ABSTRACT

Purpose. The aim of the study was to investigate the social competence (SC) and emotional intelligence (EI) of future physical education (PE) teachers after targeted psychological training. Methods. PE university students completing their bachelor’s (28 third-year students) and master’s degrees (31 first-year students) were recruited and divided into an experimental and control group. The participants completed a questionnaire assessing SC and EI. The experimental group then participated in a series of psychological workshops (four 8-hour sessions) that included Video Interaction Training and interpersonal training. The questionnaire was again administered immediately and 6 months after the workshops were completed. Results. The indicators of SC and EI were significantly higher in experimental group in both post-workshop time points. No increases were observed in the control group. Conclusions. The results justify the inclusion of interactive psychological courses in the curricula of future PE teachers.

Key words: social competence, emotional intelligence, psychological workshops, physical education teachers

Introduction

The vast majority of human needs are fulfilled through communication. It is estimated that approximately 70% of time spent awake is occupied by communicating with other individuals [1]. The ability to communicate is particularly essential in professions that require social contact. Efficient communication skills are of particular importance in teaching fields, as they are ultimately tied with the success mental health of both teachers and students [2]. It is therefore imperative that future teachers acquire knowledge of how to communicate effectively, with appropriate university curricula addressing issues surrounding the communicative process. Social competence and emotional intelligence, which enable the establishment of good rapport with students, are crucial features within the occupational profile of teachers and should be addressed in training workshops strengthening these core proficiencies [3].

Social competence

Social competence is commonly understood as the ability to live in a society. On the basis of the psychology of individual differences, social competence is generally referred to as the disposition to function effectively in social situations in which various criteria and structures are identifiable. This concept is understood as the “complex skills conditioning efficiency to cope with a particular type of social situation, acquired by an individual in the course of social practice” [4, p. 7]. As a behavior, it can be analyzed in four types of social demands: 1) requiring the ability to build close relationships; 2) designating oneself as the object of attention; 3) requiring adaptation to certain rules; 4) requiring assertiveness.

Emotional intelligence

The amount of literature on emotional intelligence shows that it is a construct of great interest, as it is considered to be a determinant of personal success. Individuals with higher levels of emotional intelligence evaluate various difficult situations as less stressful and thus perceive themselves to be more likely to overcome life obstacles. It has been demonstrated that people with high emotional intelligence treat a difficult situation as a challenge, whereas those with low emotional intelligence treat a difficult situation as a threat [5]. Research has found a significant positive correlation between emotional intelligence and work performance, that there are significant correlations between emotional intelligence and all aspects of personality (Big Five, although in the case of neuroticism this is a negative correlation), and that there is a positive correlation between emotional intelligence and general intelligence and the Five Factor Model with regard to university students and employees [6]. The central role of emotional intelligence on health and well-being was also emphasized by Zeider et al. [7], although they highlighted various methodological difficulties in ascertaining such a relationship.

The non-intellectual factor of intelligence – personal intelligence – was included in the concept of multiple intelligences by Gardner [8], which was developed in the 1980s and presented in the book *Frames of Mind* (1983). The author took into account significant interpersonal and intramental dimensions and explained
the importance of musical and kinesthetic talents. This model helped pave the way for the concept of emotional intelligence to emerge in 1990 by Salovey and Mayer [9], who defined it as “the ability to perceive emotions, to access them, and to act on them to accompany thinking; the ability to understand emotions and have emotional knowledge that allows one to regulate their emotions and facilitate emotional and intellectual development” [10, p.26]. According to Goleman [9], another promoter of this concept, emotional intelligence is the ability that consists of awareness of one's own emotions. It involves aspects such as directing one's own emotions, especially in frustrating situations, recognizing other people's emotions, motivating oneself, thinking in distressing situations, and establishing and maintaining empathic social relationships. Goleman used Salovey and Mayer's model [10] in his concept to refer to five core previously-distinguished competencies: self-awareness, self-regulation, motivation, empathy, and social skills [9].

Research on social competencies and emotional intelligence

Zahra et al. [11] investigated the relationships between academic self-concept, emotional intelligence, and educational progress (academic performance) in university students, finding correlations between all three variables. They observed that academic self-concept was associated with educational achievement to a greater extent than emotional intelligence. McKown et al. [12] provided evidence that social–emotional skills are connected with educational achievement to a greater extent than emotional intelligence. McKown et al. [12] provided evidence that social–emotional skills are connected with successful social relationships both in healthy and clinically-affected children. Drawing conclusions from non-verbal communication about what people feel plays a key role in social life. The ability to share emotions with others and feel empathy are important for interpreting social information. Self-regulation is associated with greater social competence, which is why hyperactivity and inattention affect social relationships.

A number of studies [13] indicated negative correlations between emotional intelligence (the aspect of understanding emotions) and personality disorders involving paranoia, narcissism, or anti-social behavior. Research by Fernandez-Berrocal et al. [14] confirmed a negative correlation between emotional intelligence and levels of depression and anxiety. Jolliffe and Farrington [15] also showed that low levels of empathy co-occur with criminal behavior. Goleman [9] associated social competence with social and emotional intelligence. He stated that emotional and social intelligence overlap and do not require clear separation. This may be noticed in his approach to social intelligence, which he divides into two categories: social awareness (what we feel towards others) and social conformity (what we do, how we behave towards others). Social conformity includes aspects such as synchronization (matched non-verbal communication), self-expression (effective self-expression), influence (affecting a result of social interaction), and care (taking into account the needs of others and undertaking appropriate actions) [16]. In this regard, Goleman's concept of social conformity can serve as a foundation for thinking about social competence.

Social competence has been the subject of many studies. One study investigated whether the emotional intelligence of project managers has an impact on their interpersonal competence and what model was a better determinant of competence [17]. The mixed model of the Emotional Quotient Inventory (EQ-i) turned out to be a better diagnostic tool, although the scores of respondents' emotional intelligence as estimated by the ability model correlated higher with the opinions of other project participants with regard to the managers' communicative, motivational, and problem-solving skills [17]. Another study examined 337 first-year bachelor's or master's students studying electrical engineering and electronics from four universities [18]. The General Self-Efficacy (GSE) and Index of Learning Styles (ILS) scales, as well as a survey that distinguished 27 soft social skills, were administered. The soft skills covered teamwork, verbal and written communication, knowledge of foreign languages, Internet skills, listening skills, conflict resolution, arguing, information sharing, intercultural relationships, time management, responsibility, goal setting, resistance to pressure, problem solving, innovation, persuasion, adaptation to change, and leadership. The student responses assessing their soft skills were above average. The highest evaluated skills were responsibility, continuous learning, and listening and the lowest evaluated skills were time management, creativity, and innovation. The participants believed that soft skills were of great importance to their professional careers. The study also found that the higher the self-assessment of being effective, the higher the self-assessment of one's soft skills (with the exception of listening skills).

A study involving 156 physical education students found significant differences between men and women in terms of their ability to build social relationships [19]. It was found that women are more inclined to build these relationships on intimacy while men tended to build these relationships on assertiveness. In turn, strong positive correlations between communication skills and docility, as well as between emotional control and neuroticism, were demonstrated using the Student Readiness Inventory (SRI) on 468 American college students (completing 2-year and 4-year degrees) [20].

The relationship between emotional intelligence and the quality of working life was studied by Kumar and Rajaram [21]. Among the factors influencing working life, the authors distinguished external factors dependent on the employer and internal factors dependent on the employee. According to them, internal factors included emotional intelligence as it affects the ability to adapt to changes at work and cope with stress. The obtained
The following research questions were formulated:

1. What are the levels of social competence and emotional intelligence of PE students?
2. Would participation in psychological workshops differentiate the social competence and emotional intelligence of attending students against a control group?
3. Would the indicators of social competence and emotional intelligence change after six months?

**Material and methods**

PE students attending the Józef Piłsudski University of Physical Education in Warsaw, Poland were recruited, in which 28 were third-year bachelor’s students and 31 were first-year master’s students. The participants were then divided into an experimental and control group (Table 1). The study was completed in two rounds, the first round (involving only the MA students) was completed from April to November 2012 and the second round (only BA students) from November 2012 to June 2013.

<table>
<thead>
<tr>
<th>Education level</th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>MA</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>BA</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>28</td>
</tr>
</tbody>
</table>

The experimental group attended a series of psychological workshops (four 8-hour sessions), with the workshop format chosen as it is considered the most effective adult-teaching modality [24]. The curriculum focused on communication, team building, assertiveness, and teacher leadership. It involved elements of interpersonal training and Video Interaction Training (VIT). The interpersonal training component was based on personal development, teaching how to pay attention and think critically, as well as focus on oneself and others in a social situation. The participants were provided with opportunities to:

- get to know themselves better,
- challenge their own emotions,
- build social relationships,
- to become aware of the way they are seen by the members of the workshop group.

The main goals were to:

- promote understanding of one’s own reactions, as well as the reactions of the others,
- strengthen the ability to express one’s emotions and thoughts,
- provide skills to cope with problems more efficiently,
- demonstrate ways at building trust in people,
- provide guidance towards improving self-acceptance.

The VIT component taught the participants to:

- observe the mechanisms of building contacts between them and students and a student group,
- promote understanding of one’s own reactions, as well as the reactions of the others,
- strengthen the ability to express one’s emotions and thoughts,
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- provide skills to cope with problems more efficiently,
- demonstrate ways at building trust in people,
- provide guidance towards improving self-acceptance.
The goals of VIT were to enhance the participants’ abilities to:

– observe and control one’s own body and voice,
– engage in a partnership with a student, based on previously accepted rules,
– cooperate with parents in terms of students’ education.

The two groups completed questionnaires assessing their social competence (SC) and emotional intelligence (EI) at three time points: after initial enrollment in the study (pre-), immediately following the workshop program (post-), and 6 month after its completion (post-post-). Two standardized research tools were employed, Matczak’s Social Competence Questionnaire (SCQ) and the Emotional Intelligence Questionnaire (INT) by Jaworowska and Matczak [25], to determine: Social Competences General Index (SC-G), Social Competences to Cope with Intimate Situations (SC-INT), Social Competences to Cope with Situations of Social Exposure (SC-E), Social Competences to Cope with Situations Demanding Assertiveness (SC-A), and Emotional Intelligence (EI).

Analysis involved a generalized linear mixed model with one intrapersonal factor (time point: post- and postpost-intervention) and one interpersonal factor (group: experimental or control) and the indicators of SC and EI as the dependent variables. Because there were no significant differences between the BA and MA students, the results were analyzed within their respective group.

Results

Social competence and emotional intelligence at pre- and post-intervention

Table 2 presents the questionnaire results of the SC and EI indicators prior to and immediately after the workshops. The levels of SC and EI were similar in both groups at the study outset, finding average and low levels of the studied indicators. Compared to available population norms, SC-G was at an average level in both the experimental and control groups. After the workshops a higher value was observed in the experimental group. Similarly, in the case of behaviors related to the situations of relationship and intimacy building (SC-INT), both groups presented average results compared with population norms, and that immediately after the workshops the experimental group showed an increase to a high level. The same applied to the behaviors related to social exposure (SC-E). Assertiveness (SC-A) in the experimental group improved after the workshops. Pre-intervention EI was also found to be at an average level, only to significantly increase after the workshops.

Multivariate analysis showed a statistically significant interaction effect of time × group, $F(6, 52) = 6.52$, $p < 0.001$, $\eta^2 = 0.43$. Statistical measures (sphericity, Greenhouse-Geisser, and Huynh-Feldt tests produced identical results) for the respective indicators are presented in Table 3. Table 4 lists the results of pairwise comparisons by time (pre- and post-intervention) and group (control and experimental) for the analyzed dependent variables. The results are based on estimated marginal means for a normal distribution. Increases

<table>
<thead>
<tr>
<th>Variable</th>
<th>SC-G</th>
<th>SC-INT</th>
<th>SC-E</th>
<th>SC-A</th>
<th>EI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-</td>
<td>172.94</td>
<td>43.65</td>
<td>51.94</td>
<td>47.29</td>
<td>126.45</td>
</tr>
<tr>
<td>SD</td>
<td>22.49</td>
<td>6.36</td>
<td>10.13</td>
<td>6.90</td>
<td>10.38</td>
</tr>
<tr>
<td>Post-</td>
<td>190.84</td>
<td>47.03</td>
<td>57.26</td>
<td>53.42</td>
<td>134.68</td>
</tr>
<tr>
<td>SD</td>
<td>26.16</td>
<td>7.48</td>
<td>9.70</td>
<td>8.00</td>
<td>12.04</td>
</tr>
<tr>
<td>Post-post-</td>
<td>177.25</td>
<td>46.11</td>
<td>50.54</td>
<td>49.11</td>
<td>127.79</td>
</tr>
<tr>
<td>SD</td>
<td>16.94</td>
<td>6.02</td>
<td>7.55</td>
<td>5.99</td>
<td>12.55</td>
</tr>
<tr>
<td>Post-post-</td>
<td>171.57</td>
<td>44.61</td>
<td>49.25</td>
<td>47.11</td>
<td>128.68</td>
</tr>
<tr>
<td>SD</td>
<td>17.10</td>
<td>6.18</td>
<td>7.29</td>
<td>6.17</td>
<td>10.87</td>
</tr>
</tbody>
</table>

Table 3. Statistical characteristics of social competence and emotional intelligence (pre- and post-intervention)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Variable</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time × specification</td>
<td>SC-G</td>
<td>1.57</td>
<td>33.067</td>
<td>0.000</td>
<td>0.367</td>
</tr>
<tr>
<td></td>
<td>SC-INT</td>
<td>1.57</td>
<td>12.285</td>
<td>0.001</td>
<td>0.177</td>
</tr>
<tr>
<td></td>
<td>SC-E</td>
<td>1.57</td>
<td>17.173</td>
<td>0.000</td>
<td>0.232</td>
</tr>
<tr>
<td></td>
<td>SC-A</td>
<td>1.57</td>
<td>35.995</td>
<td>0.000</td>
<td>0.387</td>
</tr>
<tr>
<td></td>
<td>EI</td>
<td>1.57</td>
<td>9.396</td>
<td>0.003</td>
<td>0.148</td>
</tr>
</tbody>
</table>
were observed in each of the indicators in the experimental group while no such effect was observed in the control group. Instead, decreases in some of the indicators were observed.

Social competence and emotional intelligence post- and post-post-intervention

Analysis of the SC and EI indicators obtained post- and post-post-intervention showed no statistically significant changes in SC-G, SC-INT, SC-A, and EI (Table 5). Multivariate analysis of intrapersonal effects showed a statistically significant effect of group, $F(1.51) = 3.17$, $p = 0.010$, $\eta^2 = 0.27$. This indicated that participation in either the control or experimental group had some significance for the obtained difference.

**Discussion**

When considering the SC of the participants, the obtained values could be considered to be at an average level. A review of the available literature on Polish university students found that similar observations were made although there is a paucity of comparable studies. For this reason we cited unpublished master’s theses by a group of Polish psychology students [26–28], although all were performed under the auspices of the present author. The results of Wilk’s study [26] showed that students from the University of Physical Education in Warsaw were found with better competence than those from the Warsaw University of Technology [26]. Similar results in respect of SC were found between the University of Physical Education in Warsaw students and those
attending the University of Warsaw by Kazimierczak [27], although the university profile did not constitute a differentiating variable in the level of SC. Dąbrowska [28] performed a longitudinal study of EI and SC, finding that tourism and recreation students presented an average level over several years of observation. It appears that this population of university students generally shows average EI and SC.

Fall et al. [29] searched for relationships between EI and intercultural communication, finding that individuals with high EI are gifted in reading the moods and needs of others. This allows them to adapt and avoid the physical and physiological effects of anxiety related to communication. Individuals who demonstrated lower levels of anxiety related to communication were perceived as more intelligent and competent, an important aspect for young professionals. Surprisingly, indirect aggression, understood as exploitation of social situations, was found to require higher social intelligence than direct forms of aggression as confirmed in a study involving 526 Finnish students [30]. Here, empathy negatively and significantly correlated with any type of aggression with the exception of indirect aggression in 12-year-olds.

A teacher- and researcher-assessment of the EI and SC in young African-American children (3 to 5 years of age) from economically-stressed environments found that children who went to school, in a structured classroom led by a teacher, revealed more mature forms of emotional competence than children deprived of such an educational influence [31]. On the other hand, the results of Dąbrowska’s longitudinal study [28] did not show changes in EI and SC of tourism and recreation university students, indicating that the natural social practice afforded in two years of studies was not enough to observe progressive change [28].

In the present study, participation in a series of psychological workshops increased both SC and EI. This may allow future teachers to be better equipped with necessary social skills. Hen and Goroshit [32] studied 165 students (84% women and 16% men) studying social work at the undergraduate level (1st–4th year BA students). The aim of the study was to analyze the effects of a specialized “Being a Therapist” course on EI and empathy. Testing was conducted twice, before and after the course. Progressive changes in EI indicators were observed in 2nd–4th students, whereas no changes were observed in 1st-year students. Although the differences were dependent on the participants’ year of study, the causes were difficult to ascertain. It is also difficult to determine the most optimal social skills model that would ensure success in personal relationship [33]. However, it seems reasonable to deduce that the more basic competences in communication skills can be learned and developed. Training and practice are likely to increase one’s resourcefulness both at work and in everyday life. The results of a study conducted by Chow et al. [34] support the possibility of promoting mental health through the development of EI and social problem-solving skills. They found that the level of depression in neurotic disorder patients depended on their ability to solve social problems, where individuals with better social skills have less cognitive symptoms of depression.

EI has also been found to improve in response to various environmental and educational factors as well as the results of applicable training (Bar-On 1997, quoted in [25]). Numerous specialized programs designed to develop EI have been implemented in American schools [35]. However, due to the fact that these programs were practical in nature and not scientifically validated, their efficacy was not confirmed in methodologically sound ways. However, other available literature finds that even a 2-hour interdisciplinary program targeting communicative skills development, preceded by theoretical classes, was beneficial for German medical students in the spheres of communicative competence, self-confidence, and educational outcomes [36].

Kim et al. [37] described a model in which emotional competence influences employee performance at work, as demonstrated by a positive attitude towards superiors. In a sample of 196 pairs of managers and employees, they indicated that emotional competence was positively related to proactive behaviors which were in turn related to effectiveness in task implementation and social integration. In addition, such proactive behaviors significantly affected the relationship between emotional competence and achievements, especially if an individual had a higher autonomy at work.

The effectiveness of changes in SC as a result of a targeted intervention is dependent on intellectual capacity, while the magnitude of such changes depends on personality structure; intensity; individual traits such as emotional reactivity, extraversion, or anxiety; and the independent effects of individuals – familial or professional – in one’s social circle. Future studies should consider searching for differences in the changes in SC as a result of various interventions based on personality differences. Indisputably, universities should play an greater role in developing the EI and SC of future teacher graduates, although, “in the case of the teacher profession, a complete preparation for work is not possible (...), and the competencies that this profession requires are always unready, insufficient, and need constant changes” [38, p. 16].

Conclusions

At the study outset, the students from the experimental and control groups displayed similar levels of SC and EI. However, the indicators of these two abilities were significantly higher in the students who participated in the psychological workshops, both immediately and 6 months later, whereas no increase was observed in the control group. This finding is indicative that the intervention was successful in enhancing these abilities whereas
natural social practice over a period of 6 months was not. Comparing the present results and the findings in the literature, the inclusion of a series of interactive psychological courses in curricula for future teachers seems to be justified. At the same time, it should be stressed that the content and methods of these courses should be tailored to the specifics of the subject matter.

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