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# Students' Readiness and Perception of Interprofessional Learning in an Undergraduate Swiss Healthcare Student Context:

## A Cross Sectional Study

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**PURPOSE:** The objective of this study was to assess attitudes toward interprofessional education (IPE) among undergraduate health students in Switzerland after 2 weeks of IPE training during the first year of their bachelor's curriculum. **METHODS:** A cross-sectional study using a convenience sample of first-year undergraduate healthcare students assessed using the RIPLS scale. **RESULTS:** A total of 140 students participated in this study. Physiotherapist students achieved the highest mean scores for the total RIPLS. However, the total mean score for RIPLS for nurse students was statistically lower ( $p < 0.001$ ) in comparison to the other departments. **CONCLUSIONS:** The findings are inspiring in that students demonstrated positive attitudes, perceptions, and attributes toward IPE activities. This study contributes to the development of innovative IPE activities. *J Allied Health* 2016; 45(2):e11-14.

**HEALTHCARE TEAM MODELS** encompass input of members from a variety of health disciplines with a patient centered focus. This healthcare team concept is well accepted as the current best-practice paradigm and has become established in many areas of clinical practice (1). In Geneva, at the University Of Applied Sciences, an interprofessional education (IPE) curriculum was implemented since 2012 for the complete training program for all five health professions with the aim to

promote interprofessional education and collaboration (IPC) between future healthcare professionals (2). Furthermore, a new national law concerning IPE professional proficiency will be registered shortly for health and medical professionals (3).

During the first year of their bachelor's curriculum, IPE activities are offered as a yearly 15-day didactic program with a focus on case studies. During the second year, simulated practice workshops are driven, shared between students of the five departments and the medical faculty, enhancing collaborative practice and communication abilities. Alongside, students participate in public health projects based on health promotion and prevention. Training is focused on communication and collaborative practice between students enabling them to define their responsibility, role and professional competencies. While focusing on the patient's safety, students learn to understand each other's skills and limits within an interdisciplinary healthcare team. IPE is dispensed by an interdisciplinary academic team, to approximately 1,000 students per year (250 doctors, 350 nurses and 100 medical imaging technicians, dieticians, midwives and physiotherapists), validating a total of 10 ECTS (European Credit Transfer System) of the 180 Swiss bachelor's of health credits (3). This study aims to assess attitudes toward IPE among undergraduate health students after 2 weeks of IPE training during the first year of their bachelor's curriculum at our university.

## Methods

### Design

A cross-sectional study using a convenience sample of first-year undergraduate healthcare students: nurses, medical imaging technicians, dieticians, midwives and physiotherapists. This study was approved by the Geneva University Hospital Ethics Committee

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**TABLE 1.** Participant Demographics for Each Department

Variable	No.	%
Gender		
Female	113	80.7%
Male	27	19.3%
Department		
Nursing	82	58.6%
Nutritioning	15	10.7%
Physiotherapy	10	7.1%
Midwifery	17	12.1%
Medical imaging technology	16	11.4%

## Instruments

The study used a standardized self-reporting scale: the Readiness for Interprofessionnel Learning Scale (RIPLS), which measures students' attitude toward engaging in Interprofessional Learning (IPL) (4). In the original release, the RIPLS is a 19-item, three-factor scale that is determined by responses using a Likert-type scale (strongly disagree to strongly agree). The three subscales are teamwork and collaboration, professional identity, and roles and responsibilities. We developed a French version adapted to the educational context of the Swiss IPE undergraduate students. This scale contains only 18 items, but the three subscales are identical to the original version of the RIPLS.

## Procedure

A fully descriptive IPE training curricula and how the objectives/aims of the IPE training are evaluated is described elsewhere (2,5). A summary is below:

*All students attend these 15 days of all the IPE activities:*

- Lectures (epidemiology, financing of the healthcare system, biomedical ethics, science of information),
- Exploitation of films, situation analysis, clinical case studies, role playing around four relevant clinical situations (measles related to pregnancy, prostitution to STDs, breast cancer to screening, depression to adolescent suicide),
- Collaborative work in interprofessional groups (seminars and tutoring),
- Remote working and reading of articles.

*The aim of these activities is that, at the end of these 15 days, the students acquire the following skills:*

- Know the legal basis and priorities of the Swiss health care and social system, principles of management and limits.
- Conduct their professional activity with respect of legal issues, while assessing economical effectiveness, quality, and adequacy of services provided or initiated.
- Endorse responsibility for their actions, recognize and respect, their own limits.
- Develop their professional activity through the acquisition of scientific knowledge, reflexive based practice leading to updated knowledge and skills throughout life.

- Actively seek interprofessional collaboration and cooperation with pairs in the healthcare system.
- Present and document their actions in a meaningful way, be understood by others and know about eHealth tools for patient management and care.

In order to evaluate attitude toward IPE, the RIPLS scale was used. An email was directly sent to students allowing them to fill out the scale, electronically, via a web interface. Nonrespondents received two mail reminders in order to complete the questionnaire and obtain the highest response rates possible.

## Data Analysis

The study was analyzed using Stata software version 13. Descriptive statistic (mean and SD) were used to summarize the demographic characteristics and RIPLS data. Inferential statistics, *t*-Test and one way analysis of variance (ANOVA), including post hoc Tukey Honestly significant difference (HSD), were used to compare the differences between gender and the five different disciplines. All tests were two tailed, unless otherwise stated, with the results considered significant if the *p*-values are >0.05.

## Results

### Participant Demographics

A total of 140 students participated in this study, giving a response rate of 48 %. Their demographic characteristics are presented in Table 1. Nearly 80% are females. Nurses are widely represented in our sample, accounting for only 58% of our population, the other departments represent for each, between 10-12% of the population. Physiotherapists are the least well represented, with only 7%.

### RIPLS Score and Subscales

Students strongly testified that basic and continued training in interprofessionality improved professional relationships during collaborative practice ( $M=4.5$ ,  $SD=1.05$ ). Moreover, that shared training with other students and professionals of the health network helped them improve communication with patients and other professionals ( $M=4.5$ ,  $SD=0.87$ ). Furthermore, students disagreed that basic and continued IPE are not essential ( $M=2.6$ ,  $SD=0.86$ ).

The results of the independent sample *t*-test revealed no statistical significant differences between the gender regarding RIPLS and its sub-scales (Table 2).

Table 3 shows the five departments with students' mean scores for RIPLS and subscales. Out of the total of students, the physiotherapist indicated the highest mean scores for the total RIPLS ( $M=73.5$ ,  $SD=27.1$ ),

**TABLE 2.** Comparison of Mean of RIPLS and Subscales among Subjects by Gender

Variables	Male M (SD)		Female M (SD)		p-Value
Total RIPLS	68.88	(22.2)	71.4	(20.3)	0.61
RIPLS subscales					
Teamwork and collaboration	35.1	(16.5)	36.1	(17.2)	0.73
Professional identity	22.3	(3.2)	22.5	(3.7)	0.30
Roles and responsibilities	11.4	(1.9)	12.8	(2.1)	0.46

$p < 0.001$ . However, the nurse students' total mean score for RIPLS ( $M = 66.4$ ,  $SD = 22.2$ ),  $p < 0.001$ , was statically lower in comparison to the other departments.

## Discussion

The results from this study suggest a strong readiness among the healthcare students in a Swiss university to engage in IPE on entry into their respective professional programs. Hence, we can suppose that students commencing a new professional course, will display high levels of enthusiasm for IPE, phenomena that can be observed in other studies(6,7). This study found that the physiotherapist students reported the most readiness to learn with other healthcare students, when compared with nursing, medical imaging technicians, dieticians, and midwives. Nurse students have the lowest score compared to other departments; this result contrasts with other studies that have evaluated their IPE activities with the same target audience (8–10). Their study suggested that the readiness of nurses was significantly greater than that of other healthcare students, particularly with regards to collaboration and teamwork. Focusing on the student's perception of the nursing profession in Switzerland, our hypothesis is that, at undergraduate level, they seem less open to interprofessional practice than in other countries.

Our study offers no evidence of the influence of the students' demographic characteristics, especially gender, even if this study found that female students have marginally higher mean scores in each three RIPLS subscales. This is in contrast with other studies, that found that female students are more enthusiastic than male students in engaging in IPE activities (9,11).

This study has many limitations, firstly because of the small percentage rate of respondents (48%) and the limited numbers from each profession, especially concerning the nurse students accounting for over half of our sample. Therefore, caution should be taken when interpreting these results, so as not to generalize for this profession. Students who responded to our questionnaire are probably those highly motivated by IPE activities, creating potential bias in these results, as they have a more favorable attitude towards IPE. However, this preliminary study demonstrates promising findings, permitting us to assume that a replicate with a greater sampling could confirm these results.

## Conclusion

We have reported on the curriculum of IPE, its implementation and evaluation at the University of Applied Sciences Western of Geneva. The findings are inspiring, in that students demonstrated positive attitudes, perceptions, and attributes towards IPE activities. This study contributes to the development of innovative IPE activities. Furthermore, preliminary results provide the foundations for further studies on IPE to undergraduate students from a variety of health related professions.

Further qualitative studies (including focus groups) are scheduled to be carried out at our university. This will enhance better understanding of the observed differences in this study, on the various RIPLS scores dependent on professions. In addition, a cohort study with students interviewed and followed throughout their studies, will allow us to evaluate the development of the students' readiness during their complete IPE curriculum.

**TABLE 3.** Comparison of Mean of RIPLS and Subscales among Subjects by Department

Variables	All		Nurses		Medical Radiology Technicians		Dieticians		Midwives		Physiotherapists		p-Value
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
RIPLS	69.98	25.5	66.4	22.2	69.3	24.2	71.2	22.7	71.8	26.8	73.5	27.1	<0.001
RIPLS subscales													
Teamwork and collaboration	36.8	16.3	34.5	17.8	35.6	18.2	37.2	18.6	36.9	16.6	37.5	17.1	<0.001
Professional identity	23.5	3.5	22.5	3.3	24.1	3.8	24.3	3.9	25.1	3.3	26.3	3.1	<0.001
Roles and responsibilities	9.68	2.5	9.4	2.6	9.6	2.8	9.7	2.1	9.8	2.4	9.7	2.8	<0.001

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