

Research Article

Examining Students' Attitudes and Readiness for Interprofessional Education and Practice

Joan M. Groessl ¹ and Christine L. Vandenhouten²

¹*Social Work Professional Programs, University of Wisconsin-Green Bay, Green Bay, WI 54311, USA*

²*Department of Nursing, University of Wisconsin-Green Bay, Green Bay, WI 54311, USA*

Correspondence should be addressed to Joan M. Groessl; groesslj@uwgb.edu

Received 21 August 2018; Revised 4 December 2018; Accepted 6 December 2018; Published 2 January 2019

Academic Editor: Gwo-Jen Hwang

Copyright © 2019 Joan M. Groessl and Christine L. Vandenhouten. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

This study examined RN-to-BSN and Master of Social Work students' attitudes and readiness for interprofessional (IP) practice and educational experiences. The Attitudes toward Health Care Teams Scale (ATHCTS) developed by Heinemann et al. measures attitudes toward health care teams including the quality of care/process and physician centrality. Students' readiness for IP education was measured by the Readiness for Interprofessional Learning Scale (RIPLS) developed by Parsell and Bligh. Discussion of an interprofessional activity including student reactions is provided. Statistically significant differences were found in the mean scores for the Patient-Centeredness subscale of the RIPLS and in overall ATHCTS scores as well as the Physician Centrality subscale scores. Overall, participants demonstrated readiness and benefits of IP education.

1. Introduction

The health care environment is at a crossroads, and interprofessional (IP) education leading to a more integrated, seamless approach to care is critical. The National Academy of Medicine (formerly the Institute of Medicine (IOM)) Committee on Quality of Health Care in America [1] recognized that health care professionals working in IP teams allowed for improved communication and collaboration with the potential to improve patient outcomes (p. 1) [2]. Hays [3] outlined the most widely accepted definition of IP education as “when two or more professions learn with, from, and about each other to improve collaboration and the quality of care” (p. 339). An IP approach to care ensures that patient care is approached from multiple perspectives and the opportunity to share expertise for the common goal of maintaining or restoring health; however, providing effective IP educational opportunities is not without challenges.

All members of the health care team, including physicians, nurses, pharmacists, and social workers, are not typically educated together, yet they are increasingly required to cooperate and collaborate more closely in the

delivery of care. Successful IP education can be achieved only through committed partnerships across professions. Professional nurses and social workers with graduate degrees can contribute to the knowledge base to effectively provide up-to-date, safe patient care, participate in health care decisions, and provide the leadership needed to become full partners in health care redesign efforts [1].

Faculty plays a key role to facilitate IP education on both an organizational and individual levels. Innovative teaching/learning strategies that prepare health professions students to understand roles of each other and the importance of teamwork that promotes effective communication and collaboration is needed [4]. In order to plan and implement effective IP education strategies, faculty must consider students' readiness and attitudes toward IP education. The purpose of this study was to determine RN-to-BSN and Master of Social Work (MSW) students' attitudes and readiness for IP practice and educational experiences. The *Attitudes toward Health Care Teams Scale* (ATHCTS) developed by Heinemann et al. [5] measured attitudes toward health care teams, including the quality of care/process and physician centrality. Students' readiness for IP education

was measured through the *Readiness for Interprofessional Learning Scale* (RIPLS) developed by Parsell and Bligh [6].

2. Background

2.1. Value of Interprofessional Learning. Interprofessional learning experiences (IPE) are based on constructivist learning theory that postulates that meaning is developed through the dialogue process. IPE provides a foundation to link to real-world experience [7], increases confidence in one's own professional identity, and helps participants to better understand professional roles between disciplines [8]. Relationships are more fluid within integrated learning settings, and students must address practice issues such as blurring of boundaries, identity within the team, and conflicts over differences [9]. The relationship between poor communication of health professionals and poor patient outcomes outlines a need for IPE [10]. Collaborative team ethics must be developed with recognition of the identities and stereotypes of each profession [11].

Blue and Zoller [12] noted that involvement in co-curricular activities has value beyond the classroom. Interprofessional communication forces students to check and refine their own understanding of professional topics without using the profession's terminology. This ability to explain concepts assists in later communications to recipients of health care services. Outcomes are highlighted not only through the professional roles and skills attained in the experience but also through confidence in those dimensions [13].

Curran et al. [14] examined the attitudes of faculty toward IP teamwork and communication and found differences by gender, with female instructors scoring higher than male instructors in both nursing and medicine, regardless of previous IP experience. Hays [3] highlighted the importance of faculty commitment and belief in IP practice as a requirement for effective IPE.

2.2. Examining Attitudes and Readiness for Interprofessional Learning. Readiness to learn in health care teams has been supported in a range of studies but often with differing results. In a longitudinal study of preregistration health and social care students in Scotland, McFayden et al. [15] found that attitudes toward interprofessional learning were initially positive and then experienced an early reduction in attitude scores as related to the "reality check" of expectations. The authors also found that the scores then increased steadily over time. In another study by Lie et al. [16], female physician assistant students tended to have improved attitudes toward IPE with increasing years in training; this finding was not consistent across medical and pharmacy students.

Barnes et al. [10] found a positive statistically significant correlation between stereotypes, professional identity, and readiness for IP learning in undergraduate health care students. Students with previous exposure to health care systems more often recognized the value of working with other disciplines [17]. Ahmad et al. [18] found readiness to learn in health care settings among medical, nursing,

pharmacy, and dentistry students. The medical students were more ready to learn in IP practice than those in other professions. Concerning age, Hertweck et al. [17] found that older students had more negative attitudes toward IP collaboration; these authors posited that students with health care experiences were more self-reliant with less interest in collaboration.

The strongest influence on student attitudes toward IPE appears to be their professional program [19]. Profession-specific worldviews can prove to be barriers to IP teamwork [20]. The perceptions surrounding the need to establish collaborative relationships and with whom to collaborate can determine effective IP strategies. Medical students saw the need to collaborate with nurses but not with social workers [19]. Overall, their study found that nursing and social work students to have more positive attitudes toward interprofessional collaboration than did medical students. Wilhelmsson et al. [21] found that regardless of their program of study, female health programs students were more positive toward IPE.

2.3. Assessing Interprofessional Learning. The RIPLS instrument, originally developed by Parsell and Bligh [6], was designed to assess student's readiness for shared learning. Principle component analysis resulted in a three-factor scale of teamwork and collaboration, professional identity, and roles and responsibilities, containing 19 items [6]. A pilot study conducted with undergraduate students representing eight health care professions demonstrated adequate internal consistency ($\alpha=0.90$). Reid et al. [22] further validated a modified version of the RIPLS for use with practicing participants from four different health care professional groups (physicians, nurses, pharmacist, and allied health professionals). The modified RIPLS contained 23 items, used the term "health care professional" in place of "student," and changed the verb tense as appropriate [22]. Results demonstrated that the modified RIPLS was valid and reliable (internal consistency = 0.76), and principal factor analysis resulted in three factors: teamwork and collaboration ($\alpha=0.88$), patient centeredness ($\alpha=0.86$), and sense of professional identity ($\alpha=0.69$) [22]. Others [14, 15] found modified versions of the RIPLS instrument to be valid and reliable for use with health professions students. This study of RN-to-BSN students and MSW students employed the modified version of the RIPLS [22] because it was found to be reliable for use with practicing health care professionals.

The importance of teamwork and collaboration among health care professionals cannot be underscored. Although the RIPLS instrument measures students' readiness for IP learning experiences, determining the individual's attitudes toward working in collaborative practice settings is important as attitudes influence behaviors [5]. The Attitudes toward Working in Health Care Teams (ATHCTS) scale contains two subscales: Quality of Care/Process and Physician Centrality to measure "team member's perspectives on the quality of care delivered by health care teams and the quality of teamwork to accomplish this" (p. 123) [5]. The 14-item Quality of Care/Process subscale was found to be the

TABLE 1: Mean scores and reliability of scales and subscales.

Scale/subscale (possible range of scores)	Mean (SD) (95% CI)	Cronbach's alpha
Attitudes toward health care teams scale (19–95)	66.35 (5.27) (65.47–67.52)	0.76
Quality of care processes (14–70)	52.75 (4.57) (51.94–53.56)	0.855
Physician centrality (5–25)	13.60 (2.91) (13.08–14.11)	0.588
Readiness for interprofessional learning scale (23–115)	90.98 (6.12) (89.97–92.24)	0.752
Teamwork and collaboration (13–65)	55.12 (5.69) (54.46–56.49)	0.898
Patient centeredness (5–25)	23.91 (1.57) (23.66–24.24)	0.811
Sense of professional identity (5–25)	11.71 (2.55) (11.23–12.18)	0.447

Note. CI = confidence interval.

more robust of the two subscales ($\alpha = 0.83$); however, the Physician Centrality subscale (6 items) was found to better distinguish between various professionals' perceptions of health care teams ($\alpha = 0.75$) [5]. The authors felt that the ATHCTS would be a good pre- and posttest measure or to measure changes in attitudes toward health care teamwork over time.

Some have argued that IPE should be conceptualized as a process, rather than an intervention. Use of problem-based group learning strategies where students discuss clinical problems together has been described as the ideal environment for IPE [23]. All professional groups need to be aware of the pitfalls, preconceived notions, and value of working in interprofessional teams [24]. Leipzig et al. further found that inclusion of content related to group dynamics as training content was the most useful strategy for preparing students for IP teamwork. Finally, Olson and Bialocerkowski [25] noted that, "The results indicate that IPE works, but our understanding of what works for whom in what circumstances is limited" (p. 242).

2.4. History of Collaboration between UWGB MSW and RN-to-BSN Programs. The University of Wisconsin-Green Bay (UWGB) mission directs efforts to engage students in interdisciplinary, problem-focused educational experiences designed to address complex issues in a multicultural and evolving world [26]. Historically, faculty from social work and nursing collaborated to design online, interprofessional learning opportunities for students. The exercises were designed to engage students in interdisciplinary dialogue about contemporary ethical issues such as reporting an impaired professional, families wishing to withhold information from select family members, and genetic and/or surgical interventions designed to alter the state of a minor. These scenarios provided an opportunity to discuss students' assumptions and more importantly, differing professional/disciplinary perspectives and worldviews.

2.5. Methodology/Research Design. The study employed a descriptive, cross-sectional design to determine the attitudes and readiness for IP practice and educational experiences among RN-to-BSN and Master of Social Work students attending one Midwestern university. Participants included undergraduate nursing students with extensive professional practice experience and graduate social work students with

varying professional practice experience. Participants completed a 51-item survey containing questions from the Readiness for Interprofessional Learning Scale (RIPLS) [22] and the Attitudes toward Working in Health Care Teams Scale (ATHCTS) [5] along with demographic items (past experience in health care setting, primary practice setting, and role). The survey was distributed via e-mail using Qualtrics®, an online survey software application. Reliability of the instrument was established using Cronbach's alpha (Table 1). In addition, qualitative analysis of student responses to an interprofessional exercise is provided to test student readiness for interprofessional education.

2.6. Data Collection. A convenience sample of RN-to-BSN and Master of Science in Social Work (MSW) students at a Midwestern United States public university was used. Ethics approval was received from the Institutional Review Board of the University of Wisconsin-Green Bay, and then, students were sent an electronic invitation to participate in the study. The invitation contained a link to the consent form and anonymous online survey. Students agreeing to participate were taken to the survey. A series of e-invitations were sent over an 8-week period. As an incentive, students were offered the opportunity to enter a drawing for a \$25 gift card. Following completion of the survey, students were redirected to a separate online site where they could enter their contact information if they wanted to be in the drawing.

3. Results

3.1. Subjects. Of a possible 792 RN-to-BSN students ($N = 102$; 13% response rate) and 95 MSW students ($N = 34$; 36% response rate), 137 (15%) completed the survey. A majority (88%) of students indicated that they had worked in a health care setting with approximately half (49%) working in a hospital, whereas the remainder worked in long-term care (13%), ambulatory care settings (10%), or other community-based (e.g., public health, home health, occupational, correctional) settings (28%). Half of the students worked in a health care setting between zero and 5 years followed by 6 to 10 years (22%) and an additional 1 of 10 worked in a health care setting for more than 20 years (12%). More than half of students (67%) worked full time, whereas 26% worked part time, and only 7% were not employed at the time of the survey. When asked about their role in the

health care setting, approximately 7 of 10 (67%) identified themselves as a direct care provider (e.g., certified nursing assistant, personal care worker, autism therapist, or staff nurse) with an additional 18% serving as a manager (e.g., team leader, charge nurse). The largest group of students were between 25 and 34 years of age (43%) followed by 35 to 44 years (26%) and 45 to 54 years (20%). Less than 1 in 10 students were between the age of 18 to 24 years (6%). The majority of students were white, non-Hispanic (91%), and female (94%).

3.2. Data Analysis: Comparison of Means. Differences between RN-to-BSN and MSW students' readiness of IPE were analyzed using the total RIPLS score as well as for each of the subscale scores. An independent samples *t*-test analysis demonstrated no statistically significant differences in the mean scores with either the total RIPLS scores or any of the subscales between the two groups indicating that both the groups are equally ready for interprofessional learning.

Using an independent samples *t*-test analysis of the ATHCTS, a statistically significant difference was found in the overall score ($p = 0.006$). Nursing students had a higher score than social work students. In addition, there was a statistically significant difference between nurses and MSW students on the Physician Centrality subscale ($p = 0.007$). These results suggest that social work students believe that the physician is the primary decision maker in teams; nursing students (with lower scores) see leadership responsibilities as shared among team members [5]. There was no statistically significant difference between the two groups in the Quality of Care Process subscale. Table 2 outlines the scores for RIPLS and ATHCTS by discipline.

Demographic differences were analyzed using the independent samples *t*-tests. There was no statistically significant difference by age. In addition, years in practice did not significantly influence the overall scores on the RIPLS or ATHCTS.

4. Discussion

4.1. RIPLS and ATHCTS. The connection of teaching and shared learning in developing higher levels of readiness and acceptance of IPE and practice can be reinforced in health professions curriculums. Examination of barriers to IPE can be utilized to further enhance IPE. Addressing barriers such as different perceptions of teamwork, skill levels, and power within teams [27] within professional courses of study and lack of instructor support for the concept within the institutional structure [14] can further the ability of graduating professionals to provide more effective team-based care.

The Reid et al. [22] study demonstrated a highly significant difference among professions; however, this study did not support those findings because there was no statistically significant difference in the overall RIPLS scores and subscales. McFayden et al. [28] noted that the lack of experience could influence the results of subscales and as a likely cause for differences in results across studies. Given the limited postgraduate studies in this area [22], this study

expands on the knowledge base for postgraduate-level practitioners as well as the inclusion of social work students to the sample population.

When assessing attitudes using the ATHCTS, female subjects with prior health care experience had more positive attitudes toward IP practice [7]. Although gender was not analyzed in this study due to the high percentage of female students, the results correlated with years in experience did support Curran et al.'s findings. Additionally, social work scores were slightly lower than those of the nursing students, consistent with this study. Heinemann et al. [5] found no difference between the scores of these two groups.

Changing work climates and expectations for the two professional groups over recent years may impact the overall attitudes as evidenced in the ATHCTS results. It may be that there is a cohort effect that could be connected to systems' changes. Attitudes toward IP practice can be impacted by the increasing emphasis on collaboration for younger cohorts, as well as extended practice experience in settings with significant IP communication that highlights the value in those who have been in practice the longest. Heinemann et al. [5] indicated that both the overall scale score and the Quality of Care/Process scores could increase over time, and Physician Centrality scores decrease as educational programs teach the "value of shared participation and leadership among all team members" (p. 140). The results of this study highlight the team approach to care inherent in nursing and social work. Differences in the physician centrality score between the two groups may be due to extensive professional health care experience of the nursing students in comparison to those in social work. The extensive health care experience of some of the participants correlates to Olson and Bialocerkowski's [25] conclusion that those with greater levels of experience score more positively on attitudes toward IP teamwork. A longitudinal follow-up study examining attitudes could provide further insight into the role that professional experiences play in developing attitudes toward IP teamwork.

Health care settings could be interpreted as outside that of the physical health setting to include behavioral health. These settings might influence attitudes toward IP practice differently. The social work students identified a range of practice areas as health services that may not be typically identified when discussing health professions settings. Expanding to include other areas of professional practice where medical professionals interface will answer questions relative to practice experiences and their impact on IP attitudes.

RN-to-BSN students in many instances bring a wealth of health care experiences to the classroom; this could influence their attitudes toward interprofessional education [17]. Differences in early professional training of the participants were not assessed but could influence perceptions. Ability to analyze more deeply by health care experience was limited by scaling years in practice (there was no separation between no experience and up to 5 years) and apparent differences in interpretation of the definition of health care setting between nurses and social work students in this study. These three factors could influence attitudes because previous

TABLE 2: RIPLS and ATHCTS scores by discipline.

	P scores	Mean (SD) [95% CI]	
		RN-BSN	SW
RIPLS			
Teamwork and collaboration	0.200	4.24 (0.45) [4.14–4.34]	4.33(0.37) [4.20–4.46]
Patient centeredness	0.459	4.81 (0.29) [4.75–4.87]	4.73 (0.36) [4.59–4.86]
Sense of professional identity	0.712	2.35 (0.54) [2.23–2.46]	2.31 (0.40) [2.17–2.46]
Total RIPLS	0.574	90.80 (6.12) [89.59–92.30]	91.82 (6.18) [89.25–93.92]
ATHCTS			
Quality of care processes	0.263	3.79 (0.33) [3.72–3.86]	3.72 (0.30) [3.60–3.82]
Physician centrality*	0.005	2.82 (0.59) [2.69–2.95]	2.48 (0.53) [2.31–2.67]
Total ATHCTS*	0.006	67.01 (5.50) [65.93–68.29]	64.42 (4.0) [62.92–65.89]

Note. CI = confidence interval; * statistically significant difference.

experience has been seen to play a role in attitudes toward IP practice [17].

Significant research with the RIPLS exists; however, lack of consistency of questions utilized and adaptation of the scale makes it difficult to generalize the findings broadly. In addition, use of different student population groups in other studies makes comparisons to this study challenging. Often, these studies included undergraduate students and did not include social work students as a member of the health care team. Because this study was completed with postgraduate students, results differ.

Use of an electronic survey invitation also limits responses [29]. The low return rate could be impacted by this modality of dissemination and the nature of the sample; students are working, pursuing further education, and likely experiencing family demands. In the sample, however, social work student responses were proportionate to the nursing students, and there was adequate sample size of both groups to allow analysis.

Further research could examine if there are differences in the mode of instruction and readiness for IPE. In this study, the RN-to-BSN students were enrolled in a fully online program, whereas the MSW student courses were primarily face to face. Although communication across disciplines has been demonstrated to be positively affected by IPE, the specific strategies for such communication have not been studied.

4.2. Application of Student Readiness to IP Exercises. In an effort to insure relevant, contemporary learning approaches, faculty embarked on an interprofessional activity based on a contemporary film, *My Sister's Keeper*®. This film was chosen because of its focus on ethical dilemmas associated with evolving genetic innovations. Health care professionals, including nurses and social workers, often deal with the ethical fallout that comes with these advances. The associated assignment requires students to examine personal/professional values and the utility of their respective professional codes of ethics.

A pedagogical consideration when designing this interprofessional activity was the challenge of bringing these two distinct groups of students together in a virtual classroom. In order to engage these two distinct groups of health

professions students in discussion, faculty created a separate online course specific to this assignment. This served to reduce the barrier of geography and varying class and personal schedules of students.

When asked to evaluate the perspectives shared by all members of the discussion, it was noted that both focused on what was best for the patient, but there were differences in reasoning. One social work student noted, “it was eye-opening to see and read the different viewpoints and rationales. No matter what the viewpoint may be, both professions had the patient’s safety and best interest at heart.”

Communication and teamwork was repeatedly highlighted as crucial. Students commented that, “we are both experts in two very different fields that often collaborate . . . all viewpoints are valuable to the interprofessional team. Another student indicated that the exercise helped her to “think outside the box.” Reading the other profession’s viewpoints allowed students to think a lot deeper about the situation and risks involved. Another student observed, “Doing this exercise just reminds me how important both communication and interprofessional teams really are.” Still another remarked that the exercise, demonstrated that “having perspectives from multiple viewpoints can help come up with a very well-rounded comprehensive solution to a problem.” Finally, “it is apparent that many aspects, as both parts of the team being in the helping professionals, have similar interests in mind and we can utilize each other in the areas that we may lack knowledge.”

5. Conclusions

This study shows a readiness for interprofessional learning within the RN-to-BSN and Master of Social Work Students. Because efficient and effective services within the health care system require cross-disciplinary communication and collaboration [1], attention to the readiness of students and practitioners to adapt to this model of practice is a key consideration in professional education. Careful consideration of readiness can help to best create pedagogical experiences that can foster interactions that improve the likelihood of positive patient outcomes. Educational initiatives can foster professional identities that are enhanced within collaborative relationships with other disciplines.

Professional education in health care has moved toward increasing opportunities to interact with students from other disciplines in engaging, interactive ways. Interprofessional exercises engage students in discussion of the implications of contemporary problem-based learning opportunities. Students noted their practice experiences along with IP exercises foster better understanding of other disciplinary perspectives.

Data Availability

The survey data used to support the findings of this study are available from the corresponding author upon request.

Disclosure

Authors were employed by the University of Wisconsin-Green Bay while research was conducted.

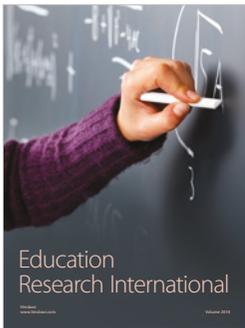
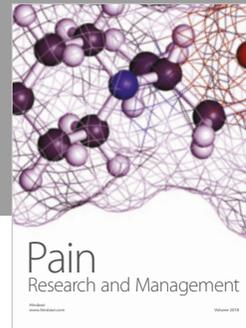
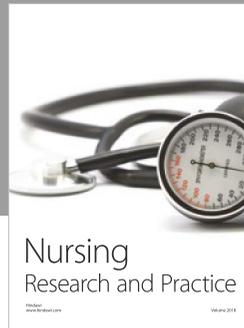
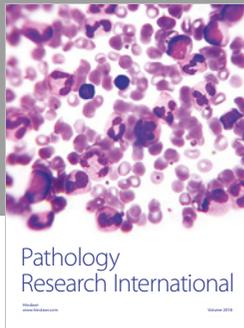
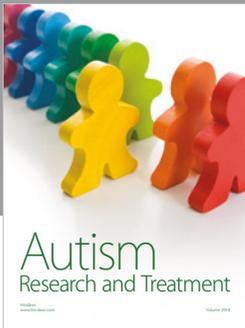
Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

References

- [1] Institute of Medicine Committee on Quality of Health Care in America, *Crossing the Quality Chasm: A New Health System for the 21st Century*, National Academy Press, Washington DC, USA, 2001.
- [2] C. L. Vandenhousten and J. Groessl, "My Sister's Keeper: an innovative interprofessional ethics teaching and learning strategy for nursing and social work students," *Health & Interprofessional Practice*, vol. 2, no. 2, p. eP1055, 2014.
- [3] R. Hays, "Points to ponder: interprofessional education," *Clinical Teacher*, vol. 10, no. 5, pp. 338–341, 2013.
- [4] J. H. Barnsteiner, J. M. Disch, L. Hall, D. Mayer, and S. M. Moore, "Promoting interprofessional education," *Nursing Outlook*, vol. 55, no. 3, pp. 144–150, 2007.
- [5] G. D. Heinemann, M. H. Schmitt, M. P. Farrell, and S. A. Brallier, "Development of an attitudes toward health care teams scale," *Evaluation & the Health Professions*, vol. 22, no. 1, pp. 123–142, 2016.
- [6] G. Parsell and J. Bligh, "The development of a questionnaire to assess the readiness of health care students for interprofessional learning (RIPLS)," *Medical Education*, vol. 33, no. 2, pp. 95–100, 1999.
- [7] V. R. Curran, D. Sharpe, K. Flynn, and P. Button, "A longitudinal study of the effect of an interprofessional education curriculum on student satisfaction and attitudes towards interprofessional teamwork and education," *Journal of Interprofessional Care*, vol. 24, no. 1, pp. 41–52, 2009.
- [8] D. A. F. N. Lim and R. Noble-Jones, "Interprofessional education (IPE) in clinical practice for pre-registration nursing students: a structured literature review," *Nurse Education Today*, vol. 68, pp. 218–225, 2018.
- [9] A. J. Dutton and A. R. C. Worsley, "Doves and hawks: practice educators' attitudes towards interprofessional learning," *Learning in Health and Social Care*, vol. 8, no. 3, pp. 145–153, 2009.
- [10] D. Barnes, J. Carpenter, and C. Dickinson, "Interprofessional education for community mental health: attitudes to community care and professional stereotypes," *Social Work Education*, vol. 19, no. 6, pp. 565–583, 2000.
- [11] A.-M. Reid, S. A. Fielden, J. Holt, J. MacLean, and N. D. Quinton, "Learning from interprofessional education: a cautionary tale," *Nurse Education Today*, vol. 69, pp. 128–133, 2018.
- [12] A. V. Blue and J. S. Zoller, "Promoting interprofessional collaboration through the co-curricular environment," *Health and Interprofessional Practice*, vol. 1, no. 2, p. eP1015, 2012.
- [13] S. K. Baxter, "Perspectives and practice: speech and language therapy student views of an interprofessional learning experience," *Learning in Health and Social Care*, vol. 3, no. 2, pp. 102–110, 2004.
- [14] V. R. Curran, D. Sharpe, and J. Forristall, "Attitudes of health sciences faculty members towards interprofessional teamwork and education," *Medical Education*, vol. 41, pp. 892–896, 2007.
- [15] A. K. McFayden, V. S. Webster, W. M. Maclaren, and M. A. O'Neill, "Interprofessional attitudes and perceptions: results from a longitudinal controlled trial of pre-registration health and social care students in Scotland," *Journal of Interprofessional Care*, vol. 24, no. 5, pp. 549–564, 2010.
- [16] D. Lie, C. Fung, J. Trial, and K. Lohenry, "A comparison of two scales of assessing health professional students' attitudes toward interprofessional learning," *Medical Education Online*, vol. 18, no. 1, p. 21895, 2013.
- [17] M. L. Hertweck, S. R. Hawkins, M. L. Bednarek, A. J. Goreczny, J. L. Schreiber, and S. E. Sterrett, "Attitudes toward interprofessional education: comparing physician assistant and other health care professions students," *Journal of Physician Assistant Education*, vol. 23, no. 2, pp. 8–15, 2012.
- [18] M. I. Ahmad, S. W.-c. Chan, L. L. Wong, M. L. Tan, and S. Y. Liaw, "Are first-year healthcare undergraduates at an Asian university ready for interprofessional education?," *Journal of Interprofessional Care*, vol. 27, no. 4, pp. 341–343, 2013.
- [19] J. Park, W. Hawkins, M. Hawkins, and E. Hamlin, "Attitudes toward interprofessional collaboration among students in the health care professions," *Advances in Social Work*, vol. 14, no. 2, pp. 556–572, 2013.
- [20] P. Hall, "Interprofessional teamwork: professional cultures as barriers," *Journal of Interprofessional Care*, vol. 19, no. 1, pp. 188–196, 2009.
- [21] M. Wilhelmsson, S. Ponzer, L. Dahlgren, T. Timpka, and T. Faresjo, "Are female students in general and nursing students more ready for teamwork and interprofessional collaboration in healthcare?," *BMC Medical Education*, vol. 11, no. 1, pp. 1–10, 2011.
- [22] R. Reid, D. Bruce, K. Allstaff, and D. McLernon, "Validating the Readiness for Interprofessional Learning Scale (RIPLS) in the postgraduate context: are health care professionals ready for IPL?," *Medical Education*, vol. 40, no. 5, pp. 415–422, 2006.
- [23] S. Tunstall-Pedoe, E. Rink, and S. Hilton, "Student attitudes to undergraduate interprofessional education," *Journal of Interprofessional Care*, vol. 17, no. 2, pp. 161–172, 2009.
- [24] R. M. Leipzig, K. Hyer, K. Ek et al., "Attitudes toward working on interdisciplinary healthcare teams: a comparison by discipline," *Journal of the American Geriatrics Society*, vol. 50, no. 6, pp. 1141–1148, 2002.
- [25] R. Olson and A. Bialocerkowski, "Interprofessional education in allied health: a systematic review," *Medical Education*, vol. 48, no. 3, pp. 236–246, 2014.
- [26] University of Wisconsin-Green Bay, "UW-Green Bay Mission Statement," 2018, <https://www.uwgb.edu/chancellor/mission/>.

- [27] A. Atwal and K. Caldwell, "Nurses' perceptions of multi-disciplinary team work in acute health care," *International Journal of Nursing Practice*, vol. 12, no. 6, pp. 359–365, 2006.
- [28] A. K. McFayden, V. Webster, K. Strachan, E. Figgins, H. Brown, and J. McKechnie, "The Readiness for Interprofessional Learning Scale: a possible more stable subscale for the original version of RIPLS," *Journal of Interprofessional Care*, vol. 19, no. 6, pp. 595–603, 2005.
- [29] K. Manfreda, M. Bosnjak, J. Berzelak, I. Haas, and V. Vehovar, "Web surveys versus other survey modes: a meta-analysis comparing response rates," *International Journal of Market Research*, vol. 50, no. 1, pp. 79–104, 2008.



Hindawi

Submit your manuscripts at
www.hindawi.com

