

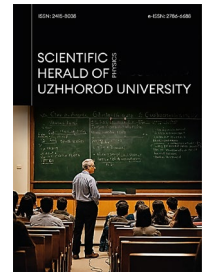
Scientific Herald of Uzhhorod University

Series "Physics"

Journal homepage: <https://physics.uz.ua/en>

Issue 56, 2539–2549

Received: 18.01.2024. Revised: 07.05.2024. Accepted: 07.07.2024



DOI: 10.54919/physics/56.2024.253qj9

Development of social intelligence of students in the process of thinking

Karlygash Sailinova*

Al-Farabi Kazakh National University
050040, 71 Al-Farabi Ave., Almaty, Republic of Kazakhstan

Aliya Boltayeva

Al-Farabi Kazakh National University
050040, 71 Al-Farabi Ave., Almaty, Republic of Kazakhstan

Nazirash Zhubanazarova

Al-Farabi Kazakh National University
050040, 71 Al-Farabi Ave., Almaty, Republic of Kazakhstan

Aliya Tolegenova

Egyptian University of Islamic Culture "Nur-Mubarak"
050060, 73 Al-Farabi Ave., Almaty, Republic of Kazakhstan

Almagul Ayaganova

Branch of the Academy of Public Administration under the President of the Republic of Kazakhstan in the Kyzylorda region
120001, 8 Kanysh Satpayev Str., Kyzylorda, Republic of Kazakhstan

Abstract

Relevance. Given the educational changes like digitalization, emphasis on creativity, and international interaction, studying social intelligence is crucial for forming civic and professional competence.

Purpose. The study aims to determine and analyse the influence of thinking processes on developing social intelligence, focusing on cognitive aspects such as planning, reflection, and self-regulation.

Methodology. The study used surveys, analytical methods, and comparisons to gain a comprehensive understanding of social intelligence, identify various opinions, and understand individual experiences.

Results. The study found that social intelligence involves understanding, perceiving, and interacting effectively with people, demonstrating empathy, adaptability, and problem-solving abilities. Active development of thinking processes leads to higher social intelligence. A specific relationship was found between thinking aspects like logic application, fact-based reasoning, idea generation, information analysis, emotional management in decision-making, and interpersonal relationship success. Reflexivity, or the ability to analyse and comprehend behavior, was crucial for developing social intelligence. The study also noted that students' psychological state and life satisfaction significantly affect their social interaction abilities. Diagnosing self-determination highlighted the extent to which students can make independent decisions and interact socially.

Suggested Citation:

Sailinova K, Boltayeva A, Zhubanazarova N, Tolegenova A, Ayaganova A. Development of social intelligence of students in the process of thinking. *Sci Herald Uzhhorod Univ Ser Phys.* 2024;(56):2539-2549. DOI: 10.54919/physics/56.2024.253qj9

*Corresponding author



Copyright © The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

Conclusions. The study concludes that developing thinking processes significantly enhances social intelligence. Reflexivity, logical reasoning, and emotional management are vital components. Additionally, psychological well-being and life satisfaction play crucial roles in effective social interaction and decision-making among students. Therefore, fostering these cognitive and emotional skills is essential for improving social intelligence.

Keywords: interaction; competence; cognitive aspects; success.

Introduction

The study of students' social intelligence development in the thinking process is an important topic for several reasons. In the modern society, social intelligence plays a key role in influencing success in both the workplace and personal life. Students with advanced social intelligence show better adaptability to learning tasks, which can affect their academic success. A high level of social intelligence is associated with leadership qualities and the ability to work effectively in a team, which is an important aspect of the formation of future professionals.

Research on the development of social intelligence in students faces challenges: limited understanding of its formation, lack of standardized assessment tools, the influence of cultural differences and the difficulty of establishing a link between the development of social intelligence and academic and career success. This requires a systematic approach to develop practical recommendations that can be applied in an educational setting [1]. In their article, D.A. Solodneva et al. [2] investigate the relationship between social intelligence, value-motivational orientations, and interpersonal interaction of students. The results show that certain values are closely related to the level of social intelligence development. Students who value education are more likely to have the ability to anticipate the consequences of their actions. The authors found that those who are oriented towards an active lifestyle may have difficulty understanding the feelings and intentions of others. To understand the formation of students' social intelligence more fully, it is necessary to delve into aspects of sociocultural context, individual characteristics, the role of self-efficacy and motivation.

In the work of A.R. Beisembaev [3], the author considers the main aspects of social intelligence formation, such as academic performance, adaptability, interpersonal relationships, strategic planning in learning. The author identified the key directions of strategic planning: studying the state of social intelligence at the moment, defining goals for development, training teachers for more effective work, introducing programmes of cooperation and conflict resolution. He concluded that the formation of social intelligence is influenced by a structured and systematic approach, and accordingly strategic planning is an integral component in this process. Although the work of the researchers covers important aspects of social intelligence formation through strategic planning, it is also possible to consider the influence of cultural context, integration of technologies, independent learning, influence of family and environment.

In their study, V.A. Babich and V.S. Voloshina [4] analysed the influence of social intelligence on students' professional training. They presented the conditions for its formation: development of communication skills, support for psychological well-being, interactive forms of learning, feedback and self-assessment. The authors concluded that

social intelligence is a person's intellectual ability that affects his adaptation in society, success, contributes to the understanding and evaluation of their own and others' actions. The influence of social intelligence on conflict resolution, leadership, adaptation to technology, differences in different professional spheres can be further studied.

According to N. Lavrychenko [5] social intelligence is closely related to emotional intelligence. She described where these concepts are applied: in emotion management, development of leadership qualities and critical thinking. Social-emotional intelligence helps to increase motivation for self-education, support mental health, helps to avoid conflict situations. The author emphasizes that social-emotional intelligence is very important for professional and personal growth. The study did not consider the impact of social intelligence on adaptation to change and stress, empathy, teamwork, emotion management and inclusion in educational programmes for personal growth. In the study by T. Yanovska [6], the author described the process of formation of students' social intelligence. She emphasized that a high level of social intelligence promotes interest in knowing oneself, reflection, sincerity, and intelligence. The author concluded that social intelligence contributes to adaptation to new conditions, successful professional activity. The connection of social intelligence with emotional competence, ability to adapt, leadership, influence on professional success has not been investigated.

The research aims to study the influence of social intelligence on students' general well-being, professional activity in the future, life satisfaction and ability to self-organization, as well as on the basic beliefs that contribute to the successful functioning of a person in society. The main tasks were: to review the works of previous researchers in this area, to conduct psychodiagnostic surveys to collect statistical data and to analyse them to identify trends and patterns, to contribute to the academic field.

Materials and Methods

The concept of students' social intelligence development was examined through the prism of various research methods that allowed going deeper into understanding this process. The survey method made it possible to collect opinions, views, and evaluations directly from students regarding their perceptions and level of social intelligence development. The use of the survey method helped to complement the qualitative and quantitative data, enriching the study with a wider range of first-hand information. The analytical method in the study of students' social intelligence development facilitated the processing of a large amount of data obtained during the study. This method made it possible to identify key factors influencing the evolution of students' social intelligence and to formulate data-driven theoretical concepts. The method of

comparison made it possible to identify general trends and peculiarities of students' social intelligence development in the context of different cultures or societies. The synthesis method made it possible to examine the development of students' social intelligence from different perspectives, considering a wide range of factors affecting this process. The functional method allowed determining what roles and functions social intelligence fulfils in the context of society and students' interpersonal relationships. The method of concretization allowed delving into case studies, allowing us to identify the nuances, values, and norms that influence students' social intelligence in different areas. The method of generalization allowed determining the main regularities and trends in the development of students' social intelligence, as well as to formulate recommendations for improving students' social adaptation and interpersonal interactions.

Psychodiagnostic surveys were conducted at L.N. Gumilyov Eurasian National University (Astana), Almaty Humanitarian-Economic University of Almaty city. A randomly selected number of first-year students from different faculties participated in them. The respondents were asked to fill in several question forms both online and in person. The total number was 145 people aged between 18 and 24 years old. The deadline for completion was 14 days. These were 70 guys and 75 girls. Participants were guaranteed anonymity and confidentiality. Several questionnaires were used to diagnose the development of social intelligence. The questionnaire by E.Yu. Mandrikova [7] helped to study the level of self-control in students, their ability to plan and evaluate their actions in the process of thinking and problem-solving. The questionnaire by K.M. Sheldon and E. Deci [8] helped to understand the degree of students' independence in the process of thinking and decision-making, their internal motivation and orientation to their own goals.

The "Thinking profile" questionnaire [9] served as a useful tool to explore the relationship between cognitive performance and social intelligence. It contributed to a better understanding of how each type influences the development of social competence and contributes to successful interactions. The questionnaire "Differential type of reflexivity" [10] made it possible to assess the level of ability to analyse one's thoughts, experiences, to comprehend one's inner processes. The questionnaire "Satisfaction with life scale" [11] allowed understanding how satisfied respondents are with their achievements, relationships, work. The questionnaire "World assumptions scale" [12] helped to determine students' world-view, attitude towards themselves and other people, which is important for understanding their social intelligence.

All these methods provide a broad foundation of knowledge about the development of social intelligence in students. Their integrated use helps to deepen the understanding of this process and create a more holistic picture for creating effective strategies for teaching and developing social skills in students.

Results

Social intelligence is the ability to successfully interact and communicate with others in a variety of social situations.

It includes components such as empathy, the ability to read non-verbal cues, understanding social norms, conflict management and leadership skills. People with advanced social intelligence easily establish and maintain relationships, have effective communication skills, and successfully resolve conflicts. This ability is also important for leadership, teamwork and adapting to a rapidly changing society. The development of social intelligence not only promotes personal growth, but also creates conditions for harmonious and productive relationships in society [13].

The influence of thinking types on the development of social intelligence

A mind-set survey can serve as a valuable tool for individual and collective development. Identifying individual differences helps people better understand themselves, their strengths, and weaknesses in social interactions. This knowledge promotes self-knowledge and allows for targeted development of social skills as well as adaptation to their unique ways of thinking. The results of the survey (Figure 1) are represented by numbers representing the number of responses and indicate which types of thinking are dominant among respondents.

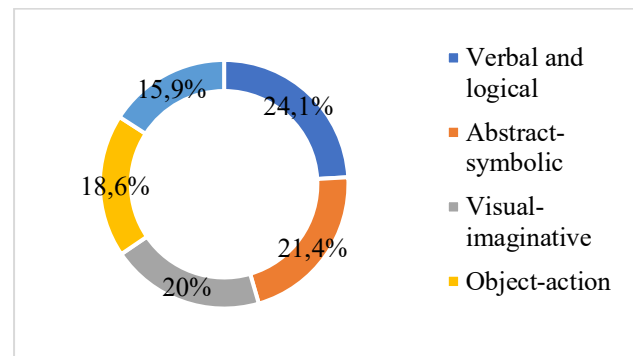


Figure 1. Types of thinking

Source: compiled by the authors.

Verbal and logical reasoning contributes to the development of students' social intelligence by improving their communication, analytical, reasoning, conflict resolution and effective group interaction skills. This ability enables students to express themselves clearly, understand the viewpoints of others, and make informed decisions in social situations [14]. Abstract-symbolic thinking contributes to the development of social intelligence by improving understanding of abstract social concepts such as justice, tolerance, solidarity, responsibility, and it also helps to solve complex social problems, improves communication, and develops empathy. This type of thinking also helps to better cope with uncertainty and change in the social environment [15].

Visual-imaginative thinking, based on the perception and memorization of information in the form of images, promotes better emotional perception, empathy development, more effective non-verbal communication, creativity in solving social problems and the formation of visual images of social relationships [16]. Object-action thinking is characterized by orientation to specific objects

and actions. People with this type of thinking usually show a practical approach to problem-solving, quick adaptation to changes and focus on results. In the context of social intelligence, this translates into the development of practical cooperation skills, a better understanding of social interactions through concrete actions, and the active application of social skills to real-world situations.

This approach promotes effective social interaction and adaptation to the social environment through concrete events and tasks [17]. Creative individuals are able to form deep social bonds, enriching social dialogue with fresh ideas and facilitating creative discussion of social issues. They develop communication skills and are better able to cope with risk and uncertainty in different situations. Creative thinking plays an important role in developing a richer and more flexible social intelligence, facilitating diverse perceptions and effective social interactions [18].

Ability to self-organize activities

Diagnostics of self-organization level is an important element of personality potential assessment. The questionnaire helps to determine the formation of planning and goal-setting skills. It contains 25 questions, each of which has 7 answer options and facilitates assessment on 6 scales. The results indicate problem areas in the process of self-organization of activities (Table 1).

Table 1. Indicators of self-organization of first-year students

| Scale name | Minimum and maximum values | |
|--------------------------|----------------------------|----|
| Orderliness | 13 | 23 |
| Having goals in life | 33 | 41 |
| Human persistence | 19 | 28 |
| Fixation | 16 | 24 |
| Ability to self-organize | 5 | 13 |
| Focus for today | 7 | 12 |

Source: compiled by the authors based on [19].

Low indicators of perseverance and the presence of goals in life indicate the unwillingness of students to set goals for themselves through uncertainty in their implementation, to make wilful efforts to finish what they have started, distraction by extraneous matters, difficulty in overcoming obstacles, especially unexpected ones. The respondents have a blurred understanding of their own future due to the inability to organize their life activities correctly. For the rest of the scales, average indicators are presented, which indicates a partial readiness to plan their future life, to reorganize themselves into a new structure. Consequently, first-year students are not particularly organized personalities, have low purposefulness and to a greater extent prefer to focus on today [20].

Ability to reflect

To determine the peculiarities of reflexivity, which is a significant factor of influence on the development and realization of personality, students were asked to answer 30 questions in which they had to choose the most appropriate one from four answers. Based on the results of

the survey, the range of scores for three items is presented (Figure 2).

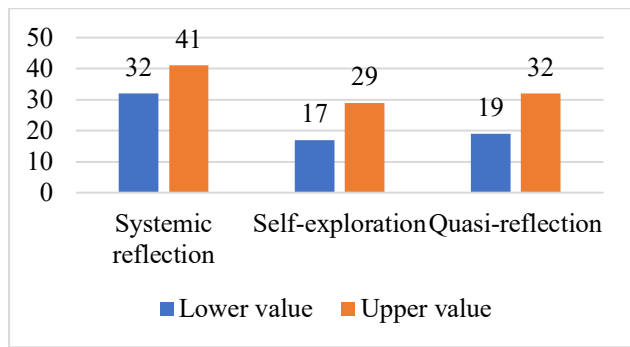


Figure 2. Features of reflexivity of students

Source: compiled by the authors based on [21].

According to the presented data, self-exploration and quasi-reflection are at the average level. This means that students can focus on their own experiences, feelings, go into extraneous reflections not related to the actual situation in life. They can reflect on the past or the future, imagine different outcomes of events. Systemic reflection is more pronounced in students. It allows them to look at themselves from the outside, which contributes to analysing the situation of interaction, both from the side of the subject and the object, to see alternative possibilities. The skill of self-distancing is very important, because it helps a person to solve difficult life situations, problems at work [22].

Self-determination of personality

The personality self-determination scale was used to assess people’s propensity to act independently. It included 10 items, each of which was divided into two more sub-items with 5 answer options. It was necessary to choose the most appropriate answer. The first sub-item characterized self-awareness, and the second sub-item characterized the perception of choices made by oneself. Based on the answers of 145 respondents, the range of minimum and maximum values for the three items was recorded (Table 2).

Table 2. Features of self-determination of first-year students

| Process | Lower value | Upper value |
|------------------|-------------|-------------|
| Self-expression | 10 | 13 |
| Self-identity | 14 | 18 |
| Perceived choice | 17 | 21 |

Source: compiled by the authors based on [23].

Analysing the data, a low level of self-identity is traceable. This indicates that students experience alienation from their own feelings and their integrity of personality is not yet fully formed. The range of self-expression indicates that the respondents are dissatisfied with life and need to change. The data on perceived choice has higher ranges. This indicates that students believe in changing the course of their lives [24].

Life satisfaction level

Respondents were offered to take an online survey consisting of 5 questions that helped to determine how satisfied they are with the quality of life at this stage (Figure 3). Analysis of the survey results shows that 67.6% of students have an average score (17-24), 23.4% have a high score (25-35), and 9% have a low score (4-16). The dominance of the average indicator indicates the partial readiness of young people to improve their well-being, and little experience in solving problem situations. A moderate level of life satisfaction plays a key role in the development of social intelligence. Unlike low levels, which can negatively affect various aspects, moderate life satisfaction provides balance.

People with moderate levels of satisfaction have a stable emotional background, which promotes a positive attitude towards others. This in turn creates a foundation for successful social interactions, facilitating the development of communication skills. Moderate satisfaction can also promote adaptability in different social scenarios and increase the ability to resolve conflicts. Maintaining a balanced level of life satisfaction promotes the development of social intelligence and ensures positive contributions to various aspects of life [25].

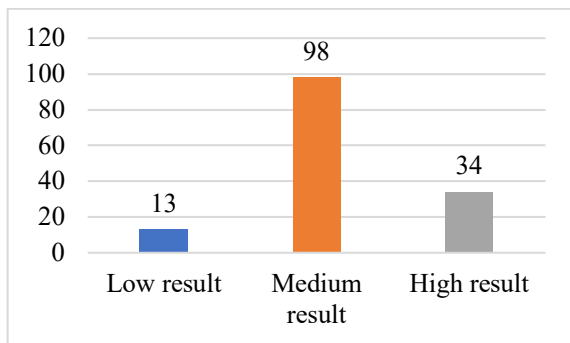


Figure 3. Indicators satisfaction life

Source: compiled by the authors based on [26].

A low level of life satisfaction can negatively affect the development of social intelligence. Emotional dissatisfaction can affect empathy and interpersonal relationships, creating barriers to successful social interactions. Also, life dissatisfaction impairs the ability to self-project, affects academic and professional performance, and impairs constructive conflict resolution skills [27; 28]. A high level of life satisfaction usually favours the development of social intelligence. People who feel happy tend to have more stable emotions, display positive attitudes towards others, are more open to communication, and can cooperate successfully. This contributes to ease in establishing interpersonal relationships, developing social skills, and adapting to different social situations. The feeling of satisfaction can also reduce stress levels, which contributes to effective social interaction [29-31].

Basic beliefs

The Student Core Beliefs Survey consisted of 37 items of stimulus material where one had to express how much one

agreed with various statements. Each of the response options provided an opportunity to earn on a scale from one to six points, from perfect disagreement to absolute agreement with the statement. For the convenience of summarizing the results are presented in the table: low level (0-3), medium (4-7), high (8-10) (Table 3).

Table 3. State of basic beliefs

| Basic Beliefs | Indicator within the walls of respondents' opinions from minimum to maximum values |
|---------------|--|
| Fairness | 4-6 |
| Self-image | 5-8 |
| Goodwill | 3-7 |
| Control | 2-5 |
| Luck | 6-9 |

Source: compiled by the authors based on [32, 33].

Fairness: The range between 4 and 6 indicates a moderate perception and appreciation of fairness in life. Some may lean towards a lower evaluation (4), while others see a higher degree of fairness (6). **Self-image:** the walls range from 5 to 8. This indicates varying levels of confidence and self-esteem among respondents. Some may have a more balanced and confident self-image (8), while others may have a less defined or stable self-image (5). **Goodwill:** the walls range from 3 to 7. This indicates different levels of friendliness and tendency to be kind among respondents. Some may be more open and friendly (7), while others may have less of this quality (3). **Control:** the walls range from 2 to 5.

This may reflect the level of confidence in controlling one's life. Some respondents may rate their control as higher (5), while others may feel that control is limited (2). **Luck:** the walls range from 6 to 9. This indicates different perceptions of luck or happiness in life. Some may feel that they are lucky or fortunate (9), while others may see luck as less meaningful or less intrinsic (6). The dominance of the mean scores on basic beliefs indicate that more people hold the view that there is better than evil in the world, bad things happen to those whose behaviour deviates from the norm and if one is a good person, he or she may feel more secure from unpleasant situations and troubles [34-36].

The results of the study suggest that social intelligence can be developed and improved throughout a person's life. Increasing the level of social intelligence contributes to success in interpersonal relationships, professional sphere, leadership, and the ability to resolve conflicts.

Discussion

The average scores on the surveys indicate the development of social intelligence at the same level. This indicates a balanced perception of emotions and interactions with others. Students have basic empathy, conflict management and communication skills, but may have potential for further growth in these areas. This affects their ability to interact in their studies, relationships, and future careers, stimulating a desire to improve social skills for more successful and harmonious development in both academic and professional spheres of life.

According to the data of different countries on life satisfaction in American students they are between 23-25, Chinese students have lower scores (16-19 points), German (16-24), Turkish (17-25), Polish (15-22), English (20-25) [37-39]. This indicates the dominance of the average level of satisfaction, indicating relative stability and balance in society. American students generally have higher scores on life satisfaction compared to Kazakh students, English students also show high scores, but they have some overlap with Kazakh students in the range of 20-25 points. Chinese students have the lowest scores, while the rest of the countries have similar ranges with average scores, with the range of German students having the most variation.

In her study in Bangalore, India, M. Joy [40] analysed the relationship between locus of control and social intelligence. The author concluded that these concepts are not interdependent. Men and women have the same locus of control. In the development of social intelligence, however, gender matters. Women have more developed social intelligence than men [41]. As a result of the study, the author has provided information that the main number of respondents have an average level of social intelligence development. The study of the researcher and this study emphasize the importance of social intelligence in various spheres of life and social activities. However, they focus on different aspects of individual's interaction with the environment: one investigates the influence of locus of control on social intelligence, while the other pays attention to the relationship of social intelligence with self-determination and life satisfaction.

There is indeed no direct relationship between locus of control (the perception of where control over life events lies – inside or outside the individual) and social intelligence. This means that a person's ability to understand and interact socially does not depend on their perceptions of control over their own lives [42; 43]. It should also be considered that the study was territorially limited and was conducted in one of the specialities. To obtain more qualitative results, it is possible to make the research on a larger scale. The average level of social intelligence development emphasizes the need for further in-depth research aimed at identifying the factors influencing the level of social intelligence in both genders.

In their article, A. Ali et al. [44] analysed how different factors such as gender, age, and economic status influence social intelligence. The authors found that gender is not a significant influencing factor, but age, on the contrary. His study indicates that social intelligence becomes more developed in students with each course of study. Both studies emphasize the importance of the relationship between social intelligence and various factors in the learning environment, but A. Ali et al. [44] focus on the changes in social intelligence in the context of age and level of education, while this study analyses its relationship with students' commitment and self-organization ability. According to the results of the study by the researchers, gender does not have a significant effect on social intelligence. This is because social intelligence is formed not so much on the basis of biological differences, but through social interaction and learning [45; 46]. It is interesting to note that social intelligence becomes more developed with each course of study. This may be due to

experiences with social interaction, participation in different groups, or other educational factors. It is important to consider what specific aspects of learning contribute to the development of social intelligence.

The research by C. Savci et al. [47] studied the development of social intelligence during distance learning. The authors analysed the ability of people to establish emotional ties, to cooperate online and concluded that online learning is not an obstacle to increasing the level of social intelligence, because its foundation is laid not only within the walls of the university, but also in communication with family, other people, learning from their own failures and successes. The authors emphasize that even through this type of learning, students support each other and can express their own "I". The authors noted that the foundation of social intelligence is laid not only within the walls of an educational institution, but also in various aspects of a student's life. Indeed, successful formation of social intelligence requires a comprehensive view and involves interaction with various spheres of a student's life.

The study of the impact of distance learning on social intelligence can be supplemented by analysing the effectiveness of virtual communications, adapting teaching methods to the social context, studying the impact of educational platforms on students' social support, as well as comparing the level of social intelligence in different forms of learning and considering the role of family learning in this context. The results of this study and of that by the researchers are similar, in that whether learning takes place online or in the classroom is not a barrier to the development of social intelligence. Both provide opportunities to socialize, help each other and express their individuality.

In his article, E.S.A. Hashem [48] analyses the relationship between self-regulation and social intelligence. The author emphasizes that the further development of a person's social intelligence can be predicted through the study of self-regulation. The study describes how self-regulation promotes independence from the environment, gives the ability to make the right decisions, helps in acquiring new knowledge, formulates judgements, helps self-assertion, and therefore increases the ability to interact with others. The statistical data of this study show that students' self-regulation is at an average level, which is reflected in the development of social intelligence.

The author concluded that the relationship between these two concepts is an integral part of the development of society as a whole. The statistical results of this study are like those of Kazakh students, in that most respondents have an average level of self-regulation. Self-regulation supports the learning process and the acquisition of new knowledge. This emphasizes the importance of internal regulation for successful adaptation to the educational environment. Formulation of judgements and self-affirmation complete the picture, emphasizing that the development of social intelligence is not limited to the ability to interact, but also includes the ability to express one's own thoughts and set boundaries in communication [49-51]. The researcher's study can be complemented by analysing the biological basis, the relationship to

psychological health, and the development of training methods to improve social skills.

In the work of L. Gulliford et al. [52], the authors investigated the relationship between gratitude, self-control, and social intelligence. The authors emphasized that these concepts have a significant impact on interpersonal relationships and the level of life satisfaction. The authors suggested that some people with high levels of social intelligence and self-control may use displays of gratitude from others for self-serving and manipulative purposes. Both studies address the influence of social traits on interpersonal interactions, but the researchers focus on the negative aspects of using gratitude for manipulation, whereas this study analyses the positive impact of social intelligence on organizational processes in students. Such parallels provide a broader overview of the impact of social intelligence in different areas of life and work.

Individuals with high social intelligence have a better understanding of others' expectations and feelings, which makes them more successful in manipulative actions [53-55]. Self-control may provide them with the necessary confidence to realize their self-serving intentions. To fully understand this dynamic, one might also consider the influence of other factors, such as empathy or moral beliefs. Perhaps some individuals with high social intelligence and self-control may be able to use their abilities to maintain long-term and mutually beneficial relationships, rather than just for momentary gains [56; 57].

A study by M.N. Iqbal et al. [58] focused on the relationship between social intelligence and students' academic performance. They analysed how this relationship is influenced by gender, location, demography. The authors concluded that students with low academic performance have low levels of social intelligence, and with high performance – vice versa. Furthermore, social intelligence affects academic performance irrespective of gender, faculty, location. The authors recommended students to take part in seminars, discussions, activities outside the institution to increase their interaction in the society, to contribute to the expansion of knowledge on common topics.

While the study by the researchers analysed the relationship between the level of social intelligence and academic success, considering factors such as gender, location, and demographics, this study focuses on aspects that contribute to the development of this intelligence in students. Both studies emphasize the importance of social intelligence in the educational context, one in the aspect of influencing academic performance and the other in the context of fostering this quality in students to achieve better academic performance. It is important to note that social intelligence, defined as the ability to understand and interact with others, plays a significant role in students' academic success. The finding that students with high social intelligence have higher academic performance and students with low social intelligence have lower academic performance emphasizes the importance of developing not only cognitive skills but also social skills. A study comparing the impact of social intelligence on academic performance in different educational fields (humanities, science, technical disciplines) could also be conducted. This may help to understand whether there are differences

in the role of social intelligence in different academic disciplines.

In a study by K. Ansary et al. [59], the authors describe the level of social intelligence development of undergraduate students in West Bengal, India. The results indicate that the difference in social intelligence between males and females from urban and rural areas is not significant. But still, social intelligence is more developed in urban dwellers, which gives them privileges in better adaptation to change, professional and personal growth, and effective problem-solving. The authors have formulated recommendations for improving the social intelligence of students from rural areas.

Based on the results of comparing the study of the researchers on the development of social intelligence of undergraduate students in West Bengal with the experiences of freshers, it can be observed that, in contrast to the general findings of differences in the development of social intelligence between urban and rural residents, the experiences of freshers are often focused on adapting to a new learning environment, building new social relationships and developing communication skills for successful learning. Social intelligence plays a key role in various areas of life, including education, professional development, and social interaction. It is also important to consider the cultural background and context of rural areas when developing recommendations. Engaging local resources and traditions can improve the effectiveness of social intelligence programmes [60].

In the article by S. Yalcingit and H. Aktash [61], the authors describe the relationship of social intelligence with leadership qualities and leadership style in future professional activities. The authors emphasize that this relationship lasts for centuries and one of the main qualities of a leader is the level of his social intelligence, which is reflected in communication skills, the ability to perceive information, to persuade and inspire, to meet the needs of subordinates, to understand the emotional state of his team. The authors concluded that leaders with a high level of social intelligence can effectively manage social interactions, and this contributes to the achievement of common goals and the success of the organization.

The study by the researchers and this one emphasizes the importance of social intelligence, but they highlight it in different contexts: one in the context of leadership and the other in the context of education and becoming an individual in the process of learning. This comparison provides a broader overview of the role of social intelligence in different areas of endeavour. Leaders with high levels of social intelligence are usually able to improve the work environment, foster team spirit and create an atmosphere conducive to organizational growth and prosperity [62; 63]. They are able to better understand their subordinates, adapt their management style to different situations and achieve joint goals through effective management of social interactions [64]. Additionally, case studies of successful leaders and their level of social intelligence can be analysed. Furthermore, it is possible to identify the specific skills and approaches they used to achieve outstanding management results.

The development of social intelligence plays a key role in personal and social well-being. It contributes to better interpersonal relationships, effective conflict resolution

and better adaptation to societal changes. People with advanced social intelligence are empathic, have leadership skills, are successful in their careers and experience greater life satisfaction. Social intelligence also promotes cooperation in groups and a supportive environment. Social intelligence can have a positive impact on various aspects of life, forming healthy and productive relationships in society.

Conclusions

The purpose of this study was to analyse deeply the influence of thinking types on the development of students' social intelligence. The focus was on studying the dynamics of changes in students' ability to empathy, self-expression, self-identity, reflection, introspection, purposefulness, perseverance, understanding of social situations, and development of interpersonal skills.

This study helped to identify the influence of thinking processes on students' social adaptation and interaction in society. Social intelligence is an integral part of human existence. It is presented as a peculiar ability to understand, perceive, and interact effectively with people around regardless of time, circumstances, and cultural characteristics. Its formation is a continuous process, including the desire to communicate, understanding the emotions of others and continuous improvement of one's own ability to effectively resolve conflicts. The results of the study suggest that the development of students' social intelligence is closely related to their thinking processes. Factors such as cognitive ability, learning ability and degree of mindfulness play an important role in the

development of social competence. Students with developed social intelligence show a higher level of adaptation to social changes and interact more successfully in a team.

The practical significance of the research results lies in the possibility of improving and creating new educational programmes aimed at developing students' social intelligence. The implementation of such programmes can contribute to the improvement of interpersonal relations, formation of communication skills and successful social adaptation of graduates in the professional environment, helping to create more harmonious and productive social environments.

Several directions can be considered for further research in the field of students' social intelligence development. Investigating the impact of various educational techniques on social intelligence, analysing the impact of sociocultural factors on the formation of interpersonal skills, and studying the impact of technological changes on students' social interaction. It is also advisable to consider the influence of various social environments, including virtual spaces and online communication, on the development of social intelligence in modern education.

Acknowledgements

None.

Conflict of Interest

None.

References

- [1] Lyusin DV, Maryutina OO, Stepanova AS. The structure of emotional intelligence and the relationship of its components with individual characteristics: An empirical analysis. In: *Social Intelligence: Theory, Measurement, Research* (pp. 129-140). Moscow: Institute of Psychology of Russian Academy of Sciences; 2004.
- [2] Solodneva DA, Pobokin PA, Karpov AA. The relationship of social intelligence and value-motivational orientations in adolescence. *Yaros Ped Bul.* 2022;129(6):159-166.
- [3] Beisembaev AR. To the social intelligence of pupils through strategic planning (from the experience of a comprehensive educational school). *Scien Ped J Bilim.* 2023;106(3):133-142.
- [4] Babich VA, Voloshina VS. Theoretical fundamentals of formation of social intelligence of future tourist specialists in higher education institutions of agricultural profession. *Bul Stud Scien Soc.* 2020;1:30-34.
- [5] Lavrychenko N. The problem of social-emotional intelligence in teacher training. *Youth Mark.* 2022;204(6):60-65.
- [6] Yanovska T. Social intelligence in the structure of professionally important qualities of a psychologist. *Psych Pers.* 2022;22(2):153-168.
- [7] Mandrikova EYu. Development of a questionnaire of self-organisation of activity. *Psych Diag.* 2010;2:59-83.
- [8] Sheldon KM, Deci E. Self-determination scale. 1993. <https://doi.org/10.1037/t53985-000>
- [9] Ganzen VA, Malyshev KB, Oginec LV. Thinking profile. 2001. <https://psytests.org/trait/ttyper.html>
- [10] Leontiev DA, Osin EN. Differential type of reflexivity. 2009. <https://psytests.org/trait/dtr.html>
- [11] Osin EN, Leontiev DA. Satisfaction with life scale. 2004. <https://psytests.org/life/swls.html>
- [12] Padun MA, Kotelnikova AV. World assumptions scale. 2008. <https://psytests.org/cbt/rjbwas.html>
- [13] Ananyev BG. The structure of the development of psychophysiological functions of an adult. In: *Chrestomathy on Age Psychology: Textbook for Students* (pp. 275-282). Moscow: Institute of Practical Psychology; 1996.
- [14] Seliverstov YuA. Theory of intelligence and a modern man. *Bul Mos Univ.* 2003;2:121-124.
- [15] Yakimanskaya IS, Zarhin VG, Kadayas HMH. Space cognition test: Working out and application. *Iss Psych.* 1991;1:128-134.
- [16] Chesnokova OB, Subbotky EV. Social intelligence in complex social systems. *Nat J Psych.* 2010;4(2):22-29.
- [17] Smirnov VV. Positive thinking as a mechanism for improving the health of modern youth. *Bul Scien Conf.* 2015;1-1(1):128-130.

- [18] Bobyleva DK. The power of words and the power of thought: The philosophical reasoning of a young man. *Cont Res Dev*. 2016;5(5):128-129.
- [19] Yurkov VYu, Lukina OV. Interval and fuzzy geometry in the system of developing and control of spatial intellect factor. *Oms Scien Bul*. 2006;35(2):96-99.
- [20] Sanders K, Zhang K. Dynamics of psychological goals. A self-organization theory of motivation and personality. *Pers Psych*. 2021;74(2):379-381.
- [21] Golob T, Makarovič M. Reflexivity and structural positions: the effects of generation, gender and education. *Soc Sci*. 2019;8(9):248.
- [22] Sahakian M, Stroude A, Godin L, Courtin I, Fahy F, Fuchs D, Langlois J. Reflexivity through practice-informed student journals: How “sustainable well-being” relates to teleoaffectivities. *Sust: Sci, Pract Pol*. 2022;18(1):247-262.
- [23] Koole SL, Schlinkert C, Maldei T, Baumann N. Becoming who you are: An integrative review of self-determination theory and personality systems interactions theory. *J Pers*. 2019;87(1):15-36.
- [24] Al-Hoorie AH, Oga-Baldwin WLQ, Hiver P, Vitta JP. Self-determination mini-theories in second language learning: A systematic review of three decades of research. *Lang Teach Res*. 2022. <https://doi.org/10.1177/13621688221102686>
- [25] Wang Q, Sun W, Wu H. Associations between academic burnout, resilience and life satisfaction among medical students: A three-wave longitudinal study. *BMC Med Educ*. 2022;22:248.
- [26] Krys K, Haas BW, Igu ER, Kosiarczyk A, Kocimska-Bortnowska A, Kwiatkowska A, et al. Introduction to a culturally sensitive measure of well-being: Combining life satisfaction and interdependent happiness across 49 different cultures. *J Hap Stud*. 2023;24:607-627.
- [27] Qu H, Robichaud RW. Subjective well-being across sectors: Examining differences in workers’ life satisfaction and daily experimental well-being. *Rev Publ Pers Admin*. 2023. <https://doi.org/10.1177/0734371X231175343>
- [28] Kuznetsov BN, Chesnokov NV, Mikova NM, Drozdov VA, Shendrik TG, Lyubchik SB, Fonseca IM. Properties of palladium catalysts on carbon supports prepared from chemically modified and activated anthracites. *React Kinet Catal Lett*. 2004;83(2):361-367.
- [29] Ortiz-Ospina E, Roser M. Happiness and life satisfaction. 2013. <https://ourworldindata.org/happiness-and-life-satisfaction>
- [30] Doroshkevich AS, Zakharova AS, Oksengendler BL, Lyubchik AI, Lyubchik SI, Lyubchik SB, Tatarinova AA, Kirillov AK, Vasilenko TA, Gorban OO, Bodnarchuk VI, Nikiforova NN. The Rectifying Contact of Hydrated Different Size YSZ Nanoparticles for Advanced Electronics. *Nanomater*. 2022;12(24):4493.
- [31] Ahmadov F, Ahmadov G, Akbarov R, Aktag A, Budak E, Doganci E, Gurer U, Holik M, Kahraman A, Karaçali H, Lyubchik S, Lyubchik A, Mammadli A, Mamedov F, Nuruyev S, Pridal P, Sadigov A, Sadygov Z, Urban O, Yilmaz E, Yilmaz O, Zich J. Investigation of parameters of new MAPD-3NM silicon photomultipliers. *J Instrument*. 2022;17(1):C01001. <https://doi.org/10.1088/1748-0221/17/01/C01001>
- [32] Sciarrillo A, Bevione F, Lepora M, Toppino F, Lacidogna MC, Delsedime N, et al. The Nepean Belief Scale (NBS) as a tool to investigate the intensity of beliefs in anorexia nervosa: Psychometric properties of the Italian version. *Eat Weig Disor-Stud Anor, Bul Obes*. 2023;28:92.
- [33] Matsudaira I, Takano Y, Yamaguchi R, Taki Y. Core belief disruption amid the COVID-19 pandemic in Japanese adults. *Hum Soc Sci Com*. 2021;8:292.
- [34] Golde S, Ludwig S, Lippoldt S, Rimpel J, Schulze L, Haucke M, et al. Negative and positive self-beliefs in social anxiety: The strength of believing mediates the affective response. *PLoS ONE*. 2023;18(3):e0281387.
- [35] Rubins AY, Branta DK, Hartmane IV, Rajevska AS, Gutmane RA, Lielbriedis YM. Multiple carcinoma in patients with psoriasis caused by psoralen- ultraviolet A therapy, natural killer cell insufficiency, or intensified sun exposure? *Cutis*. 1992;49(6):430–432.
- [36] Maltsev D. A comparative study of valaciclovir, valganciclovir, and artesunate efficacy in reactivated HHV-6 and HHV-7 infections associated with chronic fatigue syndrome/myalgic encephalomyelitis. *Microbiol Immunol*. 2022;66(4):193–199.
- [37] Ubago-Jimenez JL, Zurita F, Cachón Zagalaz J, Melguizo-Ibáñez E. Analysis of academic performance according to levels of physical activity and life satisfaction. A systematic review. *Spor. Scien J School Spor, Phys Educ Psychom*. 2023;9(3):610-636.
- [38] Maltsev DV, Hurzhii OO. Toxoplasma chorioretinitis in primary myeloperoxidase MPO deficiency: A case report. *Oftalmolog Zhurn*. 2019;81(4):75–81. <https://doi.org/10.31288/oftalmolzh201947581>
- [39] Maltsev DV, Hurzhii OO. ANA-associated uveitis in the presence of reactivated HHV-7 infection in a patient with MBL deficiency. *Oftalmolog Zhurn*. 2020;89(6):64–69. <https://doi.org/10.31288/OFTALMOLZH202066469>
- [40] Joy M. Social intelligence and flexible locus of control among college students. *IOSR J Comp Eng*. 2019;21(2):79-83.
- [41] Spytyska, L. The Nature of Sexual Violence: The Criminological Concept of Victimisation. *Pakistan J Criminol*. 2023;15(4):1–20.
- [42] Parisi GF, Leonardi S, Ciprandi G, Corsico A, Licari A, Miraglia Del Giudice M, Peroni D, Salpietro C, Marseglia GL. Cetirizine use in childhood: An update of a friendly 30-year drug. *Clinic Molec Allergy*. 2020;18(1):2.
- [43] Bongiovanni A, Parisi GF, Scuderi MG, Licari A, Brambilla I, Marseglia GL, Leonardi S. Gastroesophageal reflux and respiratory diseases: Does a real link exist? *Minerva Pediatr*. 2019;71(6):515–523.

- [44] Ali A, Ahmad I, Khan A. Gender, age and locality based social intelligence differences of B.Ed. (Hons) students. *Glob Soc Sci Rev.* 2019;4(1):145-149.
- [45] Danilenko I, Gorban O, da Costa Zaragoza de Oliveira Pedro PM, Viegas J, Shapovalova O, Akhkozov L, Konstantinova T, Lyubchik S. Photocatalytic Composite Nanomaterial and Engineering Solution for Inactivation of Airborne Bacteria. *Top Catal.* 2021;64(13-16):772-779.
- [46] Petrov EG, Gorbach VV, Ragulya AV, Lyubchik A, Lyubchik S. Gate-tunable electroluminescence in Aviram-Ratner-type molecules: Kinetic description. *J Chem Phys.* 2020;153(8):18574.
- [47] Savci C, Akinci AC, Keles F. The association of perceived sociability and social intelligence with loneliness in online learning among nursing students. *Nur Educ Tod.* 2022;109:105226.
- [48] Hashem ESA. Self-regulation and its relationship to social intelligence among college of education female students at Prince Sattam University. *Europ J Educ Res.* 2021;10(2):865-879.
- [49] Dobrovanov OY. Efficacy and sensitivity of prenatal and postnatal ultrasound screening of congenital developmental anomalies of kidneys in Slovakia. *Wiad Lek.* 2021;74(3 cz 1):450-454. <https://doi.org/10.36740/wlek202103112>
- [50] Dobrovanov O, Kráľinský K. Sonographic screening of congenital kidney malformations in Slovakia. *Lek Obz.* 2018;67(12):426-429.
- [51] Spytyska L. Sexual Disorders in Women: Causes and their Correction. *Gaceta Med Carac.* 2023;131(4):933-943.
- [52] Gulliford L, Morgan B, Hemming E, Abbott J. Gratitude, self-monitoring and social intelligence: A prosocial relationship? *Cur Psych.* 2019;38:1021-1032.
- [53] Nizhenkovska I, Gorchakova N, Zaychenko G, Narokha V. Uracil as the basis for medication creation. *Curr Top Pharm.* 2018;22:19-26.
- [54] Zaychenko G, Mishchenko O, Sharifov C, Gordienko A, Tkachova O, Sinitsyna O, Laryanovska Y, Khalieieva O. Influence of extract of peach ordinary (*Persica vulgaris*) leaves on the state of the Hypothalamic-pituitary-adrenal system of rats in conditions of chronic immobilization stress. *Probl Endokr Patol.* 2019;2:89-97.
- [55] Pappalardo MG, Parisi GF, Tardino L, Savasta S, Brambilla I, Marseglia GL, Licari A, Leonardi S. Measurement of nitric oxide and assessment of airway diseases in children: An update. *Minerva Pediatr.* 2019;71(6):524-532.
- [56] Parisi GF, Leonardi S, Ciprandi G, Corsico A, Licari A, Miraglia del Giudice M, Peroni D, Salpietro C, Marseglia GL. Antihistamines in children and adolescents: A practical update. *Allerg Immunopathol.* 2020;48(6):753-762.
- [57] Doroshkevich AS, Lyubchik AI, Islamov AK, Turchenko VA, Glazunova VA, Zelenyak TY et al. Nonequilibrium chemo-electronic conversion of water on the nanosized YSZ: Experiment and Molecular Dynamics modelling problem formulation. *J Phys: Conf Ser.* 2017;848(1):012021. <https://doi.org/10.1088/1742-6596/848/1/012021>
- [58] Iqbal MN, Kanwal A, Nisar A, Mehreen S. Social intelligence and students' academic performance at postgraduate level. *J Pol Res.* 2023;9(2):390-404.
- [59] Ansary S, Ansary K, Adhikari A. Attitude towards social adjustment among the undergraduate students of Purulia district. *EPRA Inter J Res Devel.* 2022;7(12):21-26.
- [60] Petrov EG, Shevchenko YV, Gorbach VV, Lyubchik S, Lyubchik A. Features of gate-tunable and photon-field-controlled optoelectronic processes in a molecular junction: Application to a ZnPc-based transistor. *AIP Adv.* 2022;12(10):105020.
- [61] Yalcingit S, Aktash H. A research on the relationship of scientific intelligence and cultural intelligence to leadership styles. *Istan Bus Res.* 2023;52(1):107-132.
- [62] Babak VP, Babak SV, Eremenko VS, Kuts YV, Myslovykh MV, Scherbak LM, Zaporozhets AO. Models of Measuring Signals and Fields. *Stud Syst, Decis Contr.* 2021;360:33-59. https://doi.org/10.1007/978-3-030-70783-5_2
- [63] Spytyska L. Self-healing and healing of the body with the help of neural connections of the brain. *Innovac.* 2023;11(1):1-11
- [64] Spytyska L. Symptoms and Main Differences between a Psychopath and a Sociopath. *J Nerv Ment Disease.* 2024;212(1):52-56.

Розвиток соціального інтелекту студентів у процесі мислення

Карлигаш Сайлінова

Казахський національний університет ім. Аль-Фарабі
050040, проспект Аль-Фарабі, 71, м. Алмати, Республіка Казахстан

Алія Болтаєва

Казахський національний університет ім. Аль-Фарабі
050040, проспект Аль-Фарабі, 71, м. Алмати, Республіка Казахстан

Назіраш Жубаназарова

Казахський національний університет ім. Аль-Фарабі
050040, проспект Аль-Фарабі, 71, м. Алмати, Республіка Казахстан

Алія Толегенова

Єгипетський університет Ісламської культури “Нур-Мубарак”
050060, проспект Аль-Фарабі, 73, м. Алмати, Республіка Казахстан

Алмагуль Аяганова

Філія Республіканського державного казенного підприємства “Академія державного управління при Президентові Республіки Казахстан” по Кизилординській області
120001, вул. Каниша Сатпаєва, 8, м. Кизилорда, Республіка Казахстан

Анотація

Актуальність. З огляду на такі зміни в освіті, як діджиталізація, акцент на креативність та міжнародну взаємодію, вивчення соціального інтелекту має вирішальне значення для формування громадянської та професійної компетентності.

Мета. Мета дослідження - визначити та проаналізувати вплив процесів мислення на розвиток соціального інтелекту, зосередившись на таких когнітивних аспектах, як планування, рефлексія та саморегуляція.

Методологія. У дослідженні використано опитування, аналітичні методи та порівняння для отримання комплексного розуміння соціального інтелекту, виявлення різних думок та розуміння індивідуального досвіду.

Результати. Дослідження показало, що соціальний інтелект передбачає розуміння, сприйняття та ефективну взаємодію з людьми, прояв емпатії, адаптивності та вміння вирішувати проблеми. Активний розвиток мисленневих процесів призводить до підвищення соціального інтелекту. Було виявлено певний взаємозв'язок між такими аспектами мислення, як застосування логіки, міркування на основі фактів, генерування ідей, аналіз інформації, управління емоціями при прийнятті рішень та успішність міжособистісних стосунків. Рефлексивність, або здатність аналізувати та осмислювати поведінку, була вирішальною для розвитку соціального інтелекту. Дослідження також показало, що психологічний стан та задоволеність життям студентів суттєво впливають на їхні здібності до соціальної взаємодії. Діагностика самовизначення показала, наскільки студенти можуть приймати самостійні рішення та соціально взаємодіяти.

Висновки. Дослідження показало, що розвиток процесів мислення значно підвищує соціальний інтелект. Рефлексивність, логічне мислення та управління емоціями є життєво важливими компонентами. Крім того, психологічне благополуччя та задоволеність життям відіграють вирішальну роль в ефективній соціальній взаємодії та прийнятті рішень серед студентів. Тому розвиток цих когнітивних та емоційних навичок є важливим для покращення соціального інтелекту.

Ключові слова: взаємодія; компетентність; когнітивні аспекти; успіх.