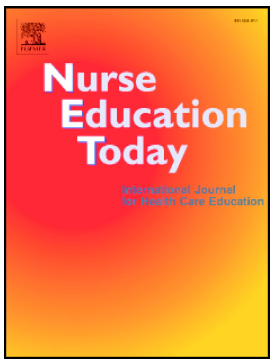

HEALTH CARE STUDENTS' PERCEPTIONS ABOUT LEARNING OF AFFECTIVE INTERPERSONAL COMMUNICATION COMPETENCE IN INTERPROFESSIONAL SIMULATIONS

Paula Kukko, Marja Silén-Lipponen, Terhi Saaranen

PII: S0260-6917(20)31415-5

DOI: https://doi.org/10.1016/j.nedt.2020.104565

Reference: YNEDT 104565

To appear in: *Nurse Education Today*

Received date: 24 September 2019

Revised date: 15 June 2020

Accepted date: 26 July 2020

Please cite this article as: P. Kukko, M. Silén-Lipponen and T. Saaranen, HEALTH CARE STUDENTS' PERCEPTIONS ABOUT LEARNING OF AFFECTIVE INTERPERSONAL COMMUNICATION COMPETENCE IN INTERPROFESSIONAL SIMULATIONS, *Nurse Education Today* (2020), https://doi.org/10.1016/j.nedt.2020.104565

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Authors

First author (corresponding author): Paula Kukko, Senior Lecturer, MSc, Diaconia University of Applied Sciences, Finland
Mailing Address: PO Box 12 00511 Helsinki
Tel.: +358 40 500 3908
Email: *paula.kukko@diak.fi*

Second author: Marja Silén-Lipponen, Principal Lecturer, PhD; Savonia University of Applied Sciences, School of Health Care, Kuopio, Finland

Third author: Terhi Saaranen, Professor, PhD; Department of Nursing Science, University of Eastern Finland, Finland

Conflict of Interest: No conflict of interest.

Acknowledgement: This study has been financially supported (language revise) by the Department of Nursing Science of the University of Eastern Finland, to whom we are gratefully appreciative.

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SUMMARY

Background: Health professionals need interpersonal communication competence (ICC) in their work with patients and other professionals. Interprofessional simulation provides health care students with an opportunity to practice communication skills in a safe and authentic environment.

Objective: The purpose of this study was to describe the perceptions of health care students of interprofessional simulations in acquiring affective interpersonal communication competence (AICC).

Design: This study was conducted using the quantitative descriptive research method.

Settings: The data were collected from health care students participating in interprofessional simulations at a university of applied sciences in Finland using a questionnaire titled *Student questionnaire on a multiprofessional simulation exercise*. The health care students included nursing, physical therapy and practical nursing students.

Participants: This study was participated by 149 health care students with a response rate of 41.2%.

Methods: The quantitative data were analysed using the SPSS 24.0 for Windows statistical software. Frequencies, percentages, averages, and standard deviation were used to describe the data. Two mean sum variables were formed using factor analysis from the variables describing AICC.

Results: The students' perceptions of learning AICC (attitude, motivation, emotions) in interprofessional simulations were largely positive; for example, the simulations reduced prejudice against, and increased appreciation of, other occupational groups. Even though the interprofessional simulations were sometimes perceived as stressful, stress could also be a positive source of learning and effectively fostered personal understanding of others in a team.

Conclusion: Interprofessional simulations increased knowledge of the activities of other professional groups for students in different fields of education. This encourages them to work together after completing their education and entering the workforce. Knowledge of the simulation process and the creating a safe learning environment also promoted students' AICC.

Keywords: affective, communication, health care, interprofessional, simulation, student

Introduction

In health care, interactions and communications must run smoothly between patients and staff as well as within interprofessional teams. Health professionals need communication and listening skills to communicate professionally in a variety of situations involving teamwork, leadership, problem solving and guidance. (INACSL, 2016; Reeves et al., 2016; Labrague et al., 2018a). When communication also involves individuals' feelings and attitudes, we talk about interpersonal communication competence (ICC), an ability to communicate and interact with other people (Spitzberg and Cupach, 2011).

ICC is a key area of health care education, as solving an increasingly complicated range of patients' situations requires the expertise and work input of a number of professional groups (Roberts and Goodhand, 2018). ICC consists of cognitive, psychomotor and affective competence. Cognitive interpersonal communication competence includes knowledge of communication and interaction as well as the content of effective and appropriate interactions. Cognitive interpersonal communication competence also includes an understanding of oneself as a communicator and one's personal strengths and needs for development in interpersonal communications. Psychomotor interpersonal communication competence refers to the regulation of effective interaction behaviours appropriate to each context and situation, including the constant anticipation and evaluation of one's own communication competence. (Spitzberg and Cupach, 2011.)

Affective interpersonal communication competence (AICC) describes an individual's motivation for interaction and includes emotions and a positive attitude toward interactions. Motivation guides an individual's activities in a social context and essentially involves a desire to communicate. Moreover, AICC also includes the negative qualities of interaction, such as anxiety, fear, and potential deficiencies in communicating smoothly and understandably. (Spitzberg and Cupach, 2011.) In real life contexts, distinguishing different areas of communication from one another is difficult; instead, these are intertwined to form the person's communication capacity as a whole. The skills that this capacity includes are learned by practicing interaction and communications in different social situations and contexts. Moreover, practising interpersonal communication further

increases a person's interest in learning, therefore forming a positive personal learning cycle (Yoo and Chae, 2011; Yoo and Park, 2015).

Simulation-based training provides an opportunity for practising interaction in general and enhancing specific areas of ICC. This is possible because, as an authentic learning method, simulation mimics health communication situations and skills in a natural way (Labrague et al., 2018b). Interprofessional simulations provide a safe context for practicing real-life nursing situations, often mimicking complex and unpredictable collaboration in health care environments nearly identically to their real-life counterparts (Defenbaugh and Chikotas, 2016; Roberts and Goodhand, 2018). A positive atmosphere during the simulation exercise promotes the learning of ICC (Thomas et al., 2014) and fosters health care students' capabilities to communicate with patients and in teams with other health professionals (Koo et al., 2014).

Simulation-based training positively influences students' attitudes towards ICC (Murphy and Nimmagadda, 2015; Chambers et al., 2018) as it increases students' confidence (Liaw et al., 2014; Andrea and Kotowski, 2017) and reduces their anxiety (Reid Searl et al., 2014). A positive attitude towards, and personal interest in, co-operation also increases students' learning opportunities (Andrea and Kotowski, 2017) and facilitates practising challenging nursing situations (Defenbaugh and Chikotas, 2016). In particular, interprofessional simulation effectively promotes mutual appreciation between professional groups (Reising et al., 2011; Koo et al., 2014) and a positive attitude towards other professions (Bolesta and Chmil, 2014; Tofil et al., 2014). These, in turn, strengthen students' own professional roles (Bolesta and Chmil, 2014) and increase their confidence in collaborating with others (Koo et al., 2014).

However, some may find practicing ICC in simulations more stressful compared to traditional teaching as simulations strongly resemble real-life situations where decisions often have to be made and actions taken quickly (Reising et al., 2011). On the other hand, students have felt that the different feelings emerging during simulations increase their self-awareness and stress management. This, in turn, promotes their ability to work in challenging situations (Jakobsen et al., 2018) and fosters tolerance of work-related pressures (Selim et al., 2012; Goodwin et al., 2019).

This study involved health care students practising interactive learning in interprofessional simulations carried out at a Finnish university of applied sciences. It has been recognized that arranging facilities suitable for learning in a simulation, providing sufficient time and prior knowledge of the simulation, and designing a simulation-based learning situation are important factors in ensuring the success of simulation learning experience (Koo et al., 2014). Other factors

include careful planning of briefing the students on the interprofessional simulation and a related learning discussion (Paige et al., 2019), feedback provided by the facilitator, and reflecting on what happened during the simulation with others in a debriefing session (Griffiths, 2018). The study examined the development of health care students' cognitive, psychomotor and affective interpersonal communication competence in interprofessional simulations. This article reports on the learning perceptions of health care students related to AICC acquired in a simulation.

Aims

The purpose of this study was to describe the perceptions of health care students of interprofessional simulations used for acquiring AICC. The research questions were as follows:

1. How did health care students perceive the learning of AICC in interprofessional simulations?

2. How did the background variables of health care students relate to the learning of AICC in interprofessional simulations?

Methods

Setting and Data

The research material was collected from health care students, who participated in the interprofessional simulations in the period 2016-2017. These simulations were organised in collaboration by a Finnish university, a university of applied sciences and a vocational education and training provider (VET). The purpose was to enable the health care students in these institutions to practise their interprofessional co-operation competence, including ICC. Data were collected from the health care students participating in interprofessional simulations at a university of applied sciences in Finland using a questionnaire titled *Student questionnaire on a multiprofessional simulation exercise*. The target population consisted of nursing, physical therapy and practical nursing students (N = 362).

The course was included in all of the students' compulsory studies and had been recently added to their curriculum. All students participated in two different interprofessional simulations and the subject areas of the simulations included needs assessment performed on older people in home care, medication in home and hospital care settings, and acute care for the disorders of the vital functions. Each of the areas had specific technical learning aims, such as assessing a patient's status, and a

shared, non-technical learning aim of interprofessional communication. Before the simulations, the students received written preliminary learning material aiming to prepare them for the simulations. Before the simulation, the students were briefed on the content of the simulation, including its objectives and the topic of good communication skills in different patient care situations was presented.

Questionnaire

The questionnaire titled *Student questionnaire on a multiprofessional simulation exercise* was developed and tested by the University of Eastern Finland in a research and development project (2016-2020), *Interprofessional simulation training for students and professionals in social and health care,* as no previously available and sufficiently broad questionnaire meeting the needs of the project could be found through literary searches. The questionnaire was developed by an expert team based on available research literature and had been previously tested and found to work in a pilot study (Peltoniemi, 2016).

The questionnaire contained eight background questions, 33 Likert scale variables and four open questions. All of the variables had a positive direction, as it is often easier to answer a questionnaire in which all the variables' forms are similar and positive (Polit and Beck, 2010; Grove et al., 2013). The health care students assessed their opinions on a five-point Likert scale (1 = strongly disagree, 2 = partly disagree, 3 =neither agree nor disagree, 4 = partly agree, 5 = completely agree). The relationship of all background variables to learning ACC was explored. This study only describes statistically significantly results.

Six of the eight background questions (see Table 2) and seven of the 33 variables related to AICC are reported about in this publication. These seven variables were loaded on two factors. The mean sum variables and their individual variables based on factoring, the form of the distributions and the internal consistency of this data are described in Table 1.

Data Collection

The data were collected from the students at the end of the simulation. The simulation teachers carried out the data collection based on instructions provided by a research team. The questionnaire form was distributed to each participant in the simulation and the response time was 30 minutes. The students filled out the questionnaire immediately after the simulation. The study was based on voluntary participation and could be discontinued at any time.

Data Analysis

The data were statistically analysed using the SPSS 24.0 for Windows statistical software. The background variables included in the questionnaire that were categorised included the respondents' age, work experience in social and health care, and the number of previous simulations in total and of previous interprofessional simulations. Variables on a five-step Likert scale describing the development of interpersonal communication competence among health care students were reclassified on a three-tiered scale (*disagree*=strongly disagree and partly disagree, *neither agree nor disagree*, *agree*=partly agree and completely agree) to facilitate the analysis and description of results.

First, frequencies and percentages were calculated to describe the background variables. Exploratory factor analysis of the AICC variables (7) was performed. As a follow-up to the factor analysis, two mean sum variables were formed, the first comprising attitude and motivation and the second emotions. The Cronbach's alpha coefficients for the mean variables varied between 0.699 and 0.915 (Table 1) and could therefore considered as good (Polit and Beck, 2010; Grove et al., 2013).

The Mann-Whitney U-test and Kruskall-Wallis test were used to explore the health care students' background variables related to the learning of AICC in interprofessional simulations (Tables 5 & 6), because the individual variables in this dataset and all mean variables were non-parametric according to the Kolmogorov-Smirnov test and histograms. The mean tests included those suitable for non-parametric tests: the Mann Whitney U-test was used when there were two groups to be classified and the Kruskall-Wallis test when there were three or more groups to be classified. In the Kruskall-Wallis test, the Bonferroni correction was used to compare the groups in a pairwise manner (Pairwise comparisons). The limit of statistical significance was set to p-value ≤ 0.05 (Polit and Beck, 2010; Grove et al., 2013).

Ethical Considerations

The study is part of a larger simulation project carried out at the University of Eastern Finland (2016-2020), which approval was obtained from the Committee on Research Ethics of the University of Eastern Finland on 16 May 2016 (No. 16/2016). Before the study, the students received verbal and written information about the study; participation in the study was voluntary, and the students responded anonymously and none of them could be identified based on the results

(TENK, 2012). In addition, written permission was sought from each educational organization in spring 2016 in accordance with valid permission practices.

Results

Demographics

In total, 149 nursing, physical therapy and practical nursing students participated in the study with a response rate of 41.2%. The youngest respondent was 18 and the oldest 54 years old. The majority of the respondents (92.6%) were female. 78.5% of the respondents studied in a university of applied sciences and 21.5% in a vocational education and training institution. Around 90% of the respondents were third-year students, and 59% had previous experience of working in the social and health care sector. For 75.5% of the respondents, this was the first time for participating in an interprofessional simulation, and only 3.4% had previously taken part in three or more simulations. Of the respondents, 85.9% felt they had been provided with sufficient information about the simulation exercise in advance (Table 2).

Learning affective interpersonal communication competence

The health care students felt that the interprofessional simulations had positively affected their attitudes and motivation regarding AICC (mean 4.22) (Table 3). Slightly under 90% felt that the exercise encouraged the students from various fields to continue working together after the training once they had entered the workforce. Around 80% of the students believed that the interprofessional simulations reduced their prejudices against other professional groups and increased appreciation for other professional groups. Over 80% of the students considered the exercises to challenge them in a positive way.

Of the health care students, 20% found the interprofessional simulations stressful (Table 4) and one in five was unable to assess whether or not the exercise had been stressful. Nevertheless, over 75% of the students felt that participating in the simulation and debriefing did not stir excessively strong emotions or cause fears about their personal ability to cope in an interprofessional group.

Connection between the students' background variables and learning affective interpersonal communication competence

The relationship of all background variables to learning AICC was explored. This study only describes statistically significant results. The background variables statistically connected with attitudes and motivation included gender ($p=0.007$), age ($p=0.007$) and field of education ($p<0.001$)

(Table 5). Men evaluated that their interprofessional simulation affected their attitudes and motivation less than women (Table 5). The students aged 30 and over considered their positive attitudes towards and motivation in engaging in interactions to have developed statistically significantly (p=0.019) (Pairwise comparisons) more often than the students aged 21–24 (Table 5). An examination of the findings per field of education revealed that the physical therapy students felt that their attitudes and motivation had developed statistically significantly less compared to practical nursing students (p=0.002) and nursing students (p<0.001) (Pairwise comparisons) (Table 5).

Of the background variables, age (p=0.035) and the amount of knowledge obtained in the simulation exercise (p=0.017) were found to be statistically significantly linked to experiencing emotions (Table 6). The 21–24-year-olds reported feeling more negative emotions during the interprofessional simulations compared to students aged 30 and above (p=0,032) (Pairwise comparisons) (Table 6). Even though the average of mean sum variable was the lowest (mean 3.68) in the age group of those under 20 years old, it was not statistically significant (Table 6). On the other hand, the students who felt they had been provided with sufficient information about the simulation had more positive views of the statements concerning the mood during the interprofessional simulation compared to those who had been given insufficient information (Table 6).

Discussion

The health care students had primarily positive perceptions of learning AICC (attitude, motivation, emotions) in an interprofessional simulation. The simulations reduced prejudice against other professional groups and increased respect for other professional groups. A positive experience will also encourage people to keep working together after the training, which is also supported by previous studies (Reising et al., 2011; Bolesta and Chmil, 2014; Koo et al., 2014; Tofil et al., 2014).

However, it is important to note that one in five students found the interprofessional simulation stressful, and this was particularly the case with practical nursing and physical therapy students. Feelings of anxiety were particularly common among those students who played an active role in the simulation and felt they had been forced to take action. This might be partly explained by the fact that the majority of the simulation participants in our study were involved in a simulation for the first time. Having prior experience of simulations is useful in preparing for an interprofessional

simulation. According to previous studies, the level of stress experienced during a simulation will drop once the students become more familiar with the simulation environment (Pal et al., 2018). Beaird et al. (2017) have also noted that participants significantly improve their communication skills during their second simulation. Compared to their first simulation, students are clearly more aware of the contents of good and well-functioning communications in interprofessional collaboration. Students' ages also affect their perceptions of stress. Those over 25 years old found interprofessional simulations less stressful compared to the students under 25. Nevertheless, the standard deviation of a statement concerning the stressful aspects of the interprofessional simulation (SD 1.218) indicates that there is deviation in the responses to this statement.

While some students have expressed that they found the simulation stressful, nearly 80% of them did not consider the participation in the simulation and debriefing to have stirred up excessively strong emotions or fears concerning their performance in the interprofessional group. This finding indicates that despite experiencing stress, the majority of the students found that the exercise provided them with a safe opportunity for practising iCC and a positive atmosphere. When an interprofessional simulation has a positive atmosphere, the students are encouraged to put their interpersonal skills into practice and set positive challenges to their competence (Defenbaugh and Chikotas, 2016). In earlier studies, learners have reported that they have found simulations stressful if they had no prior experience of interprofessional education (IPE) and simulations, lacked knowledge or skills compared to their peers and related to being observed (Salam et al., 2014; Stefanidis et al., 2015; Garrido et al., 2018). Moreover, when implementing IPE simulation experiences, instructors must understand the learners' competence level and their previous experiences to create a meaningful and safe learning experience for all participants (Foronda et al., 2018).

Stress may also be perceived as a positive factor promoting learning. Previous research has shown that students may find that the emotions they feel during a simulation increase their self-awareness and stress management skills (Reising at al., 2011). Spitzberg and Cupach (2011) also note that affective interpersonal communication competence also includes unpleasant emotions, such as fear and anxiety (Reising et al., 2011; Jakobsen et al., 2018), which those in the working life must tolerate.

The interprofessional simulation requires teachers to have good skills in guiding a collaborative group and sufficient advance knowledge of the simulations the students have previously participated in. Therefore, intentional planning of the simulations with faculty members from

participating organizations (Speakman and Hanson-Zalot, 2017) and carefully considering each student group's level of knowledge is important (IPEC, 2016; Holtschneider and Park, 2019).

In the present study, the students practised their ICC with students they were not previously acquainted with and who studied in different educational institutions. As a result, it was important to provide the students with sufficient information about the simulation in advance, give them enough time to prepare for the simulation, and allow them to reflect on their perceptions in a debriefing held after the simulation. The roles assigned to students in the simulations could also be significant to the emotions the experience left them with. The participants who are given highly active roles are often left with a very powerful emotional experience of the simulation and tend to remember what they have done, particularly any mistakes, long after the event (Reime et al., 2016). Indeed, in interprofessional simulations, it is crucial to emphasise that not only are students allowed to make mistakes, but these are actually commendable as they provide good learning opportunities. On the other hand, studies have found that those observing the simulation learn as much as those playing active roles as they also intensely reflect on the situations they witness and also their learning (Stegman et al., 2012).

One way to reduce student stress in an interprofessional simulation is to make sure that the simulated situation is carefully scripted, as learning is promoted by a well-planned simulation, the realism of the simulation environment, plausibility of the interpersonal situations, and patient cases providing opportunities for learning for all professional team members (van Soeren et al., 2011; Shrader et al., 2016; Lewis et al., 2018). In this study, all students were provided with learning material to prepare for the simulation, information about who was participating in the simulation, and a debriefing conducted in a positive spirit. The simulations were designed in a working group whose members knew the study phase of all the students involved in the simulations, and the simulations were designed to match their competence level. Moreover, it is key to planning an interprofessional simulation that the activities of different professional groups are taken into account in a way that involves not only assigning a role to each agent and activities in line with their profession but also providing them with tasks that bring different professions together. (Kumar et al., 2018.)

This study revealed that AICC is an essential aspect of communication, even though different dimensions of ICC are closely entwined and good ICC also requires cognitive and psychomotor interpersonal competence. The results of this study provided new insights into the impact of affective interpersonal communication competence on learning in interprofessional simulations and

factors influencing learning. In this study, the students felt that the simulation exercise developed their AICC. Despite the fact that the students' evaluations of their learning were positive, they might have struggled with assessing their own AICC if they had insufficient knowledge of the contents of AICC and how this can be reliably evaluated (Cömert et al., 2016). In fact, there is need to further develop the questionnaire used in this study, including providing further details about the different areas of interpersonal communications in the questionnaire to make it easier for respondents to evaluate their competence. Interviewing students allows obtaining increasingly profound knowledge about the contents of their AICC and related development.

This study also included several limitations. While the study generally focused on interprofessional collaboration in health care, the questionnaire was only filled out by nursing, physical therapy and practical nursing students, and the total response rate was only 41.2%. As a result of a lack of responses from professional groups such as physicians, the obtained insight into the functionality and supporting features of multiprofessional communication may be somewhat biased. However, there were three other health care student group participants, providing a perspective on the communication and learning of these professions. The small sample size also limits the generalisability of the findings.

Furthermore, although the simulations were carefully planned to have a common learning aim for ICC, there may have been some differences between the capacity of different scenarios to produce good interprofessional communication. Therefore, there could have been different demand for different scenarios. However, it is important to note that even when different scenarios were used, their non-technical content was not significantly different.

The used questionnaire was designed to broadly explore the skills learned in interprofessional simulations. While it only contained seven variables directly related to affective knowledge, the consistency of the questionnaire used in the study of affective interpersonal communication competence can be considered good, as the Cronbach's alpha coefficients for the mean sum variables ranged from 0.699 to 0.915. However, in the future, the number of questions in this area should be increased to improve the validity of the questionnaire.

Conclusions

The following conclusions can be made based on the results:

1. The health care students had primarily positive perceptions of learning AICC (attitude, motivation, emotions) in interprofessional simulations, which reduced the students' preconceptions and increased their respect for other professional groups.

2. The interprofessional simulations raised awareness of the activities by other professional groups among students representing different fields of education, which encourages them to also continue working together after the training.

3. Previous simulations are useful in preparing for an interprofessional simulation. Those participating in a simulation for the first time were likely to experience stress related to the simulation. Good planning of the simulation, sufficient information about the progress of the event, and creating a safe learning environment promote the AICC of students.

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Table 1. The mean sum variables, Kolmogorov-Smirnov test, Cronbach's alpha test and included individual variable of factor analysis (factor loading, communality).

The mean sum variables / individual variable	**Factor-loading** [1]	**Communa-lity**	**Kolmogorov-Smirnov**	**Cronbach's alpha test**
Attitude and motivation			< 0.001	0.864
Developing interprofessional simulations prevents prejudices against other professional groups	0.689	0.634		
Interprofessional simulation increased my appreciation of other professional groups	0.597	0.616		
Interprofessional simulation encouraged the students from various fields to continue working together after the training once they enter the workforce	0.586	0.594		
This simulation exercise was useful to me	0.772	0.719		
In my opinion, interprofessional simulation was challenging in a positive way	0.463	0.635		
Emotions			**< 0**.001	0.699
In my opinion, the interprofes-sional simulation was not stressful	0.936	0.503		
Participating in the simulation and the learning discussion (debriefing) did not stir exces-sively strong emotions or cause fears about my personal ability to cope in an interprofessional group	0.546	0.384		

[1)] factor analysis

Table 2. Demographics (n, %).

Background variable	n	%
Gender (n=148)		
Male	11	7.4
Female	137	92.6
Age (n=147)		
–20	20	13.6
21–24	7	52.4
25–29	29	19.7
30–	21	14.3
Education (n=149)		
Nurse practitioner	32	21.5
Physical therapist	35	23.5
Registered nurse	82	55,0
Year of studies (n=147)		
1st year	0	0
2nd year	18	12.2
3rd year	129	87.8
4th year	0	0
Sufficient information about the simulation (n=149)		
Yes	128	85.9
No	21	14.1
Total number of interprofessional simulations (including the present training) (n=147)		
1	111	75.5
2	31	21.1
3 or more	5	3.4

Table 3. Attitude and motivation (n, %).

Attitude and motivation	**Disagree[1]**	**Neither agree nor disagree**	**Agree[2]**	**Mean[3]**	**SD[4]**
Independent variables in the indicator (n) **Attitude and motivation (149)**				**4.22**	**0.644**
Developing interprofessional simulations prevents prejudices against other professional groups (147)	3 (2.0)	21 (14.3)	123 (83.7)	4.25	0.775
Interprofessional simulation increased my appreciation of other professional groups (147)	2 (1.4)	28 (19.0)	117 (79.6)	4,18	0.783
Interprofessional simulation encouraged the students from various fields to continue working together after the training once they enter the workforce (147)	1 (0.7)	17 (11.6)	129 (87.7)	4.35	0.709
This simulation exercise was useful to me (148)	11 (7.4)	23 (15.6)	114 (77.0)	4.09	0.985
In my opinion, interprofessional simulation was challenging in a positive way (148)	10 (6.8)	16 (10.8)	122 (82.4)	4.12	0.856

Table 3. Disagree[1] = strongly disagree and partly disagree, Agree[2] = partly agree and completely agree, Mean[3] =1"strongly disagree" – 5 "completely agree", SD[4] = standard deviation.

Table 4. Emotions (n, %).

Emotions	Disagree[1]	Neither agree nor disagree	Agree[2]	Mean[3]	SD[4]
Independent variables in the indicator (n) **Emotions (148)**				**3.83**	**0.973**
In my opinion, the interprofessional simulation was not stressful (148)	29 (19.6)	33 (22.3)	86 (58.1)	3.58	1.218
Participating in the simulation and the debriefing did not stir excessively strong emotions or cause fears about my personal ability to cope in an interprofessional group (146)	12 (8.2)	22 (15.1)	112 (76.7)	4.11	0.969

Table 4. Disagree[1] = strongly disagree and partly disagree, Agree[2] = partly agree and completely agree, Mean[3] =1"strongly disagree" – 5 " completely agree", SD[4] = standard deviation.

Table 5. Background variables of health care students with a statistically significant connection to the students' attitudes and motivation in interprofessional simulation.

Background variable	n	Mean[1]	SD[2]	p[3]
Gender	**148**	**4**.23	0.634	**0.007**[4]
Male	11	3.77	0.425	
Female	137	4.27	0.635	
Age	**147**	**4**.23	0.637	**0.007**[5]
–20	20	4.48	0.486	
21–24	77	4.13	0.621	
25–29	29	4.12	0.657	
30–	21	4.52	0.680	
Education	**145**	**4**.22	0.644	**<0,001**[5]
Nurse practitioner	32	4.38	0.589	
Physical therapist	25	3.86	0.491	
Registered nurse	88	4.32	0.669	

Table 5. Mean[1] = 1 "strongly disagree" – 5 "completely agree", SD[2] = standard deviation, p[3] = significant p-value ≤ 0.05, [4] = the Mann-Whitney U-test, [5] = the Kruskall-Wallis test.

Table 6. Background variables of health care students, with a statistically significant connection to their emotions in an interprofessional simulation.

Background variable	n	Mean[1]	SD[2]	p[3]
Age	**146**	**3.85**	0.967	**0.035**[4]
–20	20	3.68	0.990	
21–24	76	3.74	0.940	
25–29	29	3.95	0.910	
30–	21	4.29	1.044	
Sufficient information about the simulation	**148**	**3.83**	0.973	**0.017**[5]
Yes	127	3.92	0.934	
No	21	3.33	1.076	

Table 6. Mean[1] = 1 ”strongly disagree” – 5 ”completely agree”, SD[2] = standard deviation, p[3] = significant p-value ≤ 0.05, [4] = the Kruskall-Wallis test, [5] = the Mann-Whitney U-test.