. All responses will be kept confidential. No identifiable information will be associated with your responses on any reports of the data. If you win one of the \$50 Visa gift cards, the principal investigator will contact you to make arrangements to collect your prize.

Appendix B

Implied Consent Form

BELMONT UNIVERSITY RESEARCH PROJECT INFORMATION SHEET

EXAMINING INTERPROFESSIONAL SOCIALIZATION OF PRE-LICENSURE NURSING STUDENTS AFTER PARTICIPATING IN INTERDISCIPLINARY ROUNDS IN AN INTENSIVE CARE UNIT

Principal Investigator: Ashlyn Upshaw, Doctor of Nursing Practice Program at Belmont University

Faculty Advisor: Kathryn Dambrino, Assistant Professor, Belmont University School of Nursing

You are invited to participate in a research study about interprofessional education and interprofessional clinical rotations. If you agree to be part of this project, you will be asked to complete a 31-question survey **after completing all ELIV clinical shifts**, where there was an opportunity to participate in interdisciplinary rounds in an ICU setting. The survey should take **less than 10 minutes to complete**.

The purpose of this scholarly project is to examine beliefs and attitudes towards interprofessional socialization and collaboration among pre-licensure nursing students participating in interdisciplinary rounds in an ICU setting during a global pandemic. By assessing these correlations, nursing students, educators, and leaders will be able to recognize if this specific educational experience impacts pre-licensure nurses' interprofessional socialization and readiness to function in interprofessional teams. The development and utilization of such skills are necessary for registered nurses in all healthcare settings to improve patient outcomes and provide holistic care. An additional benefit is having the chance to win the monetary incentive.

By completing the survey, you will have the option to submit your contact information to be entered in a drawing for a chance to win a \$50 Visa gift card. Two participants will be randomly selected to win. There will be an additional Qualtrics link that will be included at the end of the survey to allow participants to remain anonymous and ensure no identifiable information is linked to any responses.

This study presents no risk to participants because the principal investigator is not adding any intervention rather students are engaging in the standard educational activity that is required as part of their course. Participation in the survey is voluntary and will not affect participants' grades or enrollment in the course. The questions do not pose any risks to emotional or mental health. It is your choice whether or not to participate in this study. Even if you decide to participate now, you may change your mind and stop at any time.

No identifiable information will be collected. All responses will be uploaded to Qualtrics, which will be password protected. The responses will then be saved on a password-protected computer in an encrypted file. Only the principal investigator will have the password and access to the data

stored. Information collected may be shared with other researchers involved in this project.

If you have questions about this research study, please contact Ashlyn Upshaw at ashlyn.upshaw@pop.belmont.edu or Kathryn Dambrino at kathryn.dambrino@belmont.edu

