The Relationship between Self-Efficacy and Readiness of Interprofessional Education (IPE) among Students at the Faculty of Medical and Health Sciences UIN Alauddin Makassar

Vovi Sulastrri Akhmad¹, Saldi Yusuf¹, Ayu Safitri¹, Helmi Juwita¹, Risnah¹, Arbianingsih¹
¹Medical and Health Sciences Faculty, Alauddin State Islamic University of Makassar, Indonesia
correspondence: vovisulastrri11@gmail.com
DOI: http://doi.org/10.29080/jhsp.v3i3S..297

Keywords
Interprofessional education (IPE); Readiness; Self-efficacy

Abstract
Interprofessional education (IPE) needs to be introduced early in the academic stage to prepare health professionals who are expected to be more professional. Both self-efficacy and IPE readiness are vital considerations to achieve the goals regarding the implementation of IPE. The purpose of this study was to determine the relationship between self-efficacy and IPE readiness. This research used a descriptive correlation design with a cross-sectional approach. The sampling was 146 students and utilized 10% quota sampling from each major. This study consisted of two types of questionnaires, namely the self-efficacy questionnaire and Readiness of the Interprofessional Learning Scale (RIPLS). The collected data were analyzed using the Chi-Square test. The result of this study indicated that 56.8% of students have high self-efficacy. There are no students in low self-efficacy category. Then, the readiness of students on IPE is high, with 89.0%, and there are no students in low category. The Chi-Square test result shows that the value of p=0.006 or p<0.05. It means that there is a relationship between self-efficacy and readiness of IPE among students at FKIK UIN Alauddin Makassar. Therefore, to implement IPE, efforts need to be made to improve students’ self-efficacy and ultimately improve IPE readiness.

Introduction
Health workers are professionals who have a broad level of expertise and service in maintaining and improving the quality of health services. They focus on quality patient health in the global era as it is today (1). Quality services can be obtained through collaborative practices between health workers such as nurses, doctors, dentists, midwives, pharmacists, health analysts, public health, etc (2).

In health services, there are often overlapping incidents among health professionals. For example, a lack of communication between health workers can result in a decrease in the quality of patient care and increase the number of medical errors. Lack of collaboration through communication also increases work stress, which can lead to reduced satisfaction.

This lack of communication skills occurs due to the absence of training or education in the application of collaboration among health workers in the academic stage. The ability to communicate and cooperate as professional teamwork does not just appear. Yet, it must be found and trained early on from the lecture stage, so that it can improve the quality of health services and collaboration skills. One strategy to enhance the ability of collaboration between health workers is through changes in the process of professional education. The model that can be used is through Interprofessional Education (3).

Interprofessional Education (IPE) is a process whereby a group of students or health workers with different backgrounds learns together for a certain period during an interactive education. IPE is a critical step in preparing for better preparedness in the practice of collaborating with health workers (4).

IPE is a learning process to achieve common goals by applying collaboration with other professions with the promotive, preventive, curative, and rehabilitative efforts (5). IPE consists of two or more professions that study together to improve scientific disciplines (6). IPE is critical to implement because it can reduce the risk of errors in care or treatment, improve professional collaboration and keep patients as the focus of
health professionals (7).

IPE that has been designed by WHO (World Health Organization) is a learning design for health professional education. The Faculty of Medicine and Health Sciences UIN Alauddin Makassar has five health professional education programs namely; 1) Nursing, 2) Midwifery, 3) Pharmacy, 4) Public Health, and 5) Medicine. So, IPE could be a learning design that can be implemented. Ultimately, graduates are likely to be ready to collaborate to improve the quality of health services.

In the development stage, IPE needs the attitudes, desires, and beliefs of individuals or students to work together (8). When working in teams, a person’s personality will be expressed in the tendency to take or avoid specific roles. One aspect of personality that influences this role is self-efficacy, which is an individual’s belief in his ability to perform tasks or actions needed to achieve certain results. It is supported by research which shows that individuals who have good self-efficacy will set high goals and hold fast to their goals (9). Conversely, someone who has weak self-efficacy will be weakly committed to his goal, so that there is non-compliance with the quality of the work performed. Individuals with good self-efficacy have characteristics that can support effective teamwork. Based on the description above, this study aims to determine the relationship between self-efficacy and readiness of Interprofessional Education (IPE) among students at FKIK UIN Alauddin Makassar.

Method
This research used a descriptive correlation design with a cross-sectional approach. The sampling technique used quota sampling, with 10% from each major (pharmacy, nursing, public health, and midwifery). Sample selection used random tables, and the sample in this study was 146 students of FKIK UIN Alauddin Makassar. The questionnaire in this study consisted of 2 types, namely the self-efficacy questionnaire as many as 27 statements and Readiness of the Interprofessional Learning Scale (RIPLS) questionnaire of 18 statements. The collected data were analyzed using the Chi-Square test.

Results
Characteristics of Demographic Data
According to the demographic data of this study, based on gender, there were 124 women (84.9%) and 22 men (15.1%). Based on the age range, the highest number of respondents were in the age range of 20-30 years, there were 95 people (65.1%) and the age range of 15-19 years were 51 people (34.9%). Based on the semester, the highest number of students was in the fourth semester students as many as 73 people (50.0%), 6th semester students as many as 38 people (26.0%), 8th semester students as many as 33 people (22.6) and 10th semester students as many as 2 people (1.40%). Based on the major, the highest number of respondents was 49 (33.6%) from public health major, 37 from pharmacy major (25.3%), 31 from nursing major (21.2%), and 29 from midwifery major (19.9%).

Univariate Analysis
1. Self-efficacy
The study shows that the majority of students of the Faculty of Medical and Health Sciences, UIN Alauddin Makassar, have a high level of self-efficacy. There were 83 students (56.8%) in high category, 63 students (43.2%) in moderate category and none of the students with low category of self-efficacy. Based on major, the highest level of student self-efficacy consecutively was in public health majors (63.3%), pharmacy majors (59.5%), midwifery majors (58.6%), and nursing (41.9%). To be more detailed, the data found can be seen in Figure 1.

<table>
<thead>
<tr>
<th>Majors</th>
<th>Nursing</th>
<th>Midwifery</th>
<th>Public Health</th>
<th>Pharmacy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(f)</td>
<td>(f)</td>
<td>(f)</td>
<td>(f)</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>Cognitive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>18</td>
<td>23</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>58.1</td>
<td>79.3</td>
<td>73.5</td>
<td>64.9</td>
</tr>
<tr>
<td>Moderate</td>
<td>13</td>
<td>6</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>41.9</td>
<td>20.7</td>
<td>26.5</td>
<td>35.1</td>
</tr>
<tr>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>20</td>
<td>26</td>
<td>35</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>64.5</td>
<td>89.7</td>
<td>71.4</td>
<td>62.2</td>
</tr>
<tr>
<td>Moderate</td>
<td>11</td>
<td>3</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>35.5</td>
<td>10.3</td>
<td>28.6</td>
<td>37.8</td>
</tr>
<tr>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
1. The Relationship between Self-Efficacy and Interprofessional Education (IPE) Readiness

The figure 1 shows that the highest self-efficacy rate on the cognitive indicator was midwifery major (79.3%), public health major (73.5%), pharmacy major (64.9%), and the last was in nursing major (58.1%). Based on motivation, the highest rate is midwifery major (89.7%) and consecutively public health major (71.4%), nursing major (64.5%), and finally pharmacy major (62.2%). Based on affective indicators, pharmacy major was the highest with 78.4%, and consecutively midwifery major (72.4%), public health major (71.4%), and finally nursing major (67.7%). Based on the selective indicator, the students majoring in pharmacy were the highest (56.8%), followed by midwifery major (51.7%), public health major (46.9%), and the last was nursing major (38.7%).

2. Interprofessional Education (IPE) readiness

The study shows that the majority of students of the Faculty of Medical and Health Sciences, UIN Alauddin Makassar have IPE readiness in the high category as many as 130 people (89.0%), moderate category as many as 16 people (11.0%) and none of the students have the low category of IPE readiness. Based on major, the readiness of FKIK UIN Alauddin Makassar students towards IPE was the highest among pharmacy students (94.6%), and then midwifery major (93.1%), nursing major (87.1%) and public health major (83.7%).

The table shows that the highest IPE readiness on professional identity indicator was in pharmacy major (94.6%), and then midwifery major (93.1%), nursing major (90.3%), and the last was public health major (83.7%). Based on role and responsibility indicators, pharmacy students were the highest with 97.3%, and then midwifery major (96.6%), nursing major (93.5%), and finally public health major (87.8%).

3. Interprofessional Education (IPE) readiness based on semesters

The study shows that the highest IPE readiness based on semester was the fourth-semester students as many as 68 respondents (93.2%), followed by eighth-semester students as many as 29 respondents (87.9%) and sixth-semester students as many as 31 respondents (81.6%). It can be seen in figure 3 below.
Figure 3
Overview of the IPE Readiness Based on Semesters (n=146)

<table>
<thead>
<tr>
<th>Semesters</th>
<th>4th semester</th>
<th>6th semester</th>
<th>8th semester</th>
<th>10th semester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(f)</td>
<td>(%)</td>
<td>(f)</td>
<td>(%)</td>
</tr>
<tr>
<td>Professional identity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>60</td>
<td>82.2</td>
<td>25</td>
<td>65.8</td>
</tr>
<tr>
<td>Moderate</td>
<td>13</td>
<td>17.8</td>
<td>13</td>
<td>34.2</td>
</tr>
<tr>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Work in Collaboration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>59</td>
<td>80.8</td>
<td>27</td>
<td>71.1</td>
</tr>
<tr>
<td>Moderate</td>
<td>14</td>
<td>19.2</td>
<td>11</td>
<td>28.9</td>
</tr>
<tr>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Roles and responsibilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>50</td>
<td>68.5</td>
<td>20</td>
<td>52.6</td>
</tr>
<tr>
<td>Moderate</td>
<td>23</td>
<td>31.5</td>
<td>18</td>
<td>47.4</td>
</tr>
<tr>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>100</td>
<td>38</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure 3 shows that based on professional identity indicator, fourth-semester students is the highest with 60 respondents (82.2%), and then sixth-semester with 25 respondents (65.8%), and eighth-semester with 21 respondents (63.6%). Based on the indicator of work in collaboration, fourth-semester students were also the highest with 59 respondents (80.8%), followed by sixth-semester as many as 27 respondents (71.1%) and eighth-semester as many as 21 respondents (63.6%). Based on role and responsibility indicators, the highest was in the fourth-semester students as many as 50 respondents (68.5%), and then eighth-semester with 21 respondents (63.6%) and sixth-semester with 20 respondents (52.6%).

Bivariate Analysis
The relationship between Self-efficacy and Readiness of Interprofessional Education (IPE) among students of FKIK UIN Alauddin Makassar.

Analysis of the relationship between self-efficacy and IPE readiness at FKIK UIN Alauddin Makassar students was measured using the chi-square test ($P <0.05$).

Figure 4
The Results of The Analysis of The Relationship between Self-Efficacy and IPE Readiness among students of FKIK UIN Alauddin Makassar (n=146)

<table>
<thead>
<tr>
<th>Self-efficacy</th>
<th>IPE Readiness</th>
<th>(f)</th>
<th>(%)</th>
<th>(f)</th>
<th>(%)</th>
<th>(f)</th>
<th>(%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>79</td>
<td>95.2</td>
<td></td>
<td>4</td>
<td>4.8</td>
<td>83</td>
<td>100</td>
<td>0.006</td>
</tr>
<tr>
<td>Moderate</td>
<td>51</td>
<td>81.0</td>
<td></td>
<td>12</td>
<td>19.0</td>
<td>63</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>89.0</td>
<td></td>
<td>16</td>
<td>11.0</td>
<td>146</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

According to the data, 79 people (95.2%) had high self-efficacy, accompanied by high IPE readiness. There are 4 (4.8%) who had high self-efficacy, accompanied by moderate IPE readiness. None of the students who had low self-efficacy that was also accompanied by low IPE readiness. Conversely, there are 51 people (81.0%) with moderate self-efficacy, accompanied by high IPE readiness and there are 12 students (19.0%) who had moderate self-efficacy accompanied by moderate IPE readiness. There were no students who had low self-efficacy with low IPE readiness. The analyzed data using the chi-square test, obtained a $p$-value = 0.006 which means that $p <0.05$. There is a relationship if the $p$-value <0.05 with a confidence level of 95% so that it can be concluded that the hypothesis is accepted. There is a significant relationship between the relationship between self-efficacy and IPE readiness among students at FKIK UIN Alauddin Makassar.
Discussion

Students’ Self-efficacy

The measurement of self-efficacy at FKIK UIN Alauddin Makassar students showed that the majority of students had high self-efficacy. It is in line with the research which states that the majority of students have high self-efficacy (10,11).

Therefore, it can be assumed that with a high level of self-efficacy, it will increase confidence in the ability to do things that will be done. Bandura's theory suggests that self-efficacy is an individual's belief in estimating his ability to carry out tasks or take actions needed to achieve a specific outcome. By having confidence, he assumes that he is ready to cooperate because he believes his ability. Self-efficacy is an essential factor in the readiness of someone to work together because anything that is a factor of readiness to cooperate is rooted in the central beliefs to produce the desired results (10).

One of the factors that contribute to one's self-regulation is motivation. Individuals motivate themselves and determine their actions first with positive thinking. Individuals set goals for themselves and plan parts of work designed to bring about something they want. Confidence in self-efficacy influences motivation in several ways, namely determining the goals set by individuals for themselves, how much effort individuals spend in dealing with a problem, and individual courage for failure (10).

Individuals who have a strong belief in their abilities will try harder when they fail. Self-efficacy is formed through one's affective. Self-efficacy plays a role in controlling one's thoughts. Confidence in self-efficacy is also influential in managing stressors that generate anxiety (12).

Selective processes will also affect one's self-efficacy level. One's choice of activity or environment describes one's self-confidence in the abilities they have (12). Good self-efficacy is needed by all students to be ready to enter the next stage of education and into the world of work. It is because when students have a high level of self-efficacy, the student will have the readiness to cooperate with other professions in a hospital as well and vice versa when students have low self-efficacy, then the readiness to collaborate with other professional teams would be lower (10).

The readiness of Interprofessional Education (IPE) among students at FKIK UIN Alauddin Makassar

The readiness measurement of the students at FKIK UIN Alauddin Makassar shows that the majority of students have the readiness of IPE in the high category. It is in line with the research which states that majority of students have high IPE readiness (13). Research perceptions of IPE on students at the Faculty of Medicine UGM show that the majority of academic students showed good readiness for IPE (14–16).

The results of the analysis based on each major showed that pharmacy students had higher readiness for IPE than midwifery, nursing, and public health majors. The research states that students of nursing, midwifery, dentistry, physiotherapy, pharmacy, nutrition, and occupational health showed a high average score in the readiness for IPE learning, this meant that students had a positive attitude for IPE readiness (17). It is supported by the study, which states that medical and nursing students have positive readiness after participating in the IPE program. They gained experience, especially about skills development in teamwork (18). All these opinions further reinforce that the majority of health care students with different professional backgrounds show a positive attitude towards the desire to cooperate after getting a training or training program on IPE learning.

The important thing for students is the openness to accept other professions as partners. IPE provides early learning so that later, there would be no significant fragmentation among health professions. IPE learning not only aims to at creating interaction and collaboration among health professions but also proposes that each individual can develop themselves and their respective professions (19).

Similar to what was revealed that although IPE was designed for groups, it was ultimately aimed at the development of each individual (2). It is in line with the thing that needs to consider in this IPE learning. Students should achieve the clarity of competency standards. Therefore, the existence of IPE may clarify the contribution of every health professional in the health service system.

The IPE readiness component is divided into three parts. Sequentially the average value of the highest component of readiness is the component of roles and responsibilities, professional identity, as well as components of work in collaboration. The highest value shown in the component of roles and responsibilities can be assumed that health students begin to understand the role of each health profession. An understanding of the roles and responsibilities of each profession makes professionals in the health sector understand what each profession will do in their jobs (10,20). By understanding the roles and responsibilities of each profession, it is expected that in the implementation of IPE, they would be more prepared to work together in teams. (21)

The lowest value shown in the collaboration component in collaboration can be assumed that health students are not ready enough to collaborate in teams. Therefore, integrated learning models such as IPE needs to be introduced early. So that later, students will understand the needs of collaboration with other health teams in dealing with health problems. The competencies that students must have in IPE, are the
ability to: 1) share resources, expertise, and responsibilities to achieve common goals in collaborative practice, 2) build commitment and maintain participation in an interprofessional team, 3) explore when there are discrepancies in the collaborative method, 4) overcome problems and conflicts using problem solving techniques and appropriate conflict management, 5) use decision making that is in accordance with the collaboration team (22).

Student readiness towards IPE indirectly also affects the readiness of students to cooperate in professional education. When taking professional education, students will encounter different technical problems among professions so that solving these problems requires collaboration between professions. The readiness of students to enter the world of the profession is everything that must be prepared in implementing something to achieve a goal (10). Readiness of students as prospective workers is a specific condition of the results of education and training or skills that be able to provide answers to situations in the implementation of work.

IPE readiness of students is excessively essential. It is because after graduating from college, some or all students will face one level of education, namely the profession. Students who will become prospective workers will learn and train themselves to be ready to become health workers who can cooperate well with other health workers. For this reason, before entering the professional world, students need to be prepared in advance. One of the preparations that can be done is to apply IPE since the academic stage.

Based on the distribution of self-efficacy and readiness of IPE (Interprofessional Education) among students at FKIK UIN Alauddin Makassar, the study shows that not necessarily the respondents who had high self-efficacy had also had high IPE readiness. It is due to many factors that can cause readiness, namely internal factors (maturity, intelligence, skills, abilities, interests, motivation, and health) and external factors (interrelationships between professions, social life, hospital environment, culture, and customs) (23). There is a difference in readiness of each student because there are so many influencing factors, including each study program has a different learning system and human resources, especially different lecturers, which is related to the readiness of IPE (14).

In the indicator of professional identity, the result shows that the highest number was the fourth-semester students in realizing the importance of developing the professional identity which can be done through interaction with other professions to form the basis of an understanding of interprofessional among health workers. In the indicator of work in collaboration, learning models such as IPE are significant to be implemented early in the lecture stage to prepare students to be able to collaborate with other health teams in handling health problems in hospitals. In the indicators of roles and responsibilities, it was found that fourth-semester students began to understand the roles of each health profession. An understanding of the roles and responsibilities of each profession makes health workers understand what they will do in their jobs.

In the IPE readiness category, it was found that fourth-semester students had the highest level of readiness for IPE. They were aware of the need to apply the IPE model at the academic stage to prepare more professional health workers. So, it could be concluded that recommendations for implementing IPE were best started in the fourth-semester students since students can be aware of the importance of collaboration with other health professionals.

The relationship between self-efficacy and the readiness of Interprofessional Education (IPE) among the students at FKIK UIN Alauddin Makassar.

The results of data analysis showed that there was a significant relationship between self-efficacy and readiness of Interprofessional Education (IPE) among students of the Faculty of Medical and Health Sciences (FKIK) UIN Alauddin Makassar with $p=0.006$ or $p<0.05$. It shows that the research hypothesis is accepted. This research is in line with the study entitled "the relationship of self-efficacy with readiness to the IPE of nursing students and USU medical education which resulted in a significant level of $p=0.000$ or $p<0.05$ which means that there is a relationship between the two variables (10). It also agrees with the research about the relationship between self-efficacy and collaborative actions at PKU Muhammadiyah Hospital Pekajangan, Pekalongan. The study suggested that there is a significant positive relationship between self-efficacy and nurse collaboration actions in PKU Muhammadiyah Hospital Pekajangan, Pekalongan (24). The higher nurse's self-efficacy task is the higher nurse's motivation in carrying out collaboration.

Besides, this study agrees with the research finds to improve one's ability to care needs self-efficacy (11). Another study shows that there is a significant positive relationship between core skill efficacy and the work readiness of final-semester students. Analysis of the coefficient of determination on the correlation between the efficacy of core skills and work readiness in the study showed a figure of 0.548, which means that the efficacy of core skills had an effect of 54.8% on job readiness. Self-efficacy training in the field of work could improve work readiness for prospective workers (25). It explains that the existence of self-efficacy can affect the work readiness of potential graduates. Confidence in ability can influence in determining the course of one's working life. The low self-efficacy would close attention to the choice of employment even though it is driven by opportunities and interests.

Self-concept and self-efficacy are essential in readiness to face the world of work. Therefore, an effort
is needed to improve self-efficacy to help self-confidence increased and developed optimally. Finally, the job would meet the expected requirements. Readiness shows a condition where a person can respond to the world of work by using the power of the body, mind, skills to meet the needs. In addition to supporting this readiness, it is necessary to have a positive self-concept that can be formed through the cultivation of strong religious values, self-confidence, self-acceptance.

Conclusion

The results of the study can be summarized that the majority of the students of the Faculty of Medicine and Health Sciences (FKIK) UIN Alauddin Makassar had high self-efficacy and showed a high readiness for IPE. Also, there is a significant relationship between self-efficacy and readiness of Interprofessional Education (IPE) among students at FKIK UIN Alauddin Makassar. Therefore, to implement IPE, efforts need to be made to improve the students’ self-efficacy and ultimately improve IPE readiness. Our thanks to all the participants of this research. This research has explored self-efficacy in academic setting. For the future study, it would be more valuable if the researcher could evaluate self-efficacy in the clinical setting.

References


19. Yusuf S. Pengembangan Model Interprofessional Education di FIK UIN Alauddin Makassar. 2015;


