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Original Investigation

Emotional Intelligence and Changes in Social Competences of Physical Education Students

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Purpose: The aim of the study was to determine the changes taking place in social competences (SC) of Physical Education students after one year of study and how they differ according to gender. Relationships were also sought between changes in social competence and the level of emotional intelligence (EI) and experiences in social contacts.
Method: The Social Competence Questionnaire (SCQ) Matczak, was used to measure social competence. Emotional intelligence was measured using the INTE Emotional Intelligence Questionnaire by Schutte and co-authors. The respondents also provided answers to questions in the authors' own questionnaire concerning future career plans. SC and EI were measured twice, one year apart. The authors' own questionnaire was administered only during the repeat survey. A total of 132 Physical Education students, 83 males and 49 females, participated in both measurements of psychological variables.
Results: The measurement effect was found to be significant for all indicators of SC (SC in intimate situations $P = .009$; SC in situations of social exposure $P = .023$; SC in situations requiring assertiveness $P < .001$; SC - summary index $P < .001$). Emotional intelligence did not change significantly ($P > .005$). A significant gender effect was found for SC in situations requiring assertiveness ($P = .001$) and in situations of social exposure ($P = .035$), as well as for the summary index of SC ($P = .005$). Greater SC was revealed by men. Differences in EI were on the borderline of significance - slightly higher scores were obtained by men ($P = .051$). There was no significant interaction between gender and measurement. The level of EI significantly correlated with the level of SC (in both measurements) ($P < .01$). Stepwise regression analysis identified predictors of change in SC.
Conclusions: Studying, which provides a natural social training, promotes the improvement of SC. EI makes it possible to anticipate changes in SC, which leads to the assumption that it is a kind of foundation for their development.

Keywords: changes in social competence, emotional intelligence, Physical Education students, predictors of social competence

Introduction

"*Abba Pojmen said: <Teach thy mouth to speak what is in the heart>*".[1]
A physical education teacher works in a social environment. To be effective at work, they should possess a variety of skills. Emotional and social competences are particularly important here. The quality of the educational process at all levels of education depends on them.[2] By social competence, on the other hand, we mean, according to the definition, *the complex skills that determine the effectiveness of coping with (...) social situations, acquired through social training*.[3] Thus, we consider the behavioral aspect to be the core of social competence, which relates directly to the actual social skills and the ability to display them.[3] Cognitive dispositions (mainly social intelligence and social knowledge[4] - and motivational dispositions[5] (mainly personality-temperamental traits predisposing an individual to engage in social situations[5]) are, in the understanding adopted here, determinants of social competence.[6] Social competences are skills that determine a person's coping effectiveness in different social situations and are acquired through social training.[3] Coping in different social situations is conditioned by different specific skills which enable to obtain the desired effects from other people.[7] Social competence is the ability to realize social goals, as well as the ability to act in difficult situations.[4]
There is no general consensus on whether social competences are generalized (manifested in different social situations) or context dependent. Taking Matczak's concept[3] of social competence as the theoretical basis for the study, we advocate the latter position. Matczak[3] distinguished three types of social situations (intimate, social exposure and assertiveness).
Research into the social competence and emotional intelligence of Polish students from the Nicolaus Copernicus University indicates that those studying courses after which they could do teaching work have a high level of social competence.[8] This may be the result of natural selection - education in faculties preparing for the teaching profession is likely to be chosen by people with high social competences. Thus, one might expect a relationship between the level of social competences and preferences for education majors and professions related to interpersonal contacts[9]. Significant relationships have been found between social competence and preference for professions requiring intensive social relationships.[3,10] In addition, students of "social" faculties (pedagogy, re-socialization, management), preparing for professions whose essence involves contact with people, were characterized by higher levels of social competence. Similar differences were detected when comparing representatives of professions with varied social activity.[3] It is generally believed

that social competences are skills of particular importance in the teaching profession.[11]

On the other hand, these competences may develop naturally during the course of study, as a result of numerous interactions with the peer group and academics, and with children and young people during student placements. In a Brazilian study of students' social competences, the highest competences were observed in students studying full-time, during middle years of study, studying humanities, and in females.[12]

Social competences are conditioned by social training. The development of social competence by secondary school students ensures greater success in life, enabling them to come up with creative solutions to their problems. Openness to new social experiences that allow the development of social competences contributes to a better use of educational experiences.[13] It is reasonable to assume that the same applies to higher levels of education.

The effectiveness of social competence training depends on the intellectual capacity of the individual and, above all, on emotional intelligence and social intelligence, as well as temperament and personality traits.[3] The term "emotional intelligence" appeared in psychology in the early 1990s.[14] It is most commonly used to describe the total number of abilities that determine the effectiveness of emotional information processing.[15] Emotional intelligence consists of, among other things, the ability to perceive and express emotions, the ability to support thinking, the ability to understand and analyze emotions and to control and regulate them.[16] Its manifests itself through personal and social competences: self-awareness, self-regulation, motivation to act, empathy, social skills.[17]

The importance of emotional intelligence in the development of social competence is demonstrated by the results of a study of secondary school students in Spain. It was found that adolescents with high levels of emotional intelligence were more prosocial and performed better at school.[18]

Emotional intelligence has been found to increase with age.[19] The question arises as to whether it increases during education at the turn of adolescence and early adulthood. An American longitudinal study of the emotional intelligence of medical students showed no significant changes in the overall index of emotional intelligence and also in four factors, i.e. well-being, self-control, emotionality and sociability. Optimism increased, but only in radiography students.[20]

In research on adolescents, women scored higher in emotional intelligence than men. Lower levels of emotional intelligence in male adolescents, mainly the inability to feel emotions and use emotions to facilitate thinking, were associated with negative outcomes including illegal drug and alcohol use, deviant behaviour and poor relationships with friends.[21]

Research findings support the links between emotional intelligence and job performance, especially in occupations that require a lot of social interaction, understanding others and acting for their benefit, including teachers at different levels of education.[22-24]

How we describe the relationship between emotional intelligence and social competence depends to a large extent on the definition of these terms. Some of the abilities considered in concepts of emotional intelligence are also treated as components of social intelligence (for example, the ability to recognize other people's feelings, empathy, emotional control).[25] The results of research in the Polish population indicate that the higher the level of emotional intelligence, the better the skills conditioning functioning in social situations.[26] The relationship between these variables is probably two-sided. On the one hand, social contacts influence the formation of a person's emotional sphere;[27] on the other hand, emotional intelligence influences interpersonal contacts.[28]

The aim of the study was to determine the changes occurring in social competences in Physical Education and Sport students after one year of study and to find out how these competences differ according to gender. Also, there were sought relationships between changes in social competence and levels of emotional intelligence and experiences in social contacts.

Methods

Participants

A total of 132 Physical Education students, 83 males and 49 females, participated in both measurements of the psychological variables. The inclusion criterion was the willingness to take part in the study (volunteers were studied). People who did not complete all tests in the first and second measurement were excluded. During the first measurement, they were aged between 18 and 25 (Mean= 20.21; SD= 1.01). Female students (Mean= 19.82; SD= .78) were significantly younger than male students (Mean= 2045; SD= 1.06) ($F_{1,130}$ = 13.024; P< .001). There were 121 participants in the survey, including 78 men and 43 women.

Study Design

Social competence and emotional intelligence were measured twice, one year apart, in the first and second year of study. The authors' own questionnaire was used in the second year, i.e. during the repeated survey.

Instruments

The Social Competence Questionnaire (SCQ) in the version for adolescents (pupils and students), consisting of 90 statements including 60 diagnostic items, was used to examine social competence. The questionnaire contains three scales, relating to competences determining the effectiveness of behavior in intimate situations (15 items), in situations of social exposure (18 items) and in those requiring assertiveness (17 items). A summary index of social competence can also be calculated. The tool has satisfactory reliability (in the student group, Cronbach's *alpha* ranges from .76 to .89; internal stability coefficients take values from .71 to .85). The validity of the tool was confirmed, among other things, by correlating its results with the results of selected temperament and personality questionnaires and intelligence tests.[3]

Emotional intelligence was measured using the INTE Emotional Intelligence Questionnaire[26] by Schutte, Malouff, Hall, Haggerty, Cooper, Golden and Dornheim, consisting of 33 items. **The validity of the tool** was demonstrated on the basis of the analysis of intergroup differences and by correlating INTE results with other tools for measuring intelligence, personality and social competence. The internal reliability of the questionnaire is satisfactory and does not differ from that of the original version, with Cronbach's alpha coefficients for standardized samples ranging from .83 to .87.

The respondents also answered questions in the authors' own questionnaire about their future career plans. For the purpose of this study, the respondents' answers to two questions were analyzed: *Do you intend to work in the teaching profession*? and *Do you intend to work as an instructor/trainer?* Each time, students chose one of five possible answers: 1-Definitely not, 2- Rather not, 3- Do not know, 4- Rather yes, 5-Definitely yes.

Statistical analysis

The Shapiro-Wilk test was used to assess the normality of distributions. Since the distributions of variables met the normality criteria, parametric tests were used. The analysis of variance with

repeated measure was used (gender × measurement). Pearson's r linear correlation coefficients between the change indicators of the individual social competences were calculated. In order to establish predictors of changes in social competences, a stepwise regression analysis was conducted. Values at the level of $P< .05$ were considered statistically significant.

Results

Table 1 shows the indicators of social competence and emotional intelligence as measured in the first and second year of study, the weighted averages in the male and female groups and the results of the analysis of variance with repeated measure (gender × measurement). The measurement effect was significant for all indicators of social competence - their significant increase was observed. Emotional intelligence did not change significantly.

A significant gender effect was found for social competence in situations requiring assertiveness and in situations of social exposure, as well as in the summary index of social competence. Greater social competence was revealed by men. Differences in emotional intelligence remained at the borderline of significance - slightly higher scores were obtained by men. No significant interaction was found between gender and measurement ($P> .05$). Significant increases in social competence were observed in both women and men (Table 1).

For further analysis, rates of change were calculated by subtracting the result of the second measurement from the result of the first measurement. A positive index value indicates an increase in the index. The linear correlation coefficients r-Pearson between the change indicators of the individual social competences were calculated. Change in social competence in intimate situations correlated significantly with change in competence in social exposure situations (r= .447) and in situations requiring assertiveness. Change in social competence in social exposure situations correlated with change in social competence in situations requiring assertiveness (r= .494). In all cases $P< .001$.

No significant relationships were found between indicators of change in social competence and students' ages. Spearman correlation coefficients were also calculated between indicators of change in social competence and the degree of belief in entering the teaching and instruction profession. These were not statistically significant ($P> .05$). The level of emotional intelligence in the first measurement did not correlate with indicators of change in social competence but was significantly and positively correlated with their level in the first and second

Table 1. Social competence (SC) and emotional intelligence in relation to gender and measurement (repeated measure ANOVA)

Variables	Gender		Measurement		ANOVA		
	Male (M*)	Female (M*)	I (M±SD)	II (M±SD)	Gender $F_{(1,130)}$; P, η^2	Measurement $F_{(1,130)}$; P, η^2	Interaction $F_{(1,130)}$; P, η^2
SC in intimate situations	45.60	45.53	44.89 ±5.59	46.25 ±5.79	.010; .941; <.001	7.020; .009; .051	.050; 0.815; < .001
SC in situations of social exposure	55.23	52.38	53.38 ±8.31	54.96 ±8.36	4.561; .035; .034	5.240; .023; .039	.261; .610; .002
SC in situations requiring assertiveness	52.21	48.36	49.74 ±7.44	51.82 ±7.15	11.152; .001; .079	16.963; < .001; .115	1.249; .266; .009
SC - summary index	184.51	177.83	178.07 ±20.65	185.95 ±21.50	3.920; .050; .029	21.940; < .001; .145	.010; .916; < .001
emotional intelligence	131.52	126.80	130.00 ±16.32	129.54 ±15.874	3.890; .051; .029	.050; .831; < .001	.080; .772; < .001

Note: M* weighted average

Table 2. Relationships between emotional intelligence and social competences (SC) and their change indices (Pearson's *r* linear correlation coefficients)

Variable	SC in intimate situations	SC in situations of social exposure	SC in situations requiring assertiveness	SC - summary index
		First measurement		
Emotional intelligence	.285*	.394*	.277*	.360*
		Second measurement		
Emotional intelligence	.310*	.304*	.319*	.347*
		Change indices		
Emotional intelligence	.040	.041	.107	.063

Note: * - $P< .01$

measurements (Table 2). The value of the correlation coefficients was similar.

In order to establish predictors of changes in social competences, a stepwise regression analysis was conducted (Table 3). Indicators of change were entered into the equation as dependent variables, and the following were entered as factors: score from the first measurement of a given competence, score from the first measurement of emotional intelligence, gender, age, having experience of working with clients, willingness to become a physical education teacher and instructor, and systematic participation in sport. An increase in social competence in intimate situations can be predicted in almost 27% and in situations requiring assertiveness in almost 24%, based on the level of these competences and emotional intelligence in the first year of study. A greater increase in these competences is to be expected in students who revealed low levels of these competences in the first measurement and were then characterized by high emotional intelligence.

Table 3. Predictors of changes in social competences (SC) (stepwise regression analysis)

Dependent variable	Step	Predictor	Beta	Model corr. R^2, F, *P*
Change in SC in intimate situations	1.	First measurement of SC	- .502	.246; 40.08; < .001
	2.	First measurement of SC	-.547	.269; 23.04; < .001
		Emotional intelligence	.176	
Change in SC in situations of social exposure	1.	First measurement of SC	-.416	.166; 24.85; < .001
	2.	First measurement of SC	-.414	.208; 16.72; < .001
		Practicing sports	-.219	
	3.	First measurement of SC	-.409	.241; 13.73; < .001
		Practicing sports	-.212	
		Planned work as a teacher	.199	
Change in SC in situations requiring assertiveness		First measurement of SC	-.452	.197; 30.526; <0,001
	2.	First measurement of SC	-.500	.237; 19.66; < .001
		Emotional intelligence	.219	
Change in SC (summary index)		First measurement of SC	-.390	.145; 21.19; < .001
	2.	First measurement of SC	-.447	.173; 13.403; < .001
		Emotional intelligence	.193	

These two factors also make it possible to predict in 17% an increase in the total social competence index. A large increase in social competences in exposure situations can be expected in students revealing low levels of these competences in the first measurement, not practicing sport systematically, but determined to work as PE teachers. These factors make it possible to predict changes in social competences in exposure situations in 24%. Social experience of working with clients, readiness to work as an instructor, age and gender were not found to be significant in any case.

Discussion

The results of the study indicate that there is a natural, significant increase in social competences during one year of Physical Education studies. It is highest for social competences in situations requiring assertiveness, and the lowest for social competences in situations of social exposure. The data obtained in the study do not make it possible to determine to what extent these changes are the result of natural development, occurring independently of the nature of the social experience, and to what extent they are the result of social training associated with university education. For this to be possible, it is necessary to study people at the turn of adolescence and early adulthood and differing in terms their life tasks pursued (academic education vs. entry into employment). No such studies have been found in the literature, so it is worth undertaking them in the future.

The results of a study concerning social competences of doctors and medical students indicate that low levels of social competences can be expected from doctors with shorter professional experience, not belonging to scientific societies, not being involved in the education of students, working only in one place and not pursuing postgraduate studies.[29] This suggests that the development of social competence is not an automatic result of changes occurring with age. It is more likely to occur in people who undertake more social interaction with people who differ in

terms of age, education, and social background. Therefore, it can be assumed that also in Physical Education students, the increase in social competence dependens on their social experiences. As indicated by the results of previous research, the more often and in more varied situations a skill is used, the greater the degree of its mastery.[30]

The importance of social experiences in the development of social competence is confirmed by the results of the regression analysis. A predictor of improved competence in an exposure situation during the first year of studies was not playing sport. It can be assumed that the specific social experiences related to playing sport stimulated the development of social competences already in adolescence. Students who did not play sport found themselves in the conditions particularly stimulating for the development of social competences when they entered university. University education, therefore, seems to promote the development of social competence in those students who presented lower levels of social skills at the time of entry. Perhaps this was due to their lower social activity or the less socially stimulating environment in which they grew up. This is a developmentally desirable situation - students with lower competences are given a chance to develop them.

Interestingly, the students' emotional intelligence did not change significantly during one year of study. This suggests that its development ended during adolescence and that increased social experiences do not contribute to its further development. Similar results were obtained by Parker et al.[31] who compared the results of emotional intelligence tests in the first week of university studies and after 32 months. The results appeared to be relatively stable in time, as indicated by the strong correlations between the results of the two measurements. However, some increase in emotional intelligence was observed, possibly due to the longer time that elapsed between test and retest and the fact that the second measurement was taken after the completion of the undergraduate degree. Similarly, the emotional intelligence of medical students improved within 5 years of observation. Changes were independent of gender, religion, ethnicity, socioeconomic parameters and academic performance.[32]

Although emotional intelligence did not change in our students during their one year of Physical Education studies, it is strongly linked to changes in social competences. It can be surmised that it forms the basis on which the development of these competences takes place. This assumption is confirmed by the results of the regression analysis. Emotional intelligence turned out to be a significant predictor of the increase in social competences in assertive and intimate situations and, consequently, of their summary index.

According to the Spanish authors,[33] who carried out a meta-analysis of a number of scientific texts on emotional intelligence, it should be understood precisely as a predictor of socio-emotional well-being, which is directly as well as indirectly linked to self-efficacy, locus of control, self-esteem and motivation, all of which affect academic performance and the ability to adapt to changing circumstances. On the other hand, education takes place in a social environment, and emotional intelligence allows for more effective adaptation to social environments, as social and emotional factors interact. Introducing programs that increase emotional intelligence in the school environment can have positive effects in terms of emotional well-being and increased academic performance.[33]

It is interesting to note that among Physical Education students, it was the men who revealed not only higher levels of social competence in situations of social exposure and assertiveness, but also slightly higher levels of emotional intelligence. Many previous studies have found differences in the opposite direction. This was the case of Turkish students, among others.[34] In contrast, among industrial engineering students, the level of emotional intelligence was higher in males.[35]

Practical applications

The results of our research indicate that social competence of Physical Education students develops during their studies, while their emotional intelligence does not change. Meanwhile, studies of Peruvian students indicate that emotional intelligence protects against anxiety, depression, burnout and academic stress.[36] Studies of US youth show that social skills play an important role in students' experience of loneliness, depression and anxiety.[37] In order to reduce the risk of mental disorders in students, actions should be taken to develop their social competences and emotional intelligence. They will also need these competences in the future, especially in the teaching profession. In a group of Indonesian teachers, positive correlations were found between emotional intelligence and teachers' achievements. The authors of this study emphasize that improving teachers' competences and emotional intelligence can yield positive results in terms of improving the quality of education and increasing teachers' achievements in the teaching process.[24] The earlier a teacher acquires these competences, the better, both for them and their students.

Conclusions

The results of the research allow to draw the following conclusions:

1. Studying promotes natural social training and contributes to students' increased social competences.
2. Emotional intelligence provides the basis for the development of students' social competences, although it does not itself change during a year of study.

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Informed Consent Statement

Informed consent was obtained from all participants involved in the study.

Ethical Committee approval

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Conflicts of interest

The authors have no conflicts of interest to declare.

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References

1. *Apoftegmaty Ojców Pustyni*. Tom 1. Gerontikon. Księga Starców.Tyniec: Wydawnictwo Benedyktynów; 2007:407.
2. Lozano-Peña G, Sáez-Delgado F, López-Angulo Y, Mella-Norambuena J. Teachers' social–emotional competence: History, concept, models, instruments, and recommendations for Educational Quality. *Sustainability*. 2021;13:12142. doi:10.3390/su132112142
3. Matczak A. *Kwestionariusz Kompetencji Społecznych. Podręcznik*. Warszawa: Pracownia Testów Psychologicznych PTP; 2007:7.
4. Nęcka E. *Inteligencja. Geneza. Struktura. Funkcje*. Gdańsk: GWP; 2003.
5. Argyle M. *Psychologia stosunków międzyludzkich*. Warszawa: PWN; 2002.
6. Martowska K. *Psychologiczne uwarunkowania kompetencji społecznych*. Warszawa: Wydawnictwo Liberi Libri; 2012.
7. Bakiera L, Stelter Ż. *Leksykon psychologii rozwoju człowieka*. V. 1. Warszawa: Difin SA; 2011.
8. Banasiak MA. Social competence and emotional intelligence of students of education studies and teaching specialties. *Edukacja Ustawiczna Dorosłych*. 2018;4:197-205.
9. Lakhal S, Frenette É, Sévigny S, Khechine H. Relationship between choice of a business major type (thing-oriented versus person-oriented) and Big Five personality traits. *Int J Manag Edu.* 2012;10:88–100. doi:10.1016/j.ijme.2012.03.003
10. Matczak A, Martowska K. Instrumental and motivational determinants of social competencies. In: Matczak A ed. *Determinants of social and emotional competencies*. Warszawa: Wyd. UKSW; 2009:13-35.
11. Strykowski W. Kompetencje współczesnego nauczyciela. Neodidagmata. Poznań: Adam Mickiewicz University Press; 2005.
12. Bolsoni-Silva AT, Loureiro SR. Social skills of undergraduates without mental disorders: Academic and socio-demographic variables. *Psico-USF, Bragança Paulista.* 2015;20(3):447-459. doi:10.1590/1413-82712015200307
13. Kurian S, Prakasha GS. Social competence for next generation secondary school students. *J Re Method Edu.* 2016;6(1):47-52. doi: 10.9790/7388-06114752
14. Salovey P, Mayer JD. Emotional intelligence. *Imagination, Cognition, and Personality.* 1990;9:185-211. doi:0.2190/DUGG-P24E-52WK-6CDG
15. Mayer JD. Cobb CD. Educational policy on emotional intelligence: does it make sense? *Edu Psychol Rev.* 2000;12:163-183. doi:10.1023/A:1009093231445
16. Mayer JD, Salovey P. What is emotional intelligence? In: Salovey P, Sluyter DJ, eds. *Emotional development and emotional intelligence. Educational implications.* New York: Basic Books; 1997:3-31.
17. Matczak A, Knopp KA. *Znaczenie inteligencji emocjonalnej w funkcjonowaniu człowieka*. Warszawa: Wydawnictwo Liberi Libri; 2013.
18. Gil-Olarte Márquez P, Palomera Martín R, Brackett MA. Relating emotional intelligence to social competence and academic achievement in high school students. *Psicothema*. 2006;18:118-123.
19. Mayer JD, Salovey P, Caruso DR, Cherkasskiy L. Emotional intelligence. In: Sternberg RJ, Kaufman SB, eds. *The Cambridge handbook of intelligence*. Cambridge University Press; 2011:528–549. doi: 10.1017/CBO9780511977244.027
20. Miller E. Does emotional intelligence change after 1 year of courses for the diagnostic medical sonography or radiography students? *J Diagnostic Medical Sonography.* 2023;39(2):95-103. doi: 10.1177/87564793221131573
21. Brackett MA, Mayer JD, Warner MR. Emotional intelligence and its relation to everyday behaviour. *Pers Indiv Differ*. 2004;36(6):1387-1402. doi:10.1016/S0191-8869(03)00236-8
22. Fall LT, Kelly S, MacDonald P, Primm C, Holmes W. Intercultural communication apprehension and emotional intelligence in higher education: Preparing business students for career success. *Business Communication Quart*. 2013:76:412–426. doi: 10.1177/1080569913501861
23. Kassim SI, Bambale AJ, Jakada BA. Emotional intelligence and job satisfaction among lecturers of universities in Kano State: Empirical evidence. *J Edu Practice.* 2016;7:53-59.
24. Wahyuddin W. The relationship between teacher competence, emotional intelligence and teacher performance in Madrasah Tsanawiyah at District of Serang Banten. *Higher Edu Studies*. 2016;6:128-135. doi: 10.5539/hes.v6n1p128
25. Sadowska M, Steuden S. Relacje interpersonalne studentów o różnym poziomie inteligencji emocjonalnej. In: Okła W, Tucholska S, eds. *Wybrane zagadnienie z psychologii klinicznej i osobowości. Problemy człowieka zdrowego*. Lublin: Towarzystwo Naukowe KUL; 2005:29-44.
26. Jaworowska A, Matczak A. *Kwestionariusz Inteligencji Emocjonalnej INTE*. Warszawa: Pracownia Testów Psychologicznych PTP; 2001.
27. Greenberg MT, Snell JN. Rozwój mózgu a rozwój emocjonalny: rola nauczania w kształtowaniu płata czołowego. In: Salovey P, Sluyter DJ. eds. *Rozwój*

emocjonalny a inteligencja emocjonalna. Poznań: Dom Wydawniczy Rebis; 1999:167-206.
28. Eisenberg N, Fabes RA, Losoya S. Reakcje emocjonalne: ich regulacja, korelaty społeczne i socjalizacja. In: Salovey P, Sluyter DJ. eds. *Rozwój emocjonalny a inteligencja emocjonalna*. Poznań: Dom Wydawniczy Rebis; 1999:223-280.
29. Mroczek B, Zarek A, Rudnicki J, Wolińska W, Pawlak I, Dyk T, Kotwas A, Kurpas D. Social competence of physicians and medical students – a preliminary report. *Family Med Primary Care Rev.* 2016;18(3):308–312. doi: 10.5114/fmpcr/62754
30. Ziółkowska B. Okres wczesnej dorosłości. Jak rozpoznać potencjał młodych dorosłych. In: Brzezińska AI. ed. *Psychologiczne portrety człowieka. Praktyczna psychologia rozwojowa*. Gdańsk: GWP; 2021:423-502.
31. Parker JD, Saklofske DH, Wood LM, Eastabrook JM, Taylor RN. Stability and change in emotional intelligence: Exploring the transition to young adulthood. *J Indiv Differ*. 2005;26(2):100-106.
32. Ranasinghe P, Senadeera V, Gamage N, Weerarathna MF, Ponnamperuma G. Temporal changes in emotional intelligence (EI) among medical undergraduates: a 5-year follow up study. *BMC Med Educ*. 2020;20(1):496. doi:10.1186/s12909-020-02404-x.
33. Quílez-Robres A, Usán P, Lozano-Blasco R, Salavera C. Emotional intelligence and academic performance: A systematic review and meta-analysis. *Thinking Skills Creativity*. 2023;49:101355. doi.org/10.1016/j.tsc.2023.101355
34. Ozben S. Social skills, life satisfaction, and loneliness in Turkish university students. *Soc Beh Persony: int j*. 2013;41:203-214. doi:10.2224/sbp.2013.41.2.203
35. Fuentes Rosas L, Tobón Galicia LG, Rojas Mora L. Nivel de inteligencia emocional en estudiantes de ingeniería industrial: El caso ITS de Tierra Blanca. *Estudios Y Perspectivas Revista Científica Y Académica.* 2024;4(3):1144–1156. doi.org/10.61384/r.c.a.v4i3.471
36. Montenegro Ordoñez J. La inteligencia emocional y su efecto protector ante la ansiedad, depresión y el estrés académico en estudiantes universitarios. *TZH*. 2020;12(4):449-461. doi:10.26495/tzh.v12i4.1395
37. Moeller RW, Seehuus M. Loneliness as a mediator for college students' social skills and experiences of depression and anxiety. *J Adolesc*. 2019;73:1-13. doi: 10.1016/j.adolescence.2019.03.006

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