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Developing Social Competence of Physiotherapy Students During Workshops Using Active Teaching Methods: An Experimental Study

Authors' contribution:
A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
E) obtaining funding

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Abstract

Objective: The objective of this study was to answer the questions: 1) will the use of active methods in teaching workshops lead to an increase in indices of social competence in students? 2) do workshops conducted with active methods affect the development of social competence of women and men to the same extent? Methods: A pedagogical experiment with 140 first-year students (age: 18-26 years, with a mean age of 20.7 (SD 0.96) of the Faculty of Rehabilitation. The experimental group practised social skills using active methods. The control group studied the same content without active methods – based on text reading and analysis. We used the psychometric Social Competence Test, which has 3 parts: assertiveness, intimacy, and social exposure, and an overall index on a scale of 1 to 4. Result: Participation in the classes resulted in an increase in the subjects' indices of competence for assertiveness (η^2=0.13), intimacy (η^2=0.07), social exposure (η^2=0.06), and overall index (η^2=0.12). Changes in indices of the competencies studied in the experimental and control groups were at a similar level, with a small effect (η^2=0.01). There was a small interaction effect for gender and workshop participation (η^2=0.01). Conclusion: Active methods used in teaching classes did not result in an increase in social competence indices in first-year physiotherapy students. The gender of the respondents was irrelevant to the effectiveness of the development of social skills in workshop classes; therefore, the content and methods of working with women and men should be the same.

Keywords: education, physiotherapy students, social competence, active methods

Introduction

The education of therapists is an important challenge for the future because, while caring for patients, these professionals will be responsible for their return to social and physical activity. This task requires physiotherapists to spend many hours working directly with patients, which opens up opportunities for relationship building and education (Kloze et al., 2021; Leś et al., 2019; Rottermund et al., 2013). Therefore, physiotherapists should have highly developed social skills that allow them to transfer knowledge, identify the patient's needs, and build professional relationships with them (Rottermund et al., 2013; Ytreberg et al., 2014).

Social competence replaces interactions with the patient, which are based on fear of disease and its consequences (Femiak & Czechowski, 2022; Rottermund et al., 2013). The development of social skills is an important stage of education, preparing students for clinicals. Such preparation helps them to focus on the medical aspects of the classes

(Gribble et al., 2017; Gribble et al., 2019; Jiménez et al., 2021; Nelson et al., 2020; Pades-Stoller et al., 2013). The development of social skills, also in the study presented here, is seen as an essential condition for learning and realizing professional roles and values (Dalton et al., 201; Elliott et al., 2015; Femiak et al., 2022; Stewart et al., 2016).

Social competencies can be categorized according to the situations that require their use. Therefore, one of the proposals is a division referring to the classification of difficult social situations by Argyle (1991) and Matczak (2011). There are four types of situations: intimate situations, related to intimacy, disclosure of partners, confiding in or listening to problems; social exposure situations, meaning being an object of attention and potential evaluation by many people; formal situations that require compliance with strict rules or regulations; and situations that require assertiveness, such as pursuing goals or needs by influencing others or resisting the influence of others (Matczak, 2011).

Studies have shown that the social competence of physiotherapy students and physiotherapists is high (relative to the population) and is not differentiated by gender but by the degree of education and work experience (Gribble et al., 2019; Pades-Jiménez et al., 2021). Physiotherapists' social skills increase with their years of study. This fact can be explained by their natural development during the adoption of values specific to the physiotherapy profession (Aguilar et al., 2013; Ćwirlej-Sozańska et al., 2019; Gribble et al., 2019; Pades-Jiménez et al., 2021). Students in the first years use evasive techniques to help them deal with conflicts and, over time, learn assertive communication that helps them work with patients (Pades-Jiménez et al., 2021).

The present research was conducted in a natural and safe educational environment, which supports its effectiveness and preventive effect. This is consistent with the findings of Clarke, who indicated that social competence can be improved with workplace learning (Clarke, 2010).

Workshops and social skills training can take many forms of educationally structured activities. They can be conducted using both online and offline methods, but they always aim to develop communication skills (Femiak & Czechowski, 2022; Kuk et al., 2015; Minney et al., 2019). Research confirms that active methods, such as simulating conversations with patients, modelling correct behavior and providing feedback, along with noticing areas with knowledge deficits and fostering the development of high levels of trust, communication competence, confidence and creativity (Elliott et al., 2015; Femiak & Czechowski, 2022; Kuk et al., 2015; Riste et al., 2018 Ytreberg et al., 2014). Furthermore, they develop self-awareness, self-reflection and self-observation (Delany et al., 2009; Kuk et al., 2015; Pades-Jiménez et al., 2021).

In the training of physiotherapists, it is advisable to develop interpersonal skills during dedicated classes. This will help prepare for participation in clinical placements, so that during placement students can focus on the medical aspect of their relationship with the patient (Femiak et al., 2022; Gribble et al., 2017; Unger et al., 2014; Ytreberg et al., 2014).

The terms "teaching methods", "learning methods", "active methods", and "passive methods" are often used intuitively. We believe that defining the differences between them is important because of their use during education. We adopt the understanding of the term "teaching method" from the Polish author Klimowicz as a rationally planned (by the teacher) form of organizing the stages and process of learning. The method creates a situation and conditions in which the learner follows a clearly defined direction, according to the requirements set by the teacher, in order to achieve the intended goal, i.e. a specific body of knowledge and skills (Klimowicz, 2005). In this paper, we will use the division of teaching methods based on the distinction of the centre of the process of knowledge acquisition and transfer. Thus, there are expository (passive) methods, which take into account primarily the processes of teaching, with the teacher in their centre and an example being a lecture. On the other hand, active methods primarily take into account the processes of learning, focusing on the student and his or her cognitive processes. Active methods are adapted to student, examples of which include discussion, drama and brainstorming.

Active methods that incorporate learning processes focus on supporting the learner's construction and discovery of knowledge, involve all of the learner's rational and emotional resources, and incorporate concepts of learning as a continuous individual process that involves reorganizing prior cognitive structures, constructing new ones, and generalizing them. Within constructivism, Fosnot and Perry emphasized that learning is development; it is a process that engages all of the cognitive, emotional, and biological structures of the learner, whereas education that does not take into account the complexity of these processes and does not engage them inhibits not only the growth of knowledge but the development of the learner (Cannella, 1994; Fosnot & Perry, 2005).

Although there is no single optimal method of education, the recent history of didactics shows a clear shift towards active methods, learning methods, and a tendency to focus the educational process on the student rather than the teacher (Arends, 1994; Ploeg, 2016). This turn is also observed in the context of teaching physiotherapists and other health professionals (Bušelić et al., 2019; Nizami at al., 2017; Ytreberg et al., 2014). The turn towards active methods in higher education is also related to the change in students' expectations from teachers, who are nowadays required to teach critical thinking, creative attitudes towards knowledge, integration of knowledge with practice, responsibility, and an interdisciplinary approach

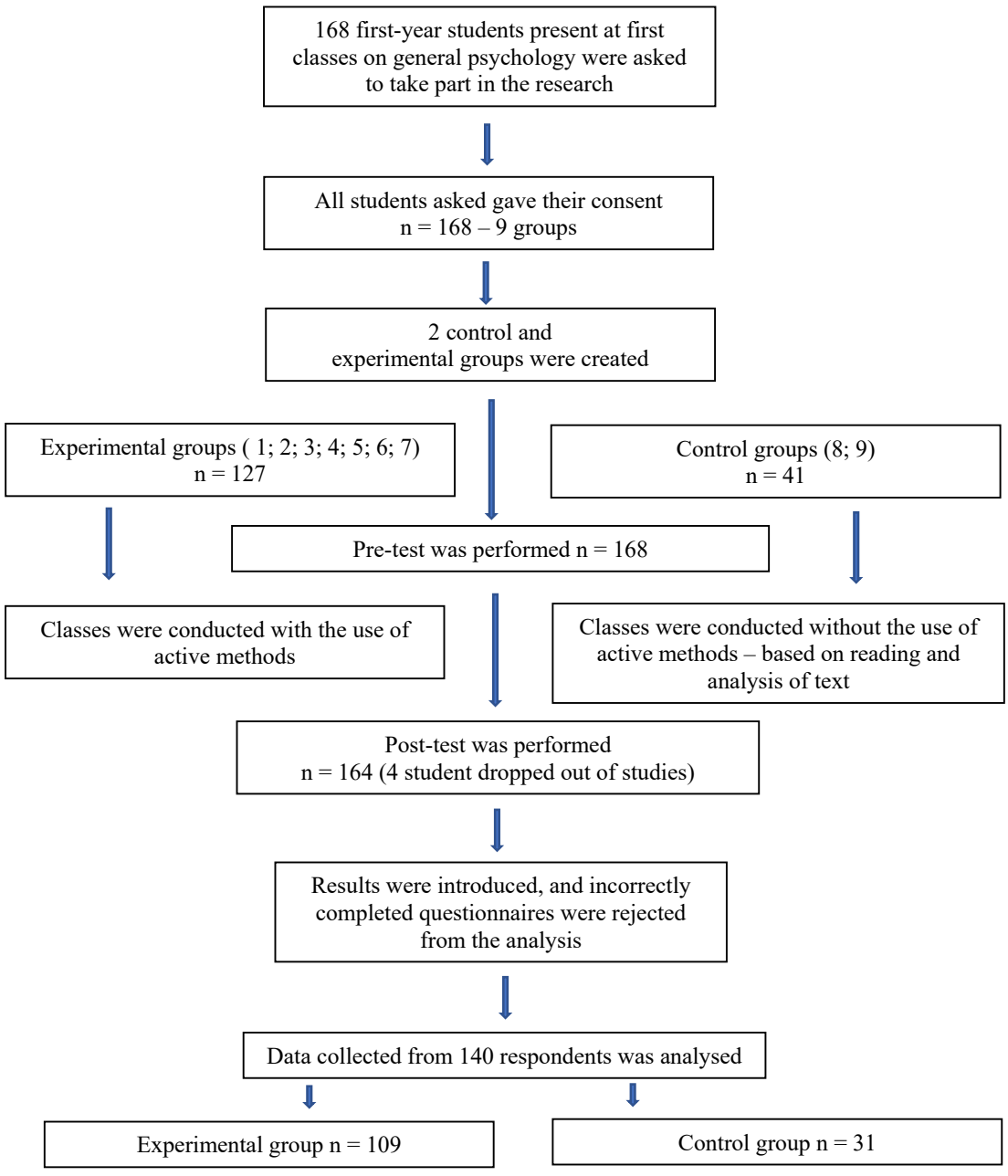
to problems (Nizami at al., 2017). Another expectation of students is to individualize teaching in order to recognize emotional, social, and intellectual needs (Cannela et al., 1994). Active methods, which primarily take into account the learning process, involve the student and take his or her needs into account, and are therefore used in social skills training. Both teacher-centred and learner-centred methods have some advantages and disadvantages, but the primary criterion in selecting them should be that they are appropriate to the learning objectives (Nizami et al., 2017; Ytreberg et al., 2014). Therefore, we used mainly active methods in our experiment, since its aim was to develop social and didactic skills.

The purpose of the study was to evaluate the effectiveness of social skills workshops for first-year physiotherapy students conducted using active methods. Self-rated scores collected using the Social Competence Questionnaire were used as an indicator of these skills. The survey was conducted before and immediately after the workshop.

Research questions:

1. Will the use of active methods in teaching workshops lead to an increase in indices of social competence in students?
2. Do workshops conducted with active methods affect the development of social competence of female and male students to the same extent?

Figure 1. Flow of participants through the study



Design

The research was carried out using the experimental method from 17 November 2021 to 21 January 2022 (10 weeks). The experimental factor was active methods that develop social skills, used as part of the compulsory course included in the curriculum. A request to participate in the survey was made in writing to all students at the first meeting. The classes were conducted in 7 experimental and 2 control groups, all by the same academic, a licensed interpersonal skills trainer of the Polish Psychological Association. The control groups were selected at random by drawing the number of the dean's group. The survey was repeated twice. The first time it was conducted before the workshop contents were taught. The second time was immediately after its completion. The questionnaires were coded to ensure anonymity and allowed the results to be linked for the same respondent for the pre-test and post-test results.

Participants

The study included all 168 first-year students of the Faculty of Rehabilitation, AWF Warsaw, majoring in physiotherapy, who attended the first classes of the course in general psychology and agreed to participate in the study. All students asked gave their consent. The choice of first-year students was dictated by the assumptions of the research project, the aim of which is to monitor the development of students' competences during their studies.

The results included in the analysis were obtained from students who attended all compulsory classes in general psychology, gave their consent to participate in the study, and correctly completed the questionnaire (pre-test and post-test). Questionnaires completed by persons not meeting the above criteria were not taken into account. After verification, the data collected from 140 respondents were qualified, accounting for 83.33% of all students in the year. The organization of the research and flow of participants through the study are presented in Fig. 1.

The age of participants whose data was qualified for analysis ranged from 18 to 26 years, with a mean age of 20.7 (±0.96) years. The experimental group consisted of 109 students, including 44 women. The control group consisted of 31 people, including 14 women. The distribution of age and sex in both groups was similar.

Intervention

Seven blocks of 1.5 hours were planned for the content of the workshop, which ran for a total of 10.5 hours. The pre-test and post-test were conducted at the beginning of the first class and at the end of the last class. The survey, including preparatory activities, took 30 minutes each time.

Class 1. Organizational, integration activities. Discussion of the main psychological competence in the work of a physiotherapist.

Class 2. Types of emotions, methods to recognize them, and their role in building self-awareness.

Class 3. Communication tools in building relationships and empathy.

Class 4. Psychological problems of people with disabilities and the role of communication in building relationships.

Class 5. Transactional analysis and therapeutic relationship building styles.

Class 6. Assertiveness principles and assertive messages in practice.

Class 7. Generic perspective: Characteristics of human cognitive and social development: public presentations by class participants

In seven experimental groups, classes were divided into two parts: in the first part, the theory was discussed; in the second, active methods were used that aimed to develop students' social competence and ability to cope in various situations: intimate situations, situations requiring assertiveness, and situations of social exposure. Active teaching methods were used: conversation simulations, modelling of correct behaviour, group drama, and providing feedback along with identification of areas with knowledge deficits. Five topics out of seven familiarized the participants with problems of social competence from an individual perspective. The last two topics revealed a generic perspective on the development of human social competence.

In the two control groups, the same thematic blocks were implemented using all of the class time to present, discuss, and interpret their content. Student activity in these classes was focused on answering questions, presenting facts, and exchanging opinions, and focused on learning the contents: understanding and memorization.

Outcome measures

Social competencies were examined using the Social Competence Questionnaire (SCS). The tool was validated, and the results of the validation favorably reflect its accuracy in measuring social competence. Tool reliability and validity data: the internal consistency of the total score as measured by the *alpha* coefficient was (0.93-0.95) and the standard error of measurement was 5-6 points. The reliability was expressed by the results of the individual factor scales, with coefficients in the range of 0.45-0.68, and did not differ significantly for the correlated scales or the gender and age of the respondents (Matczak, 2011). The tool contains three subscales: competencies that determine the effectiveness of behaviour in intimate situations, competencies that determine behaviour in social exposure situations, and competencies

that determine the effectiveness of behaviour in assertive situations. The analysis used the mean values in the aforementioned subscales and the overall index calculated for the following variables: gender, group (experimental, control), pre-test/post-test.

Data analysis

Data were analyzed using Statistica v.13,3 software (StatSoft, TIBCO 2017). An analysis of the distribution of the results (indices of competence) was conducted using the Kolmogorov-Smirnov test. Gender, indices of competence components, and time of survey (pre-test, post-test) were taken into account. It was observed that the hypothesis of normal distribution of the results could not be rejected for all aspects analyzed.

Analysis of variance for systems with repeated measures was used. The fixed factor was GENDER (F, M), and the repeated factor was COURSE (pre-test, post-test). A level of significance was set at $p < 0.05$. The effect size was assessed using the partial value of η^2. The following classification was adopted: 0.01 – small effect size, 0.06 – medium effect size, 0.14 – large effect size (Femiak & Czechowski, 2022).

Results

The analysis of variance with repeated measures (Table 1) revealed a medium effect of the classes resulting in an increase in the overall social competence index of the students studied ($F1,136=19,26$; $p<0.001$; $\eta^2=0.12$). There was no interaction effect due to group type (control and experimental), gender, and course participation ($\eta^2 = 0.01$). This means that participation in classes conducted using active methods did not significantly affect changes in the overall index of social competence of the participants. Women and men in the experimental and control groups responded equally to the experimental factor.

Table 1. Mean values (±SD) of the general indexes of social competence before and after the course

Experimental group				**Control group**							
Pre-test		Post-test		Pre-test		Post-test			F	p	η^2
2.91±0.41		2.96±0.41		2.93±0.33		3.03±0.32					
Female		Men		Female		Men		course	18.39	<0.001	0.12
Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Course x gender	1.76	0.187	0.01
								Course x group	2.35	0.128	0.02
2.79 ±0.34	2.84 ±0.36	2.99 ±0.44	3.04 ±0.43	2.78 ±0.21	2.93 ±0.27	3.05 ±0.36	3.11 ±0.35	Course x group x gender	1.51	0.221	0.01

An analysis of variance with repeated measures was performed (Table 2). A medium effect of the course was observed, expressed in higher assertiveness scores obtained by the participants after the course ($F_{1.136}=20.93$; $p<0.001$; $\eta^2=0.13$) There was no interaction between course participation and gender of the participants, and a small interaction effect of group type (control and experimental), gender, and course participation was observed ($\eta^2=0.01$). This means that the effect of students using conventional and active methods did not affect the increase in the index of their assertive competence recorded after the classes, and women and men in the experimental and control groups responded equally to participation in the course.

Table 2. Mean values (±SD) of the index of assertiveness before and after the course

Experimental group				Control group							
Pre-test		Post-test		Pre-test		Post-test			F	p	η^2
2.75±0.48		2.84±0.49		2.82±0.40		2.95±0.39					
Female		Men		Female		Men		course	20.93	<0.001	0.13
Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Course x gender	0.07	0.793	0.00
								Course x group	0.52	0.471	0.00
2.51 ±0.41	2.64 ±0.43	2.92 ±0.46	2.98 ±0.48	2.65 ±0.22	2.76 ±0.25	2.96 ±0.47	3.11 ±0.42	Course x group x gender	1.20	0.275	0.01

Based on the results of the analysis of variance with repeated measures (Table 3), we found a medium effect of the subjects' participation in the classes, expressed as an increase in the index of their competence in dealing with intimate situations ($F_{1.136}$=9,55; p<0.002; η^2=0.07). No interaction was observed due to group type (control and experimental) and course participation, and there was a small interaction effect of group type, gender, and course participation (η^2=0.01). We assume that using active methods did not significantly affect the increase in the index of competence of coping in intimate situations, and women and men in the experimental and control groups responded equally to participation in the classes.

Table 3. Mean values (±SD) of the index of intimacy before and after the course

Experimental group				**Control group**							
Pre-test		Post-test		Pre-test		Post-test			F	p	η^2
2.99±0.41		3.07±0.41		2.97±0.45		3.05±0.40					
Female		Men		Female		Men		course	9.55	<0.002	0.07
Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Course x gender	1.93	0.167	0.01
								Course x group	0.030	0.871	0.00
2.92 ±0.34	3.00 ±0.37	3.02 ±0.45	3.11 ±0.44	2.89 ±0.30	3.05 ±0.36	3.03 ±0.54	3.04 ±0.45	Course x group x gender	2.02	0.157	0.01

The analysis of variance with repeated measures (Table 4) showed a medium effect of course participation reflected in an increase in the index of respondents' coping competence in situations of social exposure ($F_{1.136}$=8.73; p<0.004; η^2=0.06). A small interaction effect of course participation and group type (η^2=0.03) was observed, as evidenced by significantly higher mean indices of competence obtained in the control group compared to the experimental group. There was a small interaction effect of course participation and gender of subjects (η^2=0.01) and a small interaction effect between course participation, gender, and group type. This means that participation in classes increased the index of coping competence in situations of social exposure, but this was also the case for the control group, where active methods were not used. A significant increase in the index of coping competence in a situation of social exposure was recorded for women in the control group.

Table 4. Mean values (±SD) of the index of social exposure competence before and after the course

Experimental group				**Control group**							
Pre-test		Post-test		Pre-test		Post-test			F	p	η^2
2.86±0.54		2.88±0.50		2.88±0.36		2.99±0.41					
Female		Men		Female		Men		course	8.73	<0.004	0.06
Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Course x gender	2.03	0.156	0.01
								Course x group	4.53	<0.035	0.03
2.77 ±0.51	2.78 ±0.48	2.92 ±0.56	2.95 ±0.51	2.67 ±0.33	2.86 ±0.41	3.05 ±0.30	3.09 ±0.40	Course x group x gender	2.96	0.088	0.02

Discussion

The content and methods used in the classes were designed to support the development of students' social skills. Therefore, from the first year of study, students have the opportunity to develop knowledge of communication and relationships and prepare students for clinical placements. In this context, our study explores an important element of the professional development of future physiotherapists.

Respondents from both groups (experimental and control) showed an increase in the indices of assertive-

ness, intimacy, and social exposure after the classes, while no effect of active methods on these variables was demonstrated. The following explanations can be proposed for such results. The first is that both groups (experimental and control) were taught by the same teacher. By modelling, regardless of the methods used, she was able to teach interpersonal skills. Modelling is an important factor in the development of social skills, from which it can be concluded that the competence of the teacher is even more important than the techniques used (Elliott et al., 2001; Elliott et al., 2008). The second cause is that the range of problems covered in the classes is the same in both groups. The third cause may also be the number of classes (7 meetings, 10.5 hours). This duration may have been too short for the active methods used to cause differences in the competencies developed by the students. Social competence training, using active methods recommended by the Polish Psychological Association, last 40 hours (Polish Psychological Society, 2023), which is why we believe that the duration was too short to reveal significant differences.

Nevertheless, many studies show the importance of active methods in the education of physiotherapists and other health professionals (Bušelić et al., 2019; Foster et al., 2014; Ytreberg et al., 2014). The effectiveness of active teaching methods has also been confirmed in academic courses in anthropology, English, and exact sciences, with results showing an improved understanding of concepts and improved critical thinking (Cannella et al., 2019). Teaching based on active methods that use the exchange of emotional experiences, also referred to as emotional intimacy, has yielded the expected results during the two difficult stages of physiotherapist education. Both the first year of study and the stage of clinical placement are related to crisis, lack of confidence in competencies, uncertainty, and lack of a sense of self-efficacy. Active methods provided emotional support, solidarity, and emotional closeness between community members, which had a positive impact on emotional engagement, building an identity of a competent student, and student performance (Elliott et al., 2015; Ytreberg et al., 2014)

Another cause of these results was that the respondents were just beginning their studies and were students of a year that studied mainly online from spring 2020 to autumn 2022. After such a long time, the encounter with traditional instruction, new teachers, other students, the "first-year crisis" and active methods may have caused a lot of tension and stress, as the 2022 study seems to confirm (Femiak & Czechowski, 2022).

An increase in the index of assertive competence after the classes was demonstrated. In other research, assertiveness was positively correlated with the amount of instruction during studies and the training method used during work placement, as measured by the type of relationship between supervisors and students and the methods for resolving conflicts (Pades-Jiménez et al., 2021). Assertiveness is rated higher in physiotherapists who have studied for five years than those after only three years of study (Pades-Jiménez et al., 2021). Research confirms that assertiveness improves in medical students with subsequent years of study, fostered by identification with professional values (Stewart et al., 2016). The survey on social competencies in Poland showed that physiotherapists are rated high in terms of social skills (Walicka-Cupryś et al., 2017; Zborniak-Sobczak et al., 2014). The factor that seems to be critical in obtaining these high competencies is the duration of their professional training. After a five-year university course, physiotherapists have higher scores than those after three-year courses (Rottermund et al., 2013), which is likely caused by the longer natural social training that occurs during studies and their relationships with peers and lecturers.

An increase in indices of competence in dealing with intimate situations was observed after the course. An important element that fosters the development of these skills is good relationships with the teacher and an atmosphere of safety and acceptance, rather than a focus on results (Gribble et al., 2019). A lack of good relationships and a focus on obtaining course credit results in a decrease in this scale, also described by the categories of emotional expression and self-expression (Gribble et al., 2019).

An increase was observed in the control group in indices of coping skills in situations of social exposure. This factor measures the degree to which a person copes with a situation of potential evaluation by others. Active methods require greater emotional involvement of participants and that they reveal their experiences and emotions, which can cause greater fear of evaluation and thus tension. In the control group, there were no active teaching methods that required revealing oneself and one's emotions, which may have provided a feeling of greater security and less fear of evaluation. Furthermore, the increase in the index was observed mainly for women. This factor decreases in an environment where the student focuses on evaluation and passing the subject. Students were not traditionally evaluated during our experiment in order to reinforce their openness and help them focus on self-development rather than earning a grade, which is often accompanied by tension. Therefore, in interpreting the results, we are inclined to believe that the active methods used may not have positively influenced the development of coping skills in our students in social exposure situations (Femiak & Czechowski, 2022).

It seems that a consistent system of social skills training ahead of clinical placement is worth recommending, and is consistent with the suggestions of other researchers dealing with this problem (Gribble et al., 2019; Stoller et al., 2013). Clinical placements are considered a stage of education in which a student can develop the social competencies needed for work as a physiotherapist. However, research indicates that placements can have a negative impact on social skills if the student experiences low-quality mentor support (Ezenwankwo et al., 2019; Gribble et al., 2017; Gribble et al., 2019). Gribble observed that supervisors in clinics who exhibit poor communication skills, lack of commitment, high levels of control, and are closed-minded or supervise through intimidation may negatively affect student performance and competence (Clarke 2010; Ezenwankwo et al., 2019; Gribble et al., 2017; Gribble et al., 2019; Pades-Jiménez et al., 2021). Other studies indicate that assertiveness increases if there is a good relationship with the supervisor and constructive resolution of difficult situations between students, patients, and supervisors (Gribble et al., 2019). The solution is dedicated social skills workshops.

Training supervisors of clinical placements in leadership styles and teaching methods such as the BUILD model should be considered (Delany et al., 2009). Training in assertiveness, relationship building, and identification of students' needs are also suggested for supervisors (Clarke 2010; Delany et al., 2009; Nelson 2020; Stoller et al., 2013).

An important issue that should be addressed is the competences of the teacher/coach who teaches during the social skills workshops. This is probably the most difficult condition to meet in the reality of academic education.

It should be noted that the survey measures the participant's perception of their social skills. Based on the survey, it cannot be concluded that these skills have improved but only that students' perceptions of their competences have improved. Subsequent studies can diagnose skills observed by patients, peers, or supervisors.

Selecting a control group is a challenge in experimental research on teaching. Future projects should consider selecting a control group from outside this population, e.g., university students (Gribble et al., 2019). A limitation of the survey of students is their need to be properly evaluated. In this study, the tendency was neutralized through the anonymity of the results (Pades-Jiménez et al., 2021).

Conclusion

The results of our observations lead to the conclusion that the students' participation in the classes contributed to an increase in their self-rated social competence. However, active methods used in teaching classes did not result in an increase in social competence indices in first-year physiotherapy students. The gender of the respondents was irrelevant to the effectiveness of the development of social skills in workshop classes; therefore, the content and methods of working with women and men should be the same.

Limitations of the study

We are aware that our observations are based on a single learning experience and do not provide the basis for broader generalization. Therefore, we draw the conclusions discussed above only for the population studied. The exposure to the experimental factor was too short. Active methods may have been too demanding for first-year students who had not yet fully adapted to the academic environment, and the experimental factor may have led to a tension that reduced the effectiveness of the development of competences. Perhaps active methods used to develop social competence, especially coping with situations of social exposure, would work better with older students. This may have been further aggravated by the unique situation caused by the COVID-19 pandemic, as this group had been exposed to social isolation and online learning for the previous two years. Another limitation is the selection of the control group, with classes taught by the same trainer, which may have resulted in the transfer of knowledge and skills by modelling.

Ethics approval and informed consent

Ethical approval was obtained by the Senate's Research Bioethics Committee at the University of Physical Education in Warsaw SKE 01-05/2022. All participants gave written informed consent before data collection began. The research was carried out in accordance with the approved procedure. The study manuscript adheres to the Declaration of Helsinki. All authors read and approved the final manuscript.

Competing interests

All authors certify that there is no actual or potential conflict of interest in relation to this study.

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