

Comparing Faculty and Student Attitudes toward Interprofessional Healthcare Teams

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Abstract

INTRODUCTION Many health professions' accrediting agencies require interprofessional training for students, yet impact of faculty attitudes toward interprofessional education (IPE) is unclear. The objectives of this study were to compare faculty and student attitudes toward working in interprofessional healthcare teams before and after taking an interprofessional course (IPC) and to assess and compare attitudes of faculty directly involved with IPE to those who are not.

METHODS The Attitudes toward Healthcare Teams Scale (ATHCTS) was selected to test the objectives. Fulltime faculty at the College of Health Professions (CHP) were invited to complete the ATHCTS assessment. In addition, all first-year health professions students' pre- and post-IPC assessment scores were collected during the mandatory introductory IPC.

RESULTS Responses were collected from 428 students and 68 faculty members for response rates of 97% and 47% respectively. Students' reported more positive attitudes after the IPC class ended ($M = 4.19$) compared to before the class began ($M = 3.95$) $p < .001$. Findings also showed that students reported slightly more positive attitudes towards interprofessional teams compared to faculty post IPC ($p = .02$).

CONCLUSION Findings suggest faculty attitudes are positive whether directly involved in IPE or not. Institutions implementing IPE may gain insight for planning and recruitment by assessing the climate among faculty to have the greatest impact on their students.

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Implications for Interprofessional Practice

- Interprofessional education opportunities are being offered in most health professions education programs.
- The results of this study and others support that students and faculty members have favorable attitudes toward working on interprofessional teams.
- Graduates will be interested in practicing utilizing the skills they have developed in their educational programs.

Introduction

Since the 2011 Interprofessional Education Collaborative (IPEC) report was released with the support of six health professions' associations (Education Collaborative Expert Panel, 2011) and the World Health Organization's Framework for Action on Interprofessional Education (World Health Organization, 2010), there has been exponential growth in Interprofessional education initiatives in health professions' programs across the country. As of 2017 the IPEC has grown from six to twenty associations of schools of the health professions (Interprofessional Education Collaborative, 2017). As a result of the growing momentum toward IPE, many health professional accrediting bodies are requiring opportunities for collaboration of students with other professions (Accreditation Council for Pharmacy Education, 2015; Commission on Dental Accreditation, 2015; Accreditation Standards for Physician Assistant Education; Commission on Accreditation in Physical Therapy Education, 2016).

The Interprofessional Competence Course (IPC) at Pacific University Oregon is currently in its ninth year and has been a required element of the curriculum for first-year CHP students since 2009. The course is intended to be an introductory course with the main goal of developing the core competencies set forth by IPEC; Roles & Responsibilities, Teams & Teamwork, Communication and Values, and Ethics (Interprofessional Educational Collaborative, 2016). The course has seen evolution from its inception both in the content of the curriculum and the scheduling of the course. While developing the four core competencies have remained

the paramount goal, IPC was previously taught on five evenings spread out between the Fall and Spring semesters in two large lecture halls. Originally an experiential component of IPC required interprofessional groups of students to complete a community outreach project and reflect on the core competencies in the form of a poster presentation. In the course's current form, the interprofessional student groups work in teams to develop a case discussion which they present to faculty mentors. Instead of being in the evening and spread over two semesters, the course is now delivered during a college sanctioned open two-hour time space on Wednesday's from 12pm-2pm and meets in smaller cohorts of around 40 students with two faculty facilitators during the fall semester for four weeks straight. During this month-long course, the students are assigned to interprofessional teams of 5-8 students and most of their work is based in these small groups. In the early years of the course, students would complete the Readiness for Interprofessional Learning Scale (RIPLS) as a pre and post course assessment. For similar reasons as Mahler et al described (Mahler, Berger, Reeves, 2015), primarily difficulty in to assessing changes or improvements when IPE interventions are made, authors moved away from the RIPLS questionnaire and decided the ATHCTS was a superior measure.

Literature Review

The premise of Interprofessional education, when students of two or more professions learn about, from and with each other (World Health Organization, 2010), assumes that if health students learn together

they will be better prepared for collaboration and teamwork, ultimately leading to improved patient care (Barr, Reeves, Hammick, Freeth, 2005). Successful education of students about interprofessional collaboration requires energetic faculty to spearhead IPE initiatives. With faculty being recruited to facilitate the development and implementation of interprofessional curriculum, many feel ill-prepared to face the challenges of curricular innovation and faculty development becomes essential (Hall & Zierler, 2014; Reeves, Boet, Zierler, & Kitto, 2015). One strategy to develop faculties' ability to teach interprofessionally is to focus on competency driven IPE objectives and to encourage faculty members to utilize these when planning course material. Most are targeting the Interprofessional Educational Collaborative (IPEC) core competencies who released an update in 2016 (Interprofessional Educational Collaborative, Practice, & Values, 2016).

The field of Interprofessional research, formerly referred to as "multidisciplinary or interdisciplinary," is also on the rise with a 2293% growth rate in number of professional publications between 1970 and 2010 (Paradis & Reeves, 2013). While ways to effectively assess IPE have been difficult and suggestions have been made to increase the evaluation of the impact of IPE on patient and community health outcomes (Cahn et al., 2016), attitudes' scales toward interprofessional education continue to be utilized to assess acceptance and effectiveness of IPE with students (Bolesta & Chmil, n.d.; Boyle et al., 2013; Giordano et al., 2013; Giordano, Umland, & KJ, 2012). A review of the literature has confirmed that students' attitudes and perceptions toward Interprofessional collaboration and clinical decision-making can be enhanced through IPE (Lapkin, Levett-Jones, Gilligan, 2013). To this end many attitudes' scales have been developed to assess effectiveness of IPE with students. While the Readiness for Interprofessional Learning Scale, developed in 1999 has been broadly utilized, it has faced recent scrutiny for having weak validity because the nature of the items encourage students to respond in ways that are socially expected or desired (Mahler, Berger, Reeves, 2015; Schmitz, Brandt, 2015). Unfortunately, this same issue may also be present in other interprofessional assessment tools highlighting a need for high quality valid instruments. To aid in the selection, the National Center for Interprofessional Practice and

Education published a guide for researchers in selecting a valid tool, after defining the goal of their project (Schmitz & Cullen, 2015).

It has been suggested that faculty attitudes have an influence on students attitudes and should be taken into account when developing a sound Interprofessional education program (Giordano et al., 2012). One study showed that faculty with more experience with IPE had higher attitude scores compared to faculty without experience with IPE (Curran, Sharpe, & Forristall, 2007). Another study comparing faculty and student attitudes from health professions' programs and medicine found that both faculty and student attitudes toward IPE were high, but most of the data analysis focused on the student comparison of attitudes in health professions versus medicine (Giordano et al., 2012). One area where the research is lacking is in comparing faculty attitudes versus student attitudes and whether direct involvement of faculty in IPE has an impact. The purposes of this study were to:

- Compare student attitudes toward working in interprofessional healthcare teams before and after taking an introductory interprofessional course.
- Assess whether faculty involvement in IPE is related to attitudes toward working in interprofessional healthcare teams.
- Explore whether faculty and student attitudes toward working in interprofessional health teams differ.

Methods

An adapted version of the Attitudes Toward Healthcare Teams Scale (ATHCTS) was selected as the measure for this study (Curran, Heath, Kearney, & Button, 2010) because the question domains aligned well with the goal of the IPC. It was originally developed to meet the need for a general attitudes scale that enabled researchers to compare the attitudes of team members from different professions and to test hypotheses about the interrelationships between such variables as attitudes and participation of team members, team functioning, and results of educational programs designed to improve attitudes and enhance team performance (Heinemann, Schmitt, Farrell, & Brallier, 1999). Questions used a five-point Likert scale with

1 being strongly disagree and 5 being strongly agree (Table 1). In addition, demographic information including program affiliation, age, gender and race, was collected. The survey was a required element for an introductory interprofessional course (IPC) taken by all first-year students at the College of Health Professions (CHP) during their first semester. The survey

was administered the first and last day of class in the fall 2016 semester through the course online learning platform (ex. Blackboard, Moodle, Canvas) to 440 students. Students were instructed to make a unique identifier which was used to link the pre and post survey responses for data analysis.

Patients/clients receiving interprofessional care are more likely than others to be treated as whole persons.
Developing an interprofessional patient/client care plan is excessively time consuming.
The give and take among team members helps them make better patient/client care decisions.
The interprofessional approach makes the delivery of care more efficient.
Developing a patient/client care plan with other team members avoids errors in delivering care.
Working in an interprofessional manner unnecessarily complicates things most of the time.
Working in an interprofessional environment keeps most health professionals enthusiastic and interested in their jobs.
The interprofessional approach improves the quality of care to patients/clients.
In most instances, the time required for interprofessional consultations could be better spent in other ways.
Health professionals working as teams are more responsive than others to the emotional and financial needs of patients/clients.
The interprofessional approach permits health professionals to meet the needs of family caregivers as well as patients.
Having to report observations to a team helps team members better understand the work of other health professionals.
Hospital patients who receive interprofessional team care are better prepared for discharge than other patients.
Team meetings foster communication among team members from different professions or disciplines.

Table 1. *Adapted Attitudes Toward Healthcare Teams Scale*

Information was collected from faculty regarding the same questions students received. In addition, faculty were surveyed regarding their involvement teaching the IPC. The survey was sent to 135 faculty members in the spring of 2017 through the faculty listserv after the IPC was completed. The faculty listserv includes all faculty members at the CHP with fulltime status (≥ 0.625 FTE).

This study was deemed exempt by the Pacific University IRB. The data were analyzed using SPSS (version 24, IBM). Frequency distributions are provided to describe the findings and *t*-tests and bivariate regressions were used to conduct inferential analyses. Before testing our hypotheses, parametric assumptions for the ATHCTS, including normality and homogeneity of variance, were examined. Both of these assumptions were met and therefore hypothesis-testing using parametric tests were conducted.

Results

Participants

The total responses collected were 491 for an overall response rate of 85%. Responses were collected from 63 faculty. The mean age of the sample was 45.41 ($SD = 1.46$); 63.5% identified as female and 36.5% identified as male. The majority of faculty identified as White (89.8%); 3.4% identified as multi-racial; 1.7% identified as Black; 1.7% identified as Native American/Native Alaskan; 1.7% identified as Asian; and 1.7% identified as 'Other'. The faculty respondent distribution based on program affiliation is summarized in Table 2. Half of the faculty reported working in both clinical and classroom settings (50.9%); 45.6% reported working in the classroom only; and 3.5% reported working in a clinical setting only. More than half of the faculty reported that they have never taught in IPC (65.1%). Of the faculty who reported teaching in IPC, the mean number of years teaching reported was .88 ($SD = 1.59$).

Program	n (%)
School of Pharmacy	17 (27%)
School of Graduate Psychology	10 (17%)
School of Physical Therapy & Athletic Training	10 (16%)
School of Occupational Therapy	9 (14%)
School of Dental Hygiene	6 (9%)
School of Physician Assistant	5 (7%)
School of Audiology	5 (7%)
School of Healthcare Administration	1 (1%)

Table 2. Faculty respondent distribution by profession. (n=63)

Responses were collected from 428 students at baseline (i.e., pre-course) and at the end of the course. The mean age of students was 27.45 ($SD = 5.56$). The majority of participants identified as female (76.1%); 23.6% identified as male; and .2% identified as transgender women. The majority of participants identified as White (66.7%); 18.9% identified as Asian; 6.5% identified as multi-racial; 4.1% identified as ‘Other’;

1.4% identified as Black; 1.4% identified as Native Hawaiian/Pacific Islander; .5% identified as Native American/Native Alaskan; and .5% identified as Mestizo. No significant differences in attitudes based on race or gender were found. The student respondent distribution based on program affiliation is summarized in Table 3.

Program	n (%)
School of Pharmacy	98 (23%)
School of Graduate Psychology	56 (13%)
School of Physical Therapy & Athletic Training	51 (11%)
School of Occupational Therapy	40 (9%)
School of Dental Hygiene	26 (6%)
School of Physician Assistant	58 (13%)
School of Audiology	27 (6%)
School of Healthcare Administration	18 (4.2%)

Different programs have different numbers of students in their cohort. % is the based on the total responses and not the % of students participating from their school.

Table 3. Student respondent distribution by profession. (n=428)

Procedure

First, the hypothesis that students’ attitudes towards IPC would improve across the course was examined. To test this, a paired-samples *t*-test was conducted,

finding that students’ reported more positive attitudes after the class ended ($M = 4.19$, $SD = .41$) compared to before the class began ($M = 3.95$, $SD = .37$), $t(152) = -7.61$, $p < .001$, $d = .61$. Pre and post survey scores by program were not significant (Table 4).

Program	Pre-course ATHCTS scores	Post-course ATHCTS scores
School of Pharmacy (n=98)	3.81	4.05
School of Graduate Psychology (n=56)	4.05	4.24
School of Physical Therapy & Athletic Training (n=51)	3.88	4.16
School of Occupational Therapy (n=40)	4.01	4.28
School of Dental Hygiene (n=26)	3.87	4.03
School of Physician Assistant (n=58)	3.97	4.18
School of Audiology (n=27)	3.94	4.26
School of Healthcare Administration (n=18)	3.89	4.10

$p < .001$

Table 4. Student Pre-course and post-course mean scores for the ATHCTS ($n=428$)

Second, the hypothesis that faculty who taught IPC would report more positive attitudes compared to faculty who did not was examined. To test this, an independent-samples Welch t -test (we used Welch's t -test instead of the student t -test because of unequal group sizes) was conducted, finding that faculty attitudes did not differ as a function of IPC teaching experience; faculty who had not taught IPC ($M = 3.92$, $SD = .50$) did not differ from those who did ($M = 4.09$, $SD = .49$), $t(43.29) = 1.22$, $p = .22$, $d = -.34$. In addition, the hypothesis that number of years teaching IPC predicted attitudes for faculty who taught IPC was assessed. To test this, attitudes on number of years teaching was regressed; this test suggested that years of teaching was not predictive of attitudes, $b = -.013$, $SE = .059$, $p = .83$. Finally, whether faculty and students differed in their attitudes towards IPC after the course ended was tested. To assess this, an independent-samples Welch t -test (we used Welch's t -test instead of the student t -test because of unequal group sizes) was tested, finding that students reported slightly more positive attitudes towards IPC ($M = 4.19$, $SD = .41$) compared to faculty ($M = 4.01$, $SD = .50$), $t(88.91) = 2.41$, $p = .02$, $d = .39$.

Discussion

The data from this study provide preliminary support for the positive impact of an introductory Interprofessional course aimed at improving students' attitudes toward working in healthcare teams since student attitudes were significantly higher following the IPC. Results of this study reveal that faculty attitudes across all programs are high and that no differences exist between the programs. Giordano et. al. stated that faculty have an important influence on student attitudes and that

faculty support is essential for the success of interprofessional education initiatives (Giordano et al., 2012). Based on the results of this study, faculty attitudes do not correlate significantly with student attitudes with student attitudes being significantly higher than faculty. Additionally, faculty who provide instruction in the IPC at Pacific University don't appear to have a measurable difference in attitudes compared to faculty who do not which is different than other research stating that faculty experience teaching interprofessional education had an impact on their attitudes towards working in interprofessional teams (Curran, Sharpe, & Forristall, 2007).

It is likely that contributing factors to the universally positive IP attitudes across the faculty in CHP is related to the strong administrative and structural support that exists for IP at Pacific University. Specifically, Pacific has spent the past decade implementing a comprehensive IP program that includes; the IPC, monthly case conferences, IP elective courses, IP clinical experiences, and the ability for students to gain an interprofessional concentration on their transcript. In the early years of IPC, faculty were much more hesitant to embrace IPE and work around the logistical challenges. Over time and with strong top-down support from Pacific University's administration and the CHP Executive Dean, IPE has become a pillar of the CHP and incorporated into the CHP's mission and vision as well as Pacific University's strategic plan. Involvement in IPE for faculty is also not limited to teaching in the IPC. Faculty have an opportunity to teach in one of six interprofessional case conferences that take place each year, deliver an interprofessional elective course that students can choose to take, and participate in one of the interprofessional

clinics that the university supports to name a few. Faculty who responded to this survey may not directly facilitate in the IPC, but may be significantly involved with IPE through many of the other opportunities at the college. In addition to the college wide initiatives for IPE, many programs reach out to develop their own interprofessional collaborations between one or two other programs. Therefore, it is difficult to separate faculty who are involved with IPE and those who are not. This study found that student attitudes toward interprofessional healthcare teams were significantly higher than faculty attitudes after completing an introductory IPC. Literature comparing faculty to student attitudes in the same way that was conducted in this study is limited. This result supports a required introductory course for interprofessional education. By initiating the concept of interprofessional practice early on in the curriculum, students may be better prepared for interprofessional collaboration as they progress through their programs and enter the workforce. Based on the data from this study, students have a good foundation upon which to build more advanced competencies in interprofessional practice.

Study Limitations

Even though this study provided encouraging preliminary results regarding the impact of IPC training on student attitudes towards interprofessional collaboration, our design prevented us from being able to make causal statements about the impact of IPC training. Without a control group of some kind, we cannot be sure that conditions or factors outside of the course to which all of the students were exposed resulted in the improvement in attitudes. Future research should employ the use of randomization or a quasi-experimental design with a control group (e.g., students in a similar college at another university who do not have an interprofessional course) in order to provide stronger evidence for the impact of interprofessional training.

Another limitation of this study was that faculty were given the survey at one point in time. It would have been valuable to assess the change in faculty attitudes over time. In addition, faculty were not asked if they had been involved with any and all forms of IPE, rather only if they taught in the IPC. A question formatted this way may have revealed a significant difference between faculty who are involved with IPE and those who

are not. This study also utilized the adapted version of the ATHCTS validated by Curran et al. and didn't ask any questions directly related to the attitudes of faculty toward the interprofessional program at Pacific University. An analysis of faculty attitudes specifically related to the current IPE program would be internally beneficial for the college as it seeks to stay current and innovative in IPE.

Conclusion

When implementing IPE at an institution, it is important to conduct ongoing outcomes assessment to determine the effectiveness of IP programming. Results of this study show that an introductory interprofessional course is a beneficial way to develop a favorable attitude toward practice in future interprofessional teams. Positive faculty attitudes toward interprofessional education are important in having a successful interprofessional program. Those planning on implementing IPE also gain from assessing the climate among faculty to ensure their program will have the greatest impact on their students.

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