

## Original Article

## A Correlational Study of Allied Health Students' Readiness for Inter-Professional Education and Emotional Intelligence in a Selected Local University

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### Abstract

**Background:** Inter-Professional Education (IPE) is when two or more students from different disciplines come together to learn about, from, and with each other. While emotional Intelligence (EI) was defined as the ability to understand and manage own emotion and to be able to recognize and influence the emotion of others around an individual (Mayer and Salovey, 1990).

**Objective:** The aim of the study is to assess and correlate allied health students' readiness for inter-professional education and their emotional intelligence.

**Methodology:** The study utilized a descriptive-correlational survey method, whereas the study a purposive technique. 369 Allied Health Students participated from a selected local university offering a BSRT, BSP, and BSN program in the NCR, Philippines. The study used an adapted and modified research tool by Parsell and Bligh (1999) and McFadyen et. al. (2002) for the readiness for Inter-Professional learning and Hyde, et al. (2002) for the emotional intelligence.

**Findings:** The findings of the study suggest that inter-professional education (M=3.52) has advantages for allied health students. For their emotional intelligence, allied health students strongly agree on the following, self-development (M=3.40), commitment (M=3.37), integrity (M=3.34), value orientation (M=3.32) and emotional stability (M=3.30). While they agree on self-awareness (M=3.24), empathy (M=3.23), self-motivation (M=3.17), managing relationship (M=3.14) and altruistic behavior (M=3.13). In addition, there was a significant relationship on their readiness for inter-professional education and emotional intelligence ( $r=.566$ ;  $p<.01$ ).

**Conclusions:** IPE and EI can support educators to ensure their students reach their fullest potential, further develop as a part of the healthcare team, improve their trust and respect, learn alongside them, and get a deeper understanding of the roles they play in the team.

**Keywords:** Inter-Professional Education, Emotional Intelligence, Allied Health Students

### Introduction

The healthcare industry is becoming progressively more complex, that requires effective collaboration throughout a variety of experts in order to deliver the most effective treatment for clients. In order to promote this collaboration, interprofessional education (IPE), which fosters collaborative effort, interaction, and shared decision-making, is increasingly more important. Inter-Professional Education (IPE) is the gathering of individuals

who are from different academic disciplines to collaborate on knowledge and learn from each other (WHO, 2010). is also predicated on the premise that students enrolled in healthcare programs achieve the highest quality instruction for health promotion when they obtain the required competencies, know-how, and attitudes from a variety of health science professions in tandem with others. Students actively engage together early training to develop necessary skills to better collaborate with other discipline (Anderson et al., 2019).

The effectiveness of IPE can be further enhanced by incorporating emotional intelligence (EI) as a core component. Emotional Intelligence (EI) can be defined as the ability to understand and manage own emotion and to be able to recognize and influence the emotion of others around an individual (Mayer and Salovey, 1990). It is a capability to identify, manage, and effectively communicate thoughts. It encompasses relational management, social comprehension, self-awareness, and autonomy. People with high emotional intelligence (EI) are effective at managing interpersonal relationships, cultivating trust, and managing disputes—all skills that are crucial to successful interprofessional partnership.

Studies has shown that the integration of EI in IPE programs could contribute to favorable outcomes, which comprises better collaboration, less stress and burnout, and a greater level of communication. The aim of the study is to assess and correlate allied health students' readiness for inter-professional education and their emotional intelligence.

### **Methodology**

**Study Design:** The study utilized a descriptive-correlational survey method, whereas the study a purposive technique to determine the sample size of the study. This can be helpful in determining out just how various components relate to one another and how they might influence a certain outcome.

**Site of the Study:** The study was conducted in a local Higher Education Institutions (HEIs) within National Capital Region (NCR), Philippines, which offers the following courses: BS in Radiologic Technology (BSRT) program, BS in Pharmacy (BSP) program and BS in Nursing (BSN) program.

**Research Instrument:** The study utilized an adapted and modified research tool by Parsell and Bligh (1999) and McFadyen et. al. (2002) for the readiness for Inter-Professional learning and Hyde, et al. (2002) for the emotional intelligence. The tool was pre-tested with reliability test result of .873 and .952 respectively, showing acceptable reliability.

**Data Gathering and Analysis:** The data gathering was conducted during 28<sup>th</sup> of March

2022 until 4<sup>th</sup> of April 2022. Where 369 Allied Health Students participated in the study, most are female (93%) students. The participants are composed of 76 Pharmacy Students, 117 Radiologic Technology Students and 176 Student Nurses from all year levels. The self-administered questionnaire asked about their readiness for Inter-Professional learning and their emotional intelligence. The rating scale utilized in the study 4 (strongly agree), 3 (agree), 2 (disagree) and 1 (strongly disagree). The data was gathered using an online gathering instrument and statistically analyzed using SPSS version 24. The following statistical tests were used: frequency, percentage, mean, standard deviation and Pearson R Correlation with 0.05 level of significance.

**Ethical Consideration:** Prior to implementing the study surveys, the researcher obtains authorization from University/College administrators at the HEIs. The researcher provided a written document stating the nature and objective of the study, then it was explained to the participants (students). The informed consent provided to the respondents covered every detail and fact associated with the study, stating what was expected throughout study and what the respondents' involvement were. The researcher had safeguarded and protected the participant's right to privacy, secrecy, and autonomy; and supplied the ethical principles of beneficence or doing good, where participants were assured that the study was conducted with professionalism and the moral imperative of doing the right thing.

### **Results**

Table 1 shows the readiness for inter-professional education (RIPE) of the allied health students, the composite score (M=3.52) shows that the respondents somehow strongly agree with the statements in the RIPE. In addition, the participants strongly agree with the statements on team-work and collaboration (M=3.69), roles and responsibilities (M=3.51) and professional identity (M=3.42) as allied health students.

Table 2 shows the Emotional Intelligence (EI) of the allied health students, the composite score (M=3.26) shows that the respondents

somehow strongly agree with the EI statements. Additionally, participants strongly agree on the different variables of emotional intelligence, specifically on Emotional Stability (M=3.30), Value Orientation (M=3.32), Integrity (M=3.34), Self-Development (M=3.40), and Commitment (M=3.37). With composite mean of 3.26 and a verbal interpretation of strongly agree.

Table 3 shows the results of the Pearson product correlation of readiness for inter-professional education (Team-work and Collaboration) and

emotional intelligence was found to be low positive and statistically significant ( $r=.452$ ;  $p<.01$ ). Results of the Pearson product correlation of readiness for inter-professional education (Professional Identity) and emotional intelligence was found to be very low positive and statistically significant ( $r=.146$ ;  $p<.01$ ). Results of the Pearson product correlation of readiness for inter-professional education (Role and Responsibility) and emotional intelligence was found to be moderately positive and statistically significant ( $r=.567$ ;  $p<.01$ ).

**Table 1: Readiness for Inter-Professional Education of Allied Health Students**

Variable	SD	M	VI
<b>Team Work and Collaboration</b>			
Learning with other students will help me become a more effective member of a health care team	.570	3.59	Strongly Agree
Patients would ultimately benefit if health care students worked together to solve patient problems	.466	3.73	Strongly Agree
Shared learning with other health care students will increase my ability to understand clinical problems	.537	3.71	Strongly Agree
Learning with health care students before qualification would improve relationships after qualification	.493	3.65	Strongly Agree
Communication skills should be learned with other health care students	.584	3.67	Strongly Agree
Shared learning will help me to think positively about other professionals	.507	3.64	Strongly Agree
For small group learning to work, students need to trust and respect each other	.505	3.78	Strongly Agree
Team-working skills are essential for all health care students to learn	.566	3.75	Strongly Agree
Shared learning will help me to understand my own limitations	.488	3.69	Strongly Agree
<b>Component Mean</b>	<b>.524</b>	<b>3.69</b>	<b>Strongly Agree</b>
<b>Professional Identity</b>			
I do not want to waste my time learning with other health care students	.954	3.20*	Agree
It is not necessary for undergraduate health care students to learn together	.888	3.29*	Strongly Agree

Clinical problem-solving skills can only be learned with students from my own department	.897	3.05*	Agree
Shared learning with other health care students will help me to communicate better with patients and other professionals	.554	3.62	Strongly Agree
I would welcome the opportunity to work on small-group projects with other health care students	.565	3.54	Strongly Agree
Shared learning will help to clarify the nature of patient problems	.493	3.66	Strongly Agree
Shared learning before qualification will help me become a better team worker	.522	3.57	Strongly Agree
<b>Component Mean</b>	<b>.696</b>	<b>3.42</b>	<b>Strongly Agree</b>
<b>Role and Responsibility</b>			
Nurses and other healthcare providers are partners of physicians in achieving a better health outcome for patients	.543	3.73	Strongly Agree
I am well aware of my professional role as a part of the healthcare team	.573	3.60	Strongly Agree
I have to acquire much more knowledge and skills than other health care students	.851	3.13	Agree
<b>Component Mean</b>	<b>.504</b>	<b>3.49</b>	<b>Strongly Agree</b>
<b>Composite Mean</b>	<b>.475</b>	<b>3.52</b>	<b>Strongly Agree</b>

Legend: 3.25 – 4.00 – Strongly Agree; 2.50 – 3.24 – Agree; 1.75 – 2.49 – Disagree; 1.00 – 1.74 – Strongly Disagree; SD – Standard Deviation; M – Mean; VI – Verbal Interpretation

**Table 2: Emotional Intelligence of Allied Health Students**

Variable	SD	M	VI
<b>Self-Awareness</b>			
I can continue to do what I believe in even under severe criticism.	.682	3.05	Agree
I have my priorities clear.	.570	3.30	Strongly Agree
I believe in myself.	.735	3.31	Strongly Agree
I have built rapport and made and maintained personal friendships with other students in the university.	.579	3.31	Strongly Agree
<b>Component Mean</b>	<b>.474</b>	<b>3.24</b>	<b>Agree</b>
<b>Empathy</b>			
I pay attention to the worries and concerns of others.	.702	3.21	Agree

I can listen to someone without the urge to say something.	.708	3.26	Strongly Agree
I try to see the other person's point of View.	.512	3.57	Strongly Agree
I can stay focused under pressure.	.677	3.04	Agree
I am able to handle multiple demands.	.589	3.08	Agree
<b>Component Mean</b>	<b>.439</b>	<b>3.23</b>	<b>Agree</b>
<b>Self-Motivation</b>			
People tell me that I am an inspiration for them.	.665	2.82	Agree
I am able to make intelligent decision using a healthy balance of the emotions and reason.	.548	3.10	Agree
I am able to assess the situation and then behave.	.510	3.28	Strongly Agree
I can concentrate on the task at hand in spite of disturbances.	.680	2.88	Agree
I think feelings should be managed	.511	3.57	Strongly Agree
believe that happiness is an attitude.	.643	3.43	Strongly Agree
<b>Component Mean</b>	<b>.398</b>	<b>3.17</b>	<b>Agree</b>
<b>Emotional Stability</b>			
I do not mix unnecessary emotions with issues at hand.	.643	3.19	Agree
I am able to stay composed in both good and bad situations.	.617	3.21	Agree
I am comfortable and open to novel ideas and new information.	.552	3.47	Strongly Agree
I am persistent in pursuing goals despite obstacles and setbacks.	.552	3.34	Strongly Agree
<b>Component Mean</b>	<b>.431</b>	<b>3.30</b>	<b>Strongly Agree</b>
<b>Managing Relationship</b>			
I do not depend on others' encouragement to do my work well.	.724	3.06	Agree
I am perceived as friendly and outgoing.	.742	3.18	Agree
I can see the brighter side of any situation	.588	3.27	Strongly Agree
I can encourage others to work even when things are not favorable.	.596	3.05	Agree
<b>Component Mean</b>	<b>.421</b>	<b>3.14</b>	<b>Agree</b>
<b>Integrity</b>			
I can stand up for my beliefs.	.554	3.36	Strongly Agree

I pursue goals beyond what is required of me.	.573	3.27	Strongly Agree
I am aware of my weaknesses.	.540	3.41	Strongly Agree
<b>Component Mean</b>	<b>.423</b>	<b>3.34</b>	<b>Strongly Agree</b>
<b>Self-Development</b>			
I am able to identify and separate my emotions	.604	3.22	Agree
I feel that I must develop myself even when my job does not demand it.	.510	3.58	Strongly Agree
<b>Component Mean</b>	<b>.468</b>	<b>3.40</b>	<b>Strongly Agree</b>
<b>Value Orientation</b>			
I am able to maintain the standards of honesty and integrity.	.543	3.43	Strongly Agree
I am able to confront unethical actions in others.	.676	3.22	Agree
<b>Component Mean</b>	<b>.513</b>	<b>3.32</b>	<b>Strongly Agree</b>
<b>Commitment</b>			
I am able to meet commitments and keep promises.	.549	3.36	Strongly Agree
I am organized and careful in my output.	.537	3.40	Strongly Agree
<b>Component Mean</b>	<b>.497</b>	<b>3.37</b>	<b>Strongly Agree</b>
<b>Altruistic Behavior</b>			
I am able to encourage people to take initiative.	.567	3.12	Agree
I can handle conflicts around me	.592	3.13	Agree
<b>Component Mean</b>	<b>.490</b>	<b>3.13</b>	<b>Agree</b>
<b>Composite Mean</b>	<b>.455</b>	<b>3.26</b>	<b>Strongly Agree</b>

Legend: 3.25 – 4.00 – Strongly Agree; 2.50 – 3.24 – Agree; 1.75 – 2.49 – Disagree; 1.00 – 1.74 – Strongly Disagree; SD – Standard Deviation; M – Mean; VI – Verbal Interpretation

**Table 3: Correlation of Emotional Intelligence and Readiness for Inter-Professional Education of Allied Health Students in a Selected Local University**

Emotional Intelligence	Pearson R	p-value	Interpretation	Decision
Team-work and Collaboration	.452	.000	Significant	Reject H <sub>0</sub>
Professional Identity	.146	.005	Significant	Reject H <sub>0</sub>
Role and Responsibility	.567	.000	Significant	Reject H <sub>0</sub>

### Discussion

In the study it was found out that allied health students have high regards to teamwork and collaboration in terms of inter-professional education and in developing their respective skills; have high regards to their professional identity, and students consider that working together with other healthcare professionals may produce a better health outcome for the patients. The result is further strengthened by the study of Campbell et al (2021) on the relational quality between RN and Nursing Assistant. It revealed teamwork-communication relationships can yield more favorable patient care delivery outcomes. It is further reinforced by the study of Lunde et al (2021) which explores the interprofessional teamwork in primary care simulation scenarios of healthcare students. The study revealed that success in developing comprehensive treatment plans for patients are those groups who are able to collaborate, engage in sharing information and explain and elaborate concepts with their group. In addition, it showed that this group who are able to communicate and collaborate had prepared future care efficiently. Furthermore, the study of Tong et al (2021) on facilitating interprofessional identity development in healthcare students through dedicated interprofessional placements. It revealed that context influences professional identity salience, is influenced by the combination of commitment and facilitating interprofessional identity development. IPE has a long-term impact on Interprofessional practice and foster collaborative learning (McNaughton,

2016) and the need to intentional integration of professional identity should be injected into the curricula of each discipline to further improve the interprofessional education delivery (Janke et al, 2021).

In an article published in the Journal of Interprofessional Care, showed that IPE programs enhance the self-perception of learners on their interprofessional communication skills, specifically on oral expression, interprofessional conflict resolutions, and also with their communication tools and their active listening is further enhanced (González-Pascual, et al, 2017). Furthermore, IPE can decrease negative stereotypes, and enable it to provide a positive impact on the student's willingness and readiness to collaborate with other healthcare professionals. In addition, it is suggested that higher academic ability is associated with IPE (Gunaldo, et al, 2020). It is seen in various researches that team-work and interprofessional collaboration, also the knowledge of the different roles and responsibilities of each member of the healthcare team, are seen to have a positive impact in the perception of learners in the healthcare profession (Gonçalves, 2021).

In this study IPE and EI has a significant relationship, from a very low positive to moderately positive. IPE and EI have a positive correlation with each other. The reason for a low to moderate positive result might be from the different year level of participants and the perspective of each discipline on inter-professional education and emotional intelligence. The result is strengthened by the

study of Thomas (2013), aimed to explore the influence of Inter-Professional Practice (IPP) on learners' ability to communicate with patients. The study utilized a triangulation of course evaluations and reflections. That revealed learners need to appreciate and respect other profession roles, and work with other professions in order to facilitate, and provide a patient-centered multidisciplinary care. IPP is an avenue to provide a forum for experience and emotional intelligence to be nurtured. In addition, it is supported by Lee, et al (2018), where 42 undergraduate nursing and engineering students participated in the study and yielded a positive relationship post-workshop between EI and teamwork skills. They added, that EI should have been an antecedent to teamwork and IPE workshops are feasible and welcomed by healthcare professionals. While in the study of Clarke (2010), where it revealed that 1-day EI training followed by a team-based learning has a positive effect on those who participated intensively in the activity compared to those who just took the training. Furthermore, the study suggests that greater participation in team-based learning can result to a stronger relational bond that will foster development of emotional abilities once they gained insights in their own emotional intelligence.

**Limitations:** The study had various limitations. Firstly, the study's research locality (Local HEIs), and the small sample size. Secondly, the fact that the study was performed with only three undergraduate healthcare programs.

**Conclusions:** The findings of this study could expand the field of interprofessional collaboration in healthcare, embarking on the level of academia, and eventually lead to better outcomes for patients and an improved healthcare system. An in-depth understanding of the feelings, thoughts, knowledge acquisition and influence-capacity of allied health students could potentially be acquired from the academic institution through the assessment of their emotional intelligence and preparedness for inter-professional education. IPE and EI can support educators to ensure their students reach their fullest potential, further develop as a part of the healthcare team, improve their trust and

respect, learn alongside them, and get a deeper understanding of the roles they play in the team. Furthermore, it can help individuals see where they need to improve and grow into individuals who are able to exceed and sustain the standards of integrity and honesty in the workplace.

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