**Psychological Defense Mechanisms of Students with Special Educational Needs: The Context of Professional Self-Determination**

**Type of the research: “research article”**

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# Abstract

The professional self-determination of students with disabilities is a pressing issue for the educational community and society as a whole, leading to accompanying problems such as low motivation for higher education, intrapersonal conflicts, unrealized opportunities, and problems with employment in the field. At the same time, psychological defense mechanisms may arise. In part, they act as stabilizers for people with disabilities, and in part, they hinder successful self-determination at the professional and personal level. The aim of the study was to identify psychological defense mechanisms regarding the career self-determination of students with disabilities in comparison with a sample of students with normative development. In the period from December 2022 to November 2023, an empirical study was conducted on a sample of 126 students with disabilities compared to a sample of 100 college students with normative development using the Life Style Index and the Big Five Personality Traits. The research was conducted within the framework of the project of the Ministry of Science and Higher Education of the Republic of Kazakhstan on the topic “Training of professional self-determination of students with special educational needs (SEN) as a national strategy in the field of inclusive education in Kazakhstan.” Students with disabilities are distinguished from students with normative development by their greater tendency to exhibit repression, compensation, intellectualization, and reactive educational mechanisms. This category of students shows a higher overall intensity of psychological defense compared to students with normative development; that is, they are more inclined to use certain psychological defense mechanisms, that allow them to maintain their self-esteem and self-respect by excluding disturbing information from their consciousness.

**Keywords:** *inclusive environment, inclusive higher education, professional self-determination, psychological defense mechanisms, students with special educational needs*

# Psychological Defense Mechanisms of Students with Special Educational Needs: The Context of Professional Self-Determination

**Introduction**

The educational community has begun to recognize the need and promise of integrating students with diverse developmental characteristics into a single educational setting. This process is referred to as *inclusion*. Although inclusion is not a new phenomenon for the Republic of Kazakhstan, there are many difficulties and obstacles to its effective implementation, especially in higher education. While inclusion was originally associated with disability, it is now increasingly seen as a response to problems arising from social diversity, broadly understood as different abilities and possible differences.

Traditionally, research on people with disabilities has focused on mental and physical developmental disorders and on the study of the negative manifestations of “defect.” At the same time, such an important aspect of personality as emotional well-being is likely of paramount importance for the professional development of young people with disabilities, as the inability to find a productive way out of experiences leads to mental and physiological disorganization. In this context, it seems relevant to analyze the characteristics of psychological defense mechanisms because they determine the development of protective behavioral options that lead to adaptation or maladaptation in students and are important both for the professional self-determination of people with disabilities and for the mass sample.

Some mechanisms and processes act as a single protective system designed to transform an individual's inner experiences and maintain a balance between personal needs and the demands of society. This contributes to a person's socio-psychological adaptation and has a corresponding effect on the process of professional self-determination. In most contemporary psychological concepts, psychological defense is assigned the function of overcoming self-doubt and feelings of inferiority, protecting the sense of worth, and maintaining stable self-esteem. This suggests that psychological defense is a universal, objectively existing phenomenon that fits all psychological worldviews. Moreover, this concept is closely related to the idea of the adaptability of the psyche.

Psychological defense is, on the one hand, a positive potential of the human psyche that contributes to the resolution of internal conflicts and the elimination of psychological discomfort, and, on the other hand, a negative force that leads to false ideas about oneself and about elements of the environment, disrupts the process of psychological adaptation, and leads to the development of psychosomatic diseases.

In this context, it is considered that an important resource for the inclusion of people with disabilities is the realization of the individual's physical, intellectual, personal, spiritual, and creative resources, which determine the willingness to integrate into society and the ability to overcome various types of difficulties, barriers, and everyday changes that inevitably arise as a result of this process.

# Literature Review

Inclusive education, one of the priorities of state social and educational policies in most countries today, is already being implemented at all levels of education, but with serious problems and obstacles (Morgado et al., 2016). For students with disabilities, the most difficult is the transition from general secondary to higher education and the adaptation to new organizational, educational, and social realities. The means of solving the problems that arise at this stage include the efficiency and continuity of the online publication of information about assistance, scholarships, training courses, grants, job offers, the system of organizing internships by university services to support individuals with disabilities, the provision of alternative ways for students to access all educational materials, the advance placement of educational materials and presentations on each topic on the university’s online educational platforms, the flexibility of study schedules and the timing of exams, the accessibility of curricula and assessment systems, the adaptation of academic disciplines to students’ needs, and the study of the disciplines necessary for a particular profession (Morgado et al., 2016). Moriña (2017) and Cotan et al. (2021) conducted a study on the teaching methods and strategies implemented by Spanish university teachers within the framework of inclusive pedagogy as well as an analysis of the difficulties they face.

Within the framework of education for all, some countries overlook the issue of disability and do not fully provide educational opportunities for these most disadvantaged students. In most countries, there is a gap between the theoretical principles and the practical implementation of inclusive education (Haug, 2017). Koutsouris et al. (2021) and Nilholm (2021) have acknowledged that despite significant efforts in Europe and other countries, individuals with disabilities continue to face barriers to accessing education and difficulties in finding work that matches their skills and competencies. There is still a long way to go, and many challenges to overcome before full integration can be highlighted in the context of higher education (Moriña, 2017).

In a report by the Asia-Europe Foundation, experts analyzed the current state of inclusion in higher education in the context of the COVID-19 pandemic, building on previous research (Nagarajan & Tozsa, 2021). As a result of their analysis, they identified four main areas that require attention in the next 10 years, as they may pose serious challenges: equal access to higher education, inclusive education in the digital world, international mobility and international cooperation in the field of inclusive education, lifelong continuous education, and flexible learning models. Furthermore, in the wake of the COVID-19 pandemic, Hauschildt et al. (2021) noted that many students from disadvantaged, socially vulnerable backgrounds face a number of additional barriers to accessing higher education, the educational process, and successful completion of their studies, especially those with a disability.

Potential solutions to the problems of ensuring the educational and social accessibility of higher education for individuals with disabilities are presented in the works of scientists (Chiwandire & Vincent, 2019; Fernández-Batanero et al., 2022; Koutsouris et al., 2022; Salha & Al-badawi, 2021). The background paper prepared for the 2020 Global Education Monitoring Report on Higher Education and Inclusion notes that despite UNESCO’s active efforts to improve access to higher education for a special population of youth in most developing countries, higher education—particularly the university sector—remains generally elitist, with a disproportionate number of students enrolled from more affluent backgrounds (Salmi, 2020).

The report also recognizes the impact of inequalities in primary and secondary education on the size and characteristics of the potential student population and identifies the need to improve equity in higher education to achieve education-related sustainable development goals.

The experience of implementing the policy of inclusion in higher education at the University of Edinburgh shows that Sweden and the United Kingdom stand out as effective countries for including students with disabilities in the educational process of higher education. It has been found that disabled university graduates in the labor market are almost as successful as their peers without health problems, and their employment outcomes are generally considered positive (Riddel, 2018).

In Kazakhstan, access to higher education for individuals with disabilities without discrimination and on an equal basis with others is stated as an overriding principle in paragraph 5 of Article 24 of the UN Convention on the Rights of Persons with Disabilities (2006). The Convention was ratified by the Republic of Kazakhstan in 2015.

Significant transformations are taking place in the higher education system of the Republic of Kazakhstan to create equal conditions and barrier-free access to education for students with disabilities. State support measures are being implemented to provide free meals to students with SEN and a choice of the form of education. Students with visual impairments and hearing impairments will be offered an increased scholarship of 75% (29,328 tenge), an allocation of at least 1% quota for people with disabilities in the distribution of scholarships, and free places to live in dormitories (Zhakhina et al., 2016).

In this regard, UNESCO organizes the integration of children with disabilities in many developing countries, which allows children from different national minorities, refugees, and girls to study in the general education system. They also organized special training for teachers and directors of educational institutions and prepared methodological materials (UNESCO, 2023).

In connection with the above, in our opinion, the problem of professional self-determination of students with SEN is one of the determining needs in the structure of this category of students, since it depends on the implementation of how much such a graduate will be in demand as a professional, socialized, harmonious, emotionally stable, employed, and ultimately happy due to full integration into the life of society.

Relevant for Kazakhstan today are the methodological problems identified by Sanina and Zhiganova (2017), dedicated to the model of inclusive education in higher education: the need for a package of adaptive educational programs, a system of psychological, pedagogical, medical, and tutoring accompaniment, adapted distance learning technologies with a complex of traditional and innovative teaching methods, and special training of teaching staff. For master’s degrees in the Republic, only two educational programs have so far been announced for training specialists in inclusive education on the basis of Al-Farabi Kazakh National University: “Modern technologies in the conditions of inclusive education”; medical and pedagogical support of inclusive education (together with the Medical University named after S.D. Asfendiyarov; Al-Farabi Kazakh National University, 2022).

A significant contribution to the study of the problem of inclusive education has been made by Kazakhstani scholars, who highlight one of several directions for creating an inclusive environment or providing optimal technologies for the training and development of students with disabilities. Kassen and Aitbayeva (2020) focused on the issues of organizing effective learning in an inclusive environment using non-traditional methods. Makhambetova and Magauova (2022) focused on the professional competences of social educators in the organization of inclusive education and made an attempt to clarify the organizational and methodological conditions necessary for the training of specialists to accompany people with SEN. Mukasheva et al. (2017) focused their attention on students with SEN who need special forms of vocational guidance and have limitations in the wide choice of professions.

The republic's Universities have only outlined ways to implement the inclusive practice of teaching “special” students, overcoming stereotypes regarding the “low learning ability” of certain categories of people with different nosologies, creating primary conditions for organizing a barrier-free environment, but at the level of technical equipment of buildings with ramps and separate rooms with the necessary acoustic amplification equipment, among other things.

Considering the information presented above, we propose the following research hypothesis: Students with disabilities are expected to exhibit higher overall levels of tension in psychological defenses of personality than those with normative development, while less mature defense mechanisms (denial, regression, and projection) predominate.

Maciver et al. (2019) identified psychosocial factors for children with disabilities: identity, competency, and experience of mind and body. These mechanisms characterize the involvement of students in life situations and influence active or limited participation at school. At the same time, such restrictions have significant lifelong consequences for achievements, quality of life, and well-being. Almost all of these works, directly or indirectly, focus on the mechanisms of psychological defense.

It is possible to state that all functions of psychological defense mechanisms can be considered both in a positive way (a way to eliminate anxiety, preserve the self-esteem of a person in a conflict situation, and defend against negative experiences) and in a negative way (distortion of objective reality, self-deception, restriction of optimal personality development).

The aim of the research was to identify the mechanisms of psychological defense in the aspect of professional self-determination of students with disabilities in comparison with a sample of students with normative development.

A hypothesis is that students with disabilities have a higher overall level of tension in their psychological defenses of personality than those with normative development, while less mature defense mechanisms (denial, regression, projection) prevail.

# Methodology

## *Research Design*

The research was of a complex, empirical in nature. The design of the research was based on quantitative methods involving the collection and analysis of data using the techniques of the Plutchik-Kellerman-Conte’s Life Style Index (LSI; 1979) and A. G. Gretsov’s (2012) “Big Five” personal qualities.

Within the framework of the inductive approach used, the above-mentioned quantitative methods were used to detect cause-and-effect relationships and statistical patterns. The research was also cross-sectional in nature, since the data of variables collected at one given moment was analyzed—in the period from December 2022 to November 2023—on a sample of 126 students with disabilities (two universities and two colleges in Almaty) in comparison with a sample of 100 university students with normative development. It was conducted in a mixed format—offline with students with disabilities and online with students with normative development.

The chosen design of the research should have provided a valid basis for data collection so that it could be used to find answers to research questions—to obtain objective and statistically significant results.

### Sample

The educational institutions used for the research were Al-Farabi Kazakh National University, Suleiman Demirel University, Almaty College of Economics, Law, and Pedagogy, and Almaty College of Economics and Modern Technologies.

*Table 1. Characteristics of the Sample*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Main sample: students with special educational needs (126 people) | | | Comparative sample: students with normative development (100 people) | |
|  | |  | |
| Male | Female | | Male | Female |
| 79 | 47 | | 49 | 51 |
| University | College | | University | |
| 54 | 72 | | 100 | |
| Hard-of-hearing students | Blind and visually impaired | With other abnormal development (lesions of the nervous system, paralysis, disorders of the musculoskeletal system, and speech) |
| 45 | 23 | 58 |

The sample of students with SEN was determined to be optimal, covering the entire composition of students in these educational institutions (colleges and universities). At the same time, the educational institutions where most of these students’ study were identified.

The comparison of samples according to the “college-university” parameter as an additional research task helped us determine how representatives of different levels of professional education differ in personal qualities and mechanisms of psychological defense. The sample was divided by gender in order to clarify the gender-specific characteristics of the studied phenomena. The sample of students with normative development was determined on the basis of random selection from one higher educational institution, Al-Farabi Kazakh National University.

### Instruments and Procedures

The research instruments used were the Plutchik-Kellerman-Conte LSI questionnaire and A.G. Gretsov’s “Big Five” of personal qualities. The Plutchik-Kellerman-Conte LSI questionnaire is based on Robert Plutchik’s psychoevolutionary theory and Henry Kellerman’s structural theory of personality. The Kellerman-Plutchik psychodiagnostic system links a personal disposition with a particular emotion through a certain protective mechanism. Together, they form a system structured in such a way that adjacent sectors denote similar dispositions, for example, mania and hysteria, and the opposite ones, opposite dispositions, for example, mania and depression.

The methodology consists of a text of instructions and 97 statements. The subject should note the statements that correspond to their behavior or condition. This technique allows us to analyze eight ego defense mechanisms in terms of their severity in a given personality: denial, suppression, regression, compensation, projection, substitution, intellectualization, and reactive education. In addition, the total strength of all defenses (TSD) can be calculated. “Big Five” of personal qualities was used as an additional tool for determining four polar qualities.

In the upper line of the form of the methodology, for answers, Roman numerals indicate personality qualities according to the “Big Five." Arabic numerals are the numbers of the questions, the answers to which must be written in numbers. The final scores were calculated separately for each column and were interpreted according to the severity of the trait. The following are the indicators of the degree of expression: 0–4 (low), 5–7 (below average), 8–10 (average), 11–13 (above average), and 14–16 (high).

*Data Analysis*

In processing these data, the number of positive responses was calculated for each of the eight scales according to the key. The raw scores were then converted to percentages. Based on the percentage indicators, a profile of ego defenses was created.

Another way of processing these results was also used: Eight ego defense mechanisms form eight separate scales whose numerical values are derived from the number of affirmative responses to certain statements listed below, divided by the number of statements in each scale.

The intensity of each psychological defense is calculated using the following formula:

*n*/N∗100, where *n* is the number of positive responses on the scale of that defense and N is the number of all statements related to that scale.

Then, the total tension of all defenses (TTD) is calculated using the following formula:

n/97∗100, where *n* is the sum of all positive responses to the questionnaire.

*Table 2. Key to Processing the LSI Questionnaire*

|  |  |  |  |
| --- | --- | --- | --- |
| *N* > | Name of scales | Statement numbers | *n* |
| А | Negation | 1, 16, 22, 28, 34, 42, 51, 61, 68, 77, 82, 90, 94 | 12 |
| B | Suppression | 6, 11, 19, 25, 35, 43, 49, 59, 66, 75, 85, 89 | 12 |
| C | Regression | 2, 14, 18, 26, 33, 48, 50, 58, 69, 78, 86, 88, 93, 95 | 14 |
| D | Compensation | 3, 10, 24, 29, 37, 45, 52, 64, 65, 74 | 10 |
| E | Projection | 7, 9, 23, 27, 38, 41, 55, 63, 71, 73, 84, 92, 96 | 13 |
| F | Substitution | 8, 15, 20, 31, 40, 47, 54, 60, 67, 76, 83, 91, 97 | 13 |
| G | Intellectualization | 4, 13, 17, 30, 36, 44, 56, 62, 70, 80, 81, 87 | 12 |
| H | Reactive formation | 5, 12, 21, 32, 39, 46, 53, 57, 72, 79, | 10 |

*Note*. The letter *n* indicates the number of respondents in the study group.

The Kolmogorov-Smirnov test shows whether the characteristic is normally distributed in the sample (whether the responses form a “golden bell” on the histogram):

* If yes (asymptotic significance above .05), then the sign is relatively normally distributed, and more precise parametric tests can be used (e.g., the Pearson criterion). Factor analysis can be performed.
* If not (asymptotic significance below .05), then the sign is not normally distributed, and nonparametric tests should be used (e.g., the Spearman rank correlation method). In this case, a factor analysis should not be carried out.

The Mann-Whitney test was used to identify statistically significant differences between the two samples. Typically, only significant results (asymptotic significance below .05) are reported. In the correlation analysis, significant correlations are marked with an asterisk\*:

* Direct (positive) correlations indicate a direct relationship between the parameters. An increase in the severity of one parameter leads to an increase in the severity of the second parameter. A decrease in one will also result in a decrease in the other.
* Inverse (negative, with a minus sign) correlations indicate an inverse relationship between parameters. An increase in one parameter leads to a decrease in another, and vice versa.

Exploratory factor analysis is designed to identify correlations between scales or responses to specific questions that form a larger factor. For example, people high in kindness are more likely to deny problems, and this correlation forms a factor. This larger factor is called *Social convenience*.

Next, the one-sample Kolmogorov-Smirnov test was used to check the sample for the normality of the distribution of the characteristics. Table 6 shows significant indicators; respondents’ scores on these scales are relatively normally distributed. Validation is necessary to determine further data processing methods (parametric or nonparametric).

*Table 3. Normality of the Distribution of Characteristics Using the Kolmogorov-Smirnov Criterion*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Extraversion | Neuroticism | Consciousness | Kindness | Regression | Projection | Compensation | Overcompensation | Rationalization |
| *N* | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| Criterion statistics | .133 | .129 | .134 | .095 | .129 | .129 | .131 | .120 | .092 |
| Asymptotic significance (2-sided) | .059c | .075c | .054c | .200c,d | .078c | .076c | .,069c | .139c | .200c,d |

*Note.* (a) The distribution tested is normal; (b) calculated from the data; (c) Liljefors significance correction, and (d) is the lower bound of true significance.

According to the analysis, a normal distribution of traits was achieved on the following scales: extraversion, neuroticism, conscientiousness, kindness, regression, projection, compensation, overcompensation, and rationalization. The use of factor analysis implies a normal distribution of data, so we will perform it based on the above criteria. Next, exploratory factor analysis was used with the Varimax rotation method with Kaiser normalization. The use of factor analysis implies a normal distribution of data, so it was performed based on the above criteria. Exploratory factor analysis was used with the Varimax rotation method with Kaiser normalization.

|  |
| --- |
| *Table 4.**Rotated Matrix of Components/Factors a,b for a Sample of College Students with ith Disabilities* |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Factors | | |
| General level of defense | Social responsibility | Compliance |
| Regression | .948 |  |  |
| Rationalization | .943 |  |  |
| Projection | .911 |  |  |
| Overcompensation | .906 |  |  |
| Compensation | .897 |  |  |
| Consciousness |  | .917 |  |
| Extraversion |  | .859 |  |
| Kindness |  |  | .864 |
| Neuroticism |  |  | .809 |

In this table, the first factor is represented by five mental defense mechanisms. In our opinion, this result of the factor analysis confirms the internal consistency of the scales of Plutchik’s methodology, which, according to the developers’ plans, together form the overall level of mental defense. Therefore, we consider it reasonable to name this factor exactly as it is.

The following two factors are represented by pairs of personality traits from the “Big Five.” In both cases, the correlation between the scales is direct: the higher the value of one scale, the higher the value of the second scale. It is interesting that the connection between the main personal traits reveals the characteristics of the student youth.

The second factor, formed by a pair of conscientiousness (conscientiousness) and extraversion, we propose to call *social responsibility*. It can be assumed that extroverts are more acutely aware of their obligations to others; therefore, they are more characterized by organization and hard work.

The third factor is represented by *kindness* (the tendency to agree and avoid conflicts) and neuroticism (mood instability). In our opinion, the name *compliance* allows us to describe this phenomenon to the necessary extent. Students characterized by emotional instability are most likely inclined to succumb to external pressures in order to avoid stress and excessive tension.

*Table 5. Correlations Within the Plutchik-Kellerman-Conte Questionnaire in a Sample of College Students with Disabilities (Spearman rho)*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Psychological defense mechanisms |  | Extraversion | Neuroticism | Consciousness | Kindness | Projection | Compensation | Rationalization |
| Extraversion | ρ | 1.000 | .313\* | .500\*\* | .272 | .009 | -.100 | -.082 |
| *p* | . | .044 | .001 | .081 | .953 | .531 | .604 |
| Neuroticism | ρ | .313\* | 1.000 | .038 | .445\*\* | .354\* | .325\* | .354\* |
| *p* | .044 | . | .814 | .003 | .021 | .035 | .021 |
| Projection | ρ | .009 | .354\* | -.110 | .065 | 1.000 | .771\*\* | .855\*\* |
| *p* | .953 | .021 | .490 | .682 | . | .000 | .000 |
| Compensation | ρ | -.100 | .325\* | -.034 | .116 | .771\*\* | 1.000 | .845\*\* |
| *p* | .531 | .035 | .833 | .463 | .000 | . | .000 |
|  |  |  |  |  |  |  |  |

*Note.* \*The correlation is significant at the .05 level (double-sided). \*\*The correlation is significant at .01 (double-sided).

|  |
| --- |
|  |

In the first row, there is already-mentioned correlation between extraversion and consciousness (at *p* = .001), and we also note that extraversion correlates with the neuroticism scale (at *p* = .044). At the same time, there was no direct correlation between consciousness and neuroticism. That is, the more extroverted and outgoing people are, the more conscientious and neurotic they are. In the second row, we see that the neuroticism scale is positively correlated with kindness, as noted above. On the other hand, it is directly correlated with three mental defense mechanisms: projection, compensation, and rationalization. We can assume that the more emotionally unstable a person is, the more likely they are to use mental defense mechanisms. The correlation of the defense mechanisms among themselves is the above-mentioned factor of the general defense of the psyche, as well as the internal consistency of the scales of the methodology.

For the sample of university students with disabilities, the application of the Kolmogorov-Smirnov criterion revealed only two signs, the distribution of which can hardly be called normal: denial and hypercompensation (*p* = .057, *p* = .065, respectively); therefore, it is not possible to conduct an exploratory factor analysis.

*Table 6. Checking the Sample of University Students with Disabilities for Normality of the Distribution of Characteristics Using the Kolmogorov-Smirnov Criterion*

|  |  |  |  |
| --- | --- | --- | --- |
| *N* | | Negation | Overcompensation |
| 50 | 50 |
| Normal options | Mean | 31.36 | 28.40 |
| Distributionsa,b | Mean deviation | 20.494 | 18.111 |
| Greatest extreme | Absolute | .123 | .121 |
| Discrepancies | Positive | .123 | .121 |
|  | Negative | -.096 | -.115 |
| Criterion statistics |  | .123 | .121 |
| Asymptotic (2-sided) | | .057c | .065c |

Next, exploratory factor analysis was used with the Varimax rotation method with Kaiser normalization.

*Table 7. Rotated Component Matrix for a Sample of University Students with Disabilities*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Psychological defense mechanisms | Factor | | | | | 1-Defensive neuroticism | 2-Expansiveness | 3-Conformity | 4-Hyperresponsibility | | Regression | .887 |  |  |  | | Compensation | .680 |  |  |  | | Substitution | .670 |  |  |  | | Projection | .668 |  |  |  | | Neuroticism | .650 |  |  |  | | Openness |  | .887 |  |  | | Extraversion |  | .876 |  |  | | Kindness |  |  | .840 |  | | Negation |  |  | .809 |  | | Consciousness |  |  |  | .785 | | Rationalization |  |  |  | .755 | |
| *Note*. Factor extraction method: principal component method; rotation method: Varimax with Kaiser normalization; (a) indicates that the rotation converged in six iterations. |

Considering the results of exploratory factor analysis, we see that four factors have been identified. It should be noted that all correlations are direct; that is, an increase in one parameter within one component is associated with an increase in the severity of other signs.

The first factor is represented by four protective mechanisms and the scale of neuroticism as a personality trait. As it was already noted, high results on the neuroticism scale are associated with instability of the emotional sphere and exposure to stress, which, as can be seen in Table 7, correlates to some extent with some mechanisms of mental defense. Calling this factor *protective neuroticism* since, as far as we can assume, more affectively vulnerable students tend to use these mechanisms to a somewhat greater extent.

The second factor combines two personality traits: openness (focus on gaining new experiences) and extraversion (focus on external activity). This is due to the breadth of human interests, his desire to interact with the outside world in its entirety, to get involved in social activities, and to learn about it. The name *expansiveness* can sufficiently reveal this correlation: young people "capture and expand" the territory around them through the process of exploring the surrounding space (physical, ideological, and social).

The third factor combines the scales of kindness as a personality trait and denial as a mechanism for protecting the psyche. Based on this, we can assume that non-conflict people tend to ignore or deny certain negative manifestations (both their own and other people's) and adapt to the interlocutor or the situation. Therefore, we consider it correct to call this factor conformity.

The fourth selected factor is called *hyperresponsibility* and includes two scales: conscientiousness and rationalization (the tendency to bring logical arguments to events). As we see it, a person who is honest in his work is inclined to make additional efforts to explain to himself the logic of his current position.

# Findings and Results

The assumption that the five main personality traits and any personality are determined primarily by their relationship became the starting point for the Gretsov methodology, in combination with the Plutchik-Kellerman-Conte LSI questionnaire.

*Figure 1. Comparison of the Representation of Personality Traits of Students with SEN from Colleges and Universities*

*Figure 2. Comparison of the Representation of Psychological Defense Mechanisms among Students with Special Needs from Colleges and Universities*

Since the distribution of characteristics in the university student sample is not normal, the nonparametric Mann-Whitney *U* test was used to compare the two groups. A significant difference was found only on the rationalization scale (*p* = 0.049). This indicates that a sample of college students is significantly more likely to use rationalization as a defense mechanism than university students.

*Figure 3. Comparison of the Severity of Personality Traits of Students with SEN and Students with Normative Development*

*Figure 4. Comparison of the Severity of the Psychological Defense Mechanisms of Students with Special Needs and Students with Normative Development*

The nonparametric Mann-Whitney *U* test was used for two independent samples to analyze the significance of the differences, and the following were observed between the groups:

* Students with SEN are more extroverted.
* Students with SEN are a little more conscientious.
* Students with normative development are more likely to use defense mechanisms (regression, denial, projection, compensation, overcompensation, and rationalization) compared to students with SEN.

*Table 8. Rotated Matrix of Components for a Sample of University Students with Normative Development*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Psychological defense mechanisms | Factors | | | |
| 1- Defensive neuroticism | 2 - Expansiveness | 3- Conformity | 4 - Compliance |
| Regression | .877 |  |  |  |
| Compensation | .696 |  |  |  |
| Neuroticism | .670 |  |  |  |
| Projection | .670 |  |  |  |
| Substitution | .659 |  |  |  |
| Overcompensation | .543 | -.506 |  |  |
| Openness |  | .869 |  |  |
| Extraversion |  | .833 |  |  |
| Kindness |  |  | .839 |  |
| Negation |  |  | .742 |  |
| Consciousness |  |  |  | .784 |
| Rationalization |  |  |  | .764 |

*Note*. (a) The rotation converged in seven iterations; factor extraction method: principal component method; rotation method: Varimax with Kaiser normalization.

In the rotated component matrix, we see results similar to those obtained when analyzing the responses of students with SEN:

1. The first factor demonstrates a complex neuroticism scale and several defense mechanisms. As mentioned above, we hypothesize that emotionally unstable people are more likely to use protective strategies.
2. The third and fourth factors are identical to those previously discussed and form the pairs “kindness and negation” and “consciousness and rationalization.”
3. The second factor is different from the above. In addition to the already analyzed pair of “openness and extraversion,” a negative correlation with the mechanism of overcompensation is added to it. That is, students who show greater openness to experience and outward orientation are less likely to protect themselves through overcompensating behavior.

*Table 9. Significance of Differences According to Gretsov and Plutchik’s Techniques of the Health Status Parameters According to the Mann-Whitney U Test*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Extroversion | Consciousness | Displacement | Regression | Negation | Projection | Compensation | Overcompensating | Rationalization |
| Mann-Whitney *U* | 2718.500 | 3974.500 | 3858.500 | 3825.000 | 3886.500 | 3118.500 | 2934.000 | 3957.000 | 2908.500 |
| Asymptotic (2-sided) | .000 | .031 | .014 | .011 | .017 | .000 | .000 | .027 | .001 |
| *Note*. (a) grouping variable: health status | | | | | | | | | |

Health status is one of the differentiating parameters that we used to form the sample. In the framework of our research, this category is binary: A student either has some health characteristics (hence, has SEN) or does not have them and is included in the category of normotypical (having normative development).

The significance of the differences is shown in the line “asymptotic significance (2-sided)”: with a value of less than .050, the differences between the groups are considered statistically significant. It should be remembered that in both cases, the use of defense mechanisms was associated with the severity of neuroticism as a personality trait. However, there were no significant differences between the groups. This tells us that even with similar levels of neuroticism, students with SEN are more resilient and conscientious.

For clarity, the results of three groups were compared: college students with SEN, university students with SEN, and normotypical university students. To this, we added two average indicators: students with special education needs and the general indicator for the sample.

*Figure 5. Comparison of Average Indicators According to Gretsov’s Method: Students with SEN, Normotypical Students, and the Average for the Sample*

Neuroticism characterizes people who are emotionally unstable and unable to effectively control their own emotions and impulsive drives. Outwardly, this can manifest as poor emotional control, a lack of responsibility, moodiness, and escapism from reality. Their behavior is largely determined by the situation; they anxiously anticipate difficulties and easily fall into despair in the event of failure. Their self-esteem is usually low; they primarily blame themselves for their failures. They experience psychological stress and do not work well in stressful situations.

It is also interesting to note that neuroticism, which is the least pronounced personality trait in 29% of students with SEN, is the least pronounced in the same number of students with normal development, thus indicating the emotional stability of this part of the students. However, the least pronounced personality trait is hostility (impulsivity). These people are not fussy, obsessively neat, or irritatingly picky; their risk of becoming a workaholic tends towards zero. Low scores on this factor indicate impulsiveness, inconsistency, and absent-mindedness. Impulsiveness is not a bad thing per se; sometimes time constraints require quick decisions, and acting on the first impulse can be an effective response. In addition, spontaneous actions can be perceived as more interesting, colorful, and lively. This characteristic also interferes with work that requires an organized sequence of steps or phases.

Despite the fact that the majority of students with normative development are extroverts (62%), we must not forget the significant proportion of introverts (38%). Based on the results of the methodology, it was also possible to establish that in students with normative development, extraversion and introversion are approximately equally pronounced. In the first case, a person is sociable, optimistic, active, fun-loving, and more productive at work in a company than alone. In the second case, they are reserved, critical thinkers, distant, and focused on business rather than communication.

It is worth noting that the excessive neuroticism of students with normative development gives them the opportunity to react violently to any life event; they are emotional, unstable under stress, and work unproductively in tense situations. It is also important to note that the majority of students with SEN have an average level of openness to new experiences (34–34%); that is, they are suspicious of anything new and unexpected, prefer stability, and have difficulty changing their principles and beliefs. Only 13% accept everything new that appears around them with ease, show curiosity, flexibility, and readiness for change, and generally tend to be creative. The degree of expression of friendliness of respondents with SEN can also be described as average—55% are hostile towards people, suspicious, tend to perceive others as competitors, while they do not allow their trust to be abused, but often alienate those around them with their endless suspicions.

*Figure 6. Comparison of Average Indicators Using Plutchik’s Method: Students with SEN, Normotypical Students, and the Average for the Sample*

Statistically significant differences were established in the mechanisms of psychological defense for such indicators as “displacement” *U* = 778.5, at *p* ≤ 0.01, “compensation” *U* = 697.5, at *p* ≤ 0.01, “intellectualization” *U* = 900, at *p* ≤ .05, “reactive formation” *U* = 909, at *p* ≤ 0.05, and “general tension” *U* = 684, at *p* ≤ 0.01.

This result shows that students with disabilities differ from students with normative development in their higher tendency to display mechanisms of repression, compensation, intellectualization, and reaction formation. In addition, this category of students has a higher overall intensity of psychological defenses compared to students with normative development; in other words, they have a greater tendency to use certain psychological defense mechanisms. These psychological defense mechanisms probably allow them to preserve their self-esteem and self-respect by excluding disturbing information from their consciousness.

Thus, reliably significant differences were revealed between students with disabilities and students with normative development in the use of psychological defense mechanisms: People with disabilities reliably more often resort to the mechanisms of displacement, compensation, intellectualization, and reactive education, and the degree of intensity of psychological defenses is significantly higher.

To summarize, we can say that the LSI system is a working tool for diagnosing the psychosocial characteristics of a person and their typical psychodefense mechanisms. This model, created by Plutchik-Kellerman-Conte, identifies eight main psychological defenses. They correspond to Plutchik's eight basic emotions and are developed to best experience a dominant or strong emotion. The research proved that an individual, regardless of the presence of disabilities, may have a number of defense mechanisms that are unique ways of adapting to the situation.

Research based on the use of the Plutchik-Kellerman-Conte LSI methodology showed that students with disabilities, using the psychological defense mechanism “reactive formations,” try to prevent expressed unpleasant or unacceptable thoughts, feelings, or actions by developing opposing aspirations. They try not to accept those aspects of themselves that cause them anxiety through incompatible characteristics. For example, students can compensate for difficulties that are directly related to sensory impairments (problems in communication with others) by increasing their own activity and initiative in communication.

With the help of repression, people with disabilities find themselves in a conflict situation and strive to prevent the expression of thoughts, feelings, or actions that are unpleasant or unacceptable to them by suppressing them. By finding themselves in a stressful situation, they “protect” themselves by reducing the significance of the conflicts that caused the stress.

The equal expression of such psychological defense mechanisms as denial and regression may indicate their tendency to childishly substitute for the acceptance of others’ attention on their part; that is, a student with disabilities may deny those aspects of external reality that are obvious to those around them but are not accepted by themselves. Alternatively, they strive to replace the solution to more complex problems with relatively simpler ones that are accessible in current situations.

In the Plutchik-Kellerman-Conte model, it is believed that the protective mechanisms of the psyche are formed to help the individual cope with internal and external stress, and they are closely related to primary emotions and acute experiences. It is to cope with one of the eight basic emotions that a defense mechanism develops. Thus, there are eight psychoprotections. They are characterized by similarities and polarities, and like binary pairs of emotions, opposite pairs of defensive reactions of the psyche can be distinguished. A person can use any combination of defenses, but it is often the case that there are one or two main ones, and by identifying them, it is possible to determine a personality type or disposition. This is the prospect of further research.

Taking into account the health status, the sample of students with SEN was divided into four types of health restrictions: hearing problems, vision problems, lesions of the nervous system and paralysis, disorders of the musculoskeletal system, and speech. The sample of students with SEN was presented as follows: Hearing-impaired students: 45; blind and visually impaired: 23; students with other abnormal development: 58 (with lesions of the nervous system, paralysis, disorders of the musculoskeletal system, and speech).

*Table 10. Distribution of Psychological Defense Mechanisms Based on Health Limitations*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Type of disability | | | | | | | |
| Psychological defense mechanisms | Hearing problems | | Vision problems | | Lesions of the nervous system and paralysis | | Disorders of the musculoskeletal system and speech | |
|  | Mean  value | Standard deviation | Mean value | Standard deviation | Mean value | Standard deviation | Mean value | Standard deviation |
| Denial | 52.40 | 22.56 | **55.64** | 21.17 | 54.76 | 27.24 | **49.17** | 19.43 |
| Displacement | **64.14** | 25.31 | **62.75** | 20.03 | **54.23** | 19.24 | 56.16 | 23.08 |
| Regression | 73.92 | 20.54 | 72.05 | 20.25 | **73.15** | 24.64 | **68.32** | 19.52 |
| Compensation | **62.06** | 25.81 | **66.38** | 24.11 | **73.53** | 23.14 | **62.00** | 19.16 |
| Projection | **44.36** | 15.90 | **54.42** | 23.58 | **38.76** | 14.08 | **52.83** | 23.81 |
| Substitution | **55.98** | 23.20 | 57.24 | 21.20 | **60.23** | 18.25 | **54.77** | 20.40 |
| Rationalization | **55.58** | 23.78 | 56.35 | 20.01 | **49.38** | 18.09 | **69.08** | 18.87 |
| Reactive formation | **55.07** | 26.07 | 62.07 | 25.60 | **56.53** | 26.52 | **67.88** | 21.36 |
| Defense intensity index | **57.13** | 4.00 | 52.76 | 8.63 | **63.52** | 7.12 | **55.13** | 5.22 |

*Note.* Values for which significant differences were found are marked in bold.

Comparing the mechanisms of psychological defense of respondents with lesions of the nervous system, paralysis, disorders of the musculoskeletal system, and speech, it becomes evident that the structure of protective behavior itself changes significantly in the course of the pathological process. The leading mechanism in them is reactive formation, as opposed to rationalization, in patients of the first and second groups (with hearing and visual problems). Significant differences in the comparative study of respondents from all groups were obtained only for one protective mechanism—displacement (*p* < 0.013).

The prevalence of a protective mechanism in an individual can lead to the development of certain characteristics; in particular, displacement leads to an increase in general inertia, passivity, lack of initiative, dependence, subordination, and a tendency to land in relationships with others, which further complicates the process of communication in an educational environment, which is an important aspect of professional self-determination for our study.

The tension level of eight basic psychological defenses was studied, the hierarchy of the psychological defense system was investigated, and the TTD was estimated (i.e., the arithmetic mean of all measurements of the eight defenses). For the respondents with SEN, the highest index of intensity of the individual defense mechanisms was calculated, and the presence or absence of a correlation between the intensity of the individual defense mechanisms and the TTD was determined. These indicators were compared with the indicators of students’ normative development.

In general, the respondents with SEN are most often displaced by many characteristics, personal qualities, and actions that make a person unattractive in their own eyes and in the eyes of others, for example, envy, ill will, and ingratitude, among others. It is thus confirmed that traumatic circumstances or undesirable information are actually repressed from a person's consciousness, although outwardly this may look like an active counteraction to memories and introspection.

Impulsivity and weakness of emotional and volitional control, characteristic of the majority of respondents with health limitations, are determined by the actualization of this particular protective mechanism against the general background of changes in the sphere of motivations and needs toward greater simplification and accessibility. The manifestation of compensatory protective mechanisms may be a situation of overcoming frustrating circumstances or oversatisfaction in other areas. Students for whom compensation is the most characteristic type of psychological defense turn out not only to be dreamers looking for ideals in various spheres of life but also to be timid and insecure in real life, compensating for their low self-esteem with a demonstrative and ostentatious type of behavior.

Some respondents with SEN (25.4%), without demonstrating an open manifestation of hatred toward a certain person (since it could cause an unwanted conflict with them), transferred it to another, more accessible, and non-dangerous one. In most cases, substitution resolves emotional tension that has arisen under the influence of a frustrating situation but does not lead to relief or achievement of the goal; in this situation, the subject can perform unexpected, sometimes meaningless, actions that resolve internal tension.

In rationalization, a person creates logical but plausible justifications for their own or someone else’s behavior, actions, or experiences caused by reasons that they (the person) cannot recognize because of the threat of loss of self-esteem. There are often attempts to reduce the value of experiences that are inaccessible to the individual. Thus, when someone is in a conflict situation, they protect themselves from its negative effects by reducing their own importance and diminishing other reasons that caused this conflict or traumatic situation. Rationalization is more often used by people who have highly developed self-control, and the more often and stronger a person has a subjective feeling of unfair punishment, the faster this mechanism is formed. The disadvantage of rationalization is that the person does not solve the problem that caused the defense. In this case, the solution to the problem is “postponed” to a later time or under different circumstances. Thinking becomes stereotyped and inflexible; the same patterns are used to explain.

The evaluation of the methodology revealed that the overall intensity of psychological defenses was higher in the students with disabilities (62%) than in the normative sample (54%). These results can be explained by the fact that people with health impairments are much more likely to find themselves in situations where their existing needs cannot be met. These may include problems with mobility, self-care, environmental awareness, or communication. Accordingly, psychological defense mechanisms are more often activated in order to minimize psychologically traumatic moments, reduce internal tension, and maintain the normal psychological state of the individual. The most important type of psychological defense for the majority of students with disabilities (64 out of 126 subjects) and students with normative development (41 out of 100 subjects) is projection, which is an unconscious tendency to transfer one’s own motives and desires to other people. Students with this psychological defense mechanism have a negative, socially unrecognized connotation to the feelings and traits they experience. For example, aggressiveness is often attributed to others in order to justify one's own aggressiveness or unwillingness, which is expressed as if for defensive purposes. At the same time, people with disabilities resort to this defense mechanism to a greater extent than their peers with normative development.

Students with disabilities often use a type of psychological defense in addition to projection, such as regression (28 out of 126 respondents). It is common for these young people in their behavioral responses to try to avoid anxiety by regressing to earlier stages of development, that is, replacing the solution of subjectively more complex problems with relatively simpler and more accessible ones in the current situations, changing the motivational and need spheres towards their greater simplification and accessibility. Students with normative development, in addition to projection, often choose intellectualization as the main mechanism of psychological defense (20%). Individuals with disabilities are less likely to use this defense mechanism than their peers with normative development (16% each). Students who use this psychological defense mechanism tend to suppress experiences caused by an unpleasant or subjectively unacceptable situation through logical attitudes and manipulations, even when there is convincing evidence to the contrary. Intellectualization suppresses the usual overflow of emotions; a student who uses intellectualization talks about feelings, but in such a way that the listener gets the impression that they lack emotions.

Moreover, respondents from a sample of students with normative development often use the mechanism of reactive education in frustrating situations (25 out of 100 respondents), or, in other words, hypercompensation. They suppress the expression of thoughts, feelings, or actions that are unpleasant or unacceptable to the individual through the exaggerated development of opposing desires. For example, an exaggerated love for one of the parents may be a transformation of a socially unacceptable feeling of hatred toward them. Pity or caring can be seen as reactive formations in relation to unconscious callousness, cruelty, or emotional indifference. Less frequently, students with disabilities resort to defense mechanisms such as substitution (6 of 126 subjects). Students with normative development are the least likely to resort to the displacement mechanism (4 out of 100 subjects).

Thus, we see that for students in both groups, the predominant mechanism of psychological defense is projection, which is considered a more primitive mechanism. At the same time, students with normative development also use the psychological defense mechanism intellectualization to a greater extent (20%), which is one of the more mature mechanisms. Students with disabilities, in addition to projection, more often use regression as a psychological defense mechanism (22%), which is also more primitive. Consequently, students with developmental disabilities have greater problems with socio-psychological adaptation than students with normative development.

In addition, the results obtained indicate that respondents with a mildly expressed illness (visual or hearing impairment) in difficult life situations use an analysis of the causes of their own difficulties, as well as their abilities and opportunities to create the conditions for later successful action. Students with more serious health limitations in difficult life situations are characterized by excessive activation of psychological defenses, which does not allow them to recognize the objective, real situation and to interact adequately and creatively with the world around them.

# Discussion

The aim of the study was to identify psychological defense mechanisms related to professional self-determination in students with disabilities compared to a sample of students with normative development. Reliably significant differences were found between students with disabilities and students with normative development in the use of psychological defenses: Individuals with disabilities are significantly more likely to resort to the mechanisms of repression, compensation, intellectualization, and reactive formation, and they also have significantly higher levels of intensity of psychological defense mechanisms.

Similar research on the aspect of students' career self-determination through the prism of comparing different categories of students has not been conducted before. This research is unique in that the psychological defenses studied are correlated with the five major personal qualities and are compared in samples of students with SEN and students with normative development.

At the same time, there are research studies that have points of contact with ours or that indirectly concern the issues we are studying. Let us look at some issues of professional self-determination for people with disabilities that are particularly relevant to the research.

Johnston and Bonetti (2001) examined psychological and social predictors of disability, psychological and social predictors and consequences of disability, and the potential for reducing disability and its consequences through psychological interventions. The psychological mechanisms for protecting the individual, which we believe explain many of the problems experienced by people with health impairments, were also not considered. Lindsay F. Farrar (2020), who studies the self-determination and academic success of college students with disabilities, indirectly addresses the issue of psychological safety, in which psychological defense mechanisms act as limiting and mitigating factors when faced with barriers in the social environment and learning. This point confirms our assumption that there is a relationship between the mechanisms of psychological defenses and students' occupational self-determination, with the former becoming the determinant of all further processes of self-determination for people with disabilities.

The study by Khokhlova and Vasilchenko (2022) on the mechanisms of psychological defenses and coping in disabled people with traumatic spinal cord injury argued that in the presence of symptoms of neuropsychic maladaptation, they are characterized by a combination of increased intensity of psychological defenses with the actualization of regression, substitution, compensation, projection, and a preference for coping strategies aimed primarily at avoiding the problem and reducing emotional discomfort. In this regard, the results of their study are similar to our findings in relation to students with lesions of the nervous system, paralysis, and disorders of the musculoskeletal system and speech.

The study of Shetinina (2022) was devoted to the identification of key factors and the disclosure of significant mechanisms of personal self-determination in students with disabilities in the bachelor’s and master’s programs. When studying the phenomenon of personal self-determination, the researcher used the methodology developed and tested by the author, which includes five scales: “subjectively experienced meaningfulness,” “emotional attitude towards the future,” “activity," “determination and sustainability of career choice,” and “perception of external and internal resources of adaptation." It has been proven that the identified factors of personal self-determination are closely interrelated and mutually dependent. This research has points of contact with our work, as it concerns the system of self-determination of students of a higher educational institution, but does not take into account one important aspect—the mechanisms of psychological defense, which, in our opinion, determine the entire personality system of a person with disabilities.

In connection with the analysis of modern research and the results of identifying psychological defense mechanisms in terms of the professional self-determination of students with disabilities in comparison with a sample of students with normative development, we intend to expand the research sample and explore the factors that hinder the effective employment of graduates with SEN. Regarding the analysis of modern research and the results of identifying psychological defense mechanisms in the aspect of professional self-determination of students with disabilities in comparison with a sample of students with normative development, we intend to expand the research sample and conduct research on factors that impede the effective employment of graduates with SEN.

# Conclusion

It is evident that well-organized inclusive education compensates for the physical disabilities of students and allows them to hope for a successful life and professional scenario. However, the problem of limited health is an obstacle that remains with people upon admission, during their studies, and when they leave the educational institution. Disability is associated with disorders not only of the body but also of the personality. This is confirmed by the results of our research, according to which students with disabilities differ from students with normative development with a higher tendency to show mechanisms of repression, compensation, intellectualization, and reactive formation. In addition, this category of students has a higher overall intensity of psychological defenses compared to students with normative development; in other words, they have a greater tendency to use certain psychological defense mechanisms. These psychological defenses likely allow them to maintain their self-esteem and self-respect by excluding disturbing information from their consciousness.

This research found that psychological defense mechanisms constitute a regulatory system of personality stabilization, aimed primarily at reducing the anxiety that inevitably arises when a conflict or an obstacle to self-realization is perceived. It should be noted that defenses are updated when situations arise that place increased demands on a person’s internal resources. This is undoubtedly a situation of professional self-determination.

It is obvious that psychological defense can be successful or unsuccessful, constructive or destructive in relation to professional self-determination. In its manifestations, it is a form of unconscious mental activity that is formed in ontogenesis based on the interaction of dominant personality traits with the experience of personality development in a certain environment—normative or inclusive.

According to the results of the empirical research using the Mann-Whitney test, we can speak about the confirmation of the hypothesis put forward at the beginning of the research: In students with disabilities, the general level of intensity of psychological defenses of the individual is higher than in people with normative development, while less mature defense mechanisms predominate (e.g., denial, regression, projection).

## Limitations

Limitations of the research are one of the factors that can affect the results and conclusions. One of the main limitations was the sample size of students with normative development. Unfortunately, it was not possible to recruit a sample of this category of students from all four educational institutions from which students with SEN were selected. Only students from one university were recruited. This is precisely what did not allow us to fully compare the psychological defense mechanisms of students with SEN and normative development in the “college-university” aspect.

## Ethics Statements

The research followed ethical standards, and respondents were allowed to fill out forms anonymously. Respondents with SEN used the services of project volunteers to help them collect diagnostic data. They read out questionnaires or helped visually impaired students fill out forms. For hearing-impaired students, an audio system with a recording of techniques for listening to questions was provided. Informed consent was obtained from all participants.

Declaration of interest: The authors report no competing interests.

Data Availability: Data collected or analyzed in this study are available from the authors upon request.

## Conflict of Interest

The authors declare that they have no competing interests.

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