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THE IMPACT OF PSYCHOLOGICAL PERSONALITY TRAITS ON THE HEALTH DEVELOPMENT OF SCHOOL-AGED CHILDREN IN THE EDUCATIONAL PROCESS

B a c k g r o u n d . *The influence of psychological personality traits (PPT) on the health formation of school-aged children in extreme social environments is increasing, making its study essential from both theoretical and practical perspectives for enhancing the healthcare system.*

M e t h o d s . *A randomized controlled study involving 1,110 patients aged 9-17 years was conducted using a double-blind method. The study examined the dynamics of health formation in school-aged children influenced by issues stemming from established psychological personality traits (anxiety, aggressiveness, insecurity, impulsiveness, asociality, introversion, externality, and aesthetic insensitivity). Data collection and processing were conducted using the automated project system Universal online, version 45.*

R e s u l t s . *The study explored the impact of established psychological personality traits (impulsivity, aggressiveness, insecurity, externality, dishonesty, asociality, and aesthetic insensitivity) on the development of respiratory and digestive system diseases. It was found that anxiety is a significant risk factor for the development of digestive system diseases (DSD) – OR = 2.16, indicating more than a twofold increased risk of disease development among individuals with anxiety, though not for respiratory system diseases (RSD) – OR = 1.29, where this risk is not statistically significant. Dishonesty is identified as risk factor for respiratory system diseases. Asociality is a notable risk factor for both types of diseases, with its impact on DSD being slightly stronger (OR = 1.89, 95% CI: 1.23–2.91, p < 0.05) compared to RSD – OR = 1.53, 95% CI: 1.00–2.36, p < 0.05, indicating that asociality is an important risk factor for the formation of both respiratory and digestive system diseases, necessitating consideration of this characteristic in the prevention of both types of diseases.*

C o n c l u s i o n s . *The impact of established psychological personality traits (PPT) on the development of respiratory and digestive system diseases in school-aged children during their education has been recognized. If not promptly identified, the detrimental influence of PPT may lead to systemic dysfunctions due to atypical clinical forms of respiratory and digestive system diseases. Special attention should be given to addressing manifestations of anxiety, dishonesty, and asociality. Enhancing the overall health in children may alleviate social issues, improve social adaptation, and boost academic performance.*

K e y w o r d s : *schoolchildren's health, psychological personality traits, aggressiveness, insecurity, impulsivity, anxiety, asociality, aesthetic insensitivity, respiratory system diseases, digestive system diseases.*

Background

The health and well-being of school-aged children largely depend not only on their physical condition but also on their psychological, emotional, and social development in the short and long term. The idea that certain personality traits can determine a person's behavior has historical traditions (Allison et al., 2007; Allport, 1937; Allport, 1955; Boers et al., 2019; Burt, & Donnellan, 2008).

The term "psychological personality traits"(PPT) remains crucial in modern medicine and psychology, as it helps study and explain why children behave differently in similar situations (Cattell, & Eber, 1950; Currie et al., 2012). Research has shown a connection between psychological personality traits and health problems in children as well as their academic performance (Wit, 2009; Eysenck, 1967; Fenwick-Smith et al., 2018; Godin et al., 2015; Jouanna, 2012, pp. 335–359). Scholars emphasize that the conditions of the modern educational process have a significant impact on both the somatic and mental health of students. Increased psycho-emotional stress leads to a higher frequency of stressful situations and states, potentially weakening the body's protective and adaptive functions, eventually contributing to the development of pathological conditions or diseases (Kyrychuk, & Rudenko, 2014; Leach et al., 2021; López-Sánchez et al., 2023; Maslach, & Leiter, 2016). Anxiety arises in situations of uncertainty and danger, manifesting in the expectation of unfavorable outcomes. A mental state characterized by emotional tension, vigilance, worry, deep psychological discomfort, heightened sensitivity

in stressful situations, a sharpened sense of guilt, and self-devaluation in situations of expectation, uncertainty, or foreboding of an unknown threat to comfortable existence can lead to a state of insecurity in the child (Maslach, & Leiter, 2016; O'Farrell et al., 2023; Mohammadpour-Ahranjani et al., 2014, 83–90). Aggressiveness may result in more frequent conflicts and stressful situations, affecting overall health (Patalay et al., 2020; Reiss, 2013). Impulsivity is a significant trigger for substance abuse (Smith, & Gallo, 2001; Vincent et al., 2017; Webb et al., 2022), while introversion manifests as psychological detachment, with the child withdrawing from social contact and delving into personal experiences and problems.

Changes in a child's behavior can lead to improve health, academic success, and cognitive abilities. Understanding the influence of established psychological personality traits on health can lead to the development of more effective prevention and rehabilitation strategies, ultimately ensuring adequate support for the harmonious development of school-aged children. This is especially relevant within the educational environment, which some authors identify as a dominant factor; therefore, the diagnosis and correction of established psychological personality traits play a vital role in the formation of a child's harmonious development (Whitehead et al., 2002). Despite the relevance of studying psychological personality traits and their impact on the health of school-aged children, we have found that this issue has not been sufficiently explored, which has motivated the choice of topic for our scientific investigation. An important

aspect of this research is the acknowledgment of the need to develop comprehensive preventive, therapeutic, and rehabilitative programs that consider the diagnosis and prevention of the formation of psychological personality traits.

The work aimed to examine the characteristics of health development in school-aged children influenced by established psychological personality traits (such as aggressiveness, insecurity, impulsivity, anxiety, asociality, introversion, externality, and aesthetic insensitivity) and to justify the need for comprehensive medical, psychological, and social measures for prevention and support.

Methods

A randomized controlled study was conducted involving 1,934 students, aged 7 to 14 years in middle schools. Participants were divided into the main group (n = 1,199) and the control group (n = 735). The study was carried out with written parental consent and involved school psychologists, teachers, and doctors who provided social, psychological, and medical support to the participants. The number of children and their age distribution are presented in table 1.

Table 1

Number and age distribution of children in the study groups (number of children, %)

Groups	Main Group	Control Group	Total
1. Children of the younger school-age group Grades 1–4 (9–10 years)	176 (63.5 %)	101 (36.5 %)*	277 (100 %)
2. Children of the middle school-age group (11–15 years)	698 (59.6 %) *	474 (40.4 %)	1172 (100 %)
3. Children of the older school-age group (16-18 years)	325 (67.0 %)	160 (33.0 %) *	485 (100 %)
Разом	1199 (62.0 %)	735 (38.0 %)	1934 (100 %)

Note: Significant differences are marked with * (*p < 0.05).

A statistically significant correlation between data from different samples was demonstrated in the statistical analysis. Statistical significance at the level of $p < 0.05$ was confirmed for children of different age groups.

The analysis of morbidity was conducted for respiratory and digestive system diseases by medical professionals during routine preventive and dispensary examinations, using systematic observation data over eight years (2013–2021). A systematic meta-analysis method was applied to create the database, ensuring the careful selection of randomized controlled groups for comparison by age and gender.

The physical development of children (weight, height, and chest circumference) was assessed using age-specific percentile tables, a harmony index, and the Rurer weight-height index.

Statistical analysis was performed using methods of descriptive statistics, regression analysis, and determining the validity of sample indicators. The reliability of the data was confirmed by calculating the odds ratio (OR) with confidence intervals (CI).

The assessment of psychological personality traits was carried out using the Ukrainian version of the "DVOR" questionnaire (Kyrychuk, & Rudenko, 2014), which allows the identification of the characteristics of personality development deviations in children aged 9 to 17 years through a double-blind method for both participants and researchers. The survey results allowed for determining the structure and ranking of established psychological personality traits. A correlation matrix was used to identify the interdependence between health indicators and psychological personality traits. The creation of a multifactorial correlation matrix enabled the computation of multiple linear regressions.

To analyze the dynamics of health indicators and the prevalence of diseases in the context of PPT formation, the primary documentation analysis method was used over eight academic years (2015-2023). Data registration and processing were performed using the automated project system Universal, version 43.1 (Kyrychuk, & Rudenko, 2014).

Results

The main objective of the study was to establish the relationship between health indicators and psychological personality traits in school-aged children within the educational environment. To assess the presence of established psychological personality traits (PPT) in children (n=1110), the "DVOR"methodology was used, which allows for the identification of such deviations as anxiety, impulsivity, aggressiveness, dishonesty, asociality, introversion, insecurity, externality, and aesthetic insensitivity. The study results characterizing the prevalence of psychological personality traits (PPT) are presented in table 2.

The statistical analysis revealed a significant difference ($p < 0.05$) in the levels of anxiety, impulsiveness, aggressiveness, insecurity, and externality between the main and control groups, indicating a different degree of their manifestation in these samples. However, no statistically significant difference was found between the groups regarding aesthetic insensitivity, suggesting similar levels of this trait in both groups. Overall, the analysis shows that most psychological characteristics, except for aesthetic insensitivity, exhibit varying degrees of expression between the main and control groups.

An analysis was conducted on six key personality traits in school-aged children: anxiety, impulsiveness, aesthetic insensitivity, aggressiveness, insecurity, and externality. Each of these characteristics was examined at different levels of manifestation (high, medium, and low) in both the main and control groups. The analysis was based on calculating the odds ratios (OR) and determining the 95% confidence intervals (CI).

For anxiety, it was found that at high (OR = 0.69, CI [0.51, 0.93]) and medium levels (OR = 0.58, CI [0.46, 0.75]), it was less pronounced in the main group compared to the control group. At the low level, however, anxiety was more frequently observed in the main group (OR = 2.16, CI [1.69, 2.75]), which may indicate the influence of psychological personality traits (PPT) on reducing high and medium levels of anxiety. Impulsiveness at a high level was less expressed in the main group (OR = 0.45, CI [0.31, 0.64]), while no significant difference was found at the medium level (OR = 0.84, CI [0.66, 1.08]). At the low level, impulsiveness was significantly more common in the main group (OR = 1.68, CI [1.33, 2.13]).

Regarding aesthetic insensitivity, no significant differences were found between the groups at any level: high (OR = 1.02, CI [0.63, 1.65]), medium (OR = 1.11, CI [0.86, 1.43]), and low (OR = 0.90, CI [0.71, 1.15]). This suggests that this personality trait is equally expressed in both groups. Aggressiveness was significantly less pronounced in the main group at the high level (OR = 0.33, CI [0.23, 0.48]), while no significant difference was observed at the medium level (OR = 1.16, CI [0.90, 1.49]). At the low level, aggressiveness was more frequently found in the main group (OR = 1.52, CI [1.20, 1.93]).

Prevalence of Psychological Personality Traits (PPT) in School-Aged Children

Social Priority	Level of Problem Formation	Main Group	Control Group	Total	p	OR (95 %CI).
1. Anxiety	High	93 (17,7 %)	138 (23,6 %)	231 (20,8 %)	< 0,05	0.69 [0.51,0.93]
	Medium	162 (30,8 %)	252 (43,2 %)	414 (37,3 %)		0.58 [0.46, 0.75]
	Low	272 (51,5 %)	193 (33,2 %)	465 (41,9 %)		2.16 [1.69, 2.75]
2. Impulsivity	High	47 (8,5 %)	105 (17,2 %)	152 (13,7 %)	< 0,05	0.45 [0.31, 0.64]
	Medium	167 (31,1 %)	207 (35,5 %)	374 (33,7 %)		0.84 [0.66, 1.08]
	Low	318 (60,4 %)	276 (47,3 %)	536 (53,5 %)		1.68 [1.33, 2.13]
3. Aesthetic Insensitivity	High	34 (6,5 %)	37 (6,3 %)	71 (6,4 %)	> 0,05	1.02 [0.63, 1.65]
	Medium	172 (32,7 %)	177 (30,5 %)	353 (31,8 %)		1.11 [0.86, 1.43]
	Low	321 (60,8 %)	369 (63,2 %)	676 (61,8 %)		0.90 [0.71, 1.15]
4. Aggressiveness	High	46 (8,7 %)	130 (21,6 %)	176 (15,8 %)	<0,05	0.33 [0.23, 0.48]
	Medium	171 (32,5 %)	171 (30,0 %)	342 (30,8 %)		1.16 [0.90, 1.49]
	Low	310 (58,8 %)	282 (48,4 %)	592 (53,4 %)		1.52 [1.20, 1.93]
5. Insecurity	High	11 (2,2 %)	33 (5,6 %)	44 (4,0 %)	<0,05	0.35 [0.18, 0.71]
	Medium	132(24,8%)	94 (16,2 %)	227 (20,4%)		1.73 [1.29, 2.33]
	Low	385 (73,0 %)	456 (76,2 %)	139(75,6 %)		0.75 [0.57, 0.99]
6. Externality	High	182 (34,6 %)	135 (23,0 %)	317 (28,5 %)	<0,05	1.75 [1.35, 2.28]
	Medium	197 (37,2 %)	232 (39,8 %)	429 (38,9 %)		0.90 [0.71, 1.15]
	Low	148 (28,2 %)	216 (37,2 %)	364 (32,8 %)		0.66 [0.51, 0.86]
Total		527 (57,5 %)	583 (52,5 %)	1110 (100 %)		

Insecurity was significantly lower in the main group at the high level (OR = 0.35, CI [0.18, 0.71]), but at the medium level, it was more frequent in the main group (OR = 1.73, CI [1.29, 2.33]). At the low level, a slight decrease in insecurity was observed in the main group (OR = 0.75, CI [0.57, 0.99]). Externality was more often observed in the main group at the high level (OR = 1.75, CI [1.35, 2.28]), while no significant difference was found at the medium level (OR = 0.90, CI [0.71, 1.15]). At the low level, it was less expressed in the main group (OR = 0.66, CI [0.51, 0.86]).

These results suggest that psychological personality traits (PPT) can differ significantly between groups, particularly at different levels of expression. Such differences may indicate the importance of social factors in shaping the psychological characteristics of school-aged children.

For anxiety-related PPT, statistically significant differences were identified at all levels (p < 0.05), confirming the distributional differences between the main and control groups. Impulsiveness revealed significant differences at the high and low levels (p < 0.05) but not at the medium level. Aesthetic insensitivity showed no significant differences at any level (p > 0.05), indicating similarity between the groups.

Aggressiveness demonstrated significant differences at the high and low levels (p < 0.05), while no statistically significant difference was found at the medium level. For the personality trait "insecurity," significant differences were observed at all levels, although the p-value for the low level was close to the threshold (p = 0.047). Externality also showed significant differences at the high and low levels (p < 0.05), while no significant difference was noted at the medium level.

To study the mutual influence of health factors and established psychological personality traits (PPT), a randomized controlled trial was conducted using a multifactorial model combining indicators of physical health and PPT. The analytical database of the study included the results of medical and psychological assessments of 1,255 students from two educational institutions, with n1 = 546 (43.5 %) and n2 = 709 (56.5 %). The percentage of girls in the main group was 54.9%, and in the control group, 53.5%, with no significant differences in gender distribution between the institutions. The age of study participants in both groups ranged from 9 to 16 years, with the mean age being the same in both groups, at 12.5 years.

To characterize the influence of PPT on health, a multidimensional model (Model №1) was developed to describe the impact of factors on the occurrence of respiratory system diseases (RSD). The model included 208 components. The results of studying the influence of PPT on the formation of respiratory system diseases are presented in table 3.

The data in table 3 indicate that psychological personality traits can significantly influence the development of respiratory system diseases (RSD). The study analyzed nine different psychological characteristics: anxiety, impulsiveness, aggressiveness, dishonesty, asociality, introversion, insecurity, externality, and aesthetic insensitivity.

**"Statistical Analysis of the Impact of Psychological Personality Traits
on the Development of Respiratory Diseases (RD)"**

Parameter	Parameter, Healthy	RSD (Present) n (%)	RSD (Absent) n (%)	p-value	OR (95% CI)
Anxiety	Parameter	59 (13,3)	384 (86,7)	>0.05	1,29 [0,89;1,89]
	Healthy	65 (10,6)	549(89,4)		
Impulsiveness	Parameter	67 (11,8)	500 (88,2)	>0.05	1,01 [0,69;1,48]
	Healthy	57 (11,6)	433 (88,4)		
Aggressiveness	Parameter	67 (12,0)	490 (88,0)	>0.05	1,06 [0,72;1,55]
	Healthy	57 (11,4)	443 (88,6)		
Dishonesty	Parameter	50 (15,3)	276 (84,7)	<0,05	1,61 [1,09;2,36]
	Healthy	74 (10,1)	657 (89,9)		
Asociality	Parameter	34(15,6)	184(84,4)	<0,05	1,53 [1,00;2,36]
	Healthy	90 (10,7)	749 (89,4)		
Introversion	Parameter	30 (9,9)	274 (90,1)	>0.05	0,77 [0,49;1,18]
	Healthy	94 (12,5)	659 (87,5)		
Insecurity	Parameter	98 (12,1)	710 (87,9)	>0.05	1,23 [0,78;1,95]
	Healthy	26 (10,4)	233 (89,6)		
Externality	Parameter	29 (8,5)	313 (95,1)	<0,05	0,60 [0,39;0,93]
	Healthy	95 (13,3)	620 (86,7)		
Aesthetic Insensitivity	Parameter	71 (11,0)	576(89,0)	>0.05	0,83 [0,57;1,21]
	Healthy	53(12,9)	357(87,1)		

*RSD (Present) – the number and percentage of children with respiratory system disease; RSD (Absent) – the number and percentage of children without respiratory system disease; p-value – the probability value indicating statistical significance; OR (95% CI) – odds ratio with a 95% confidence interval.

Based on the obtained odds ratios (OR), p-values, and confidence intervals (CI), it can be concluded that dishonesty and asociality are significant risk factors for the development of respiratory system diseases. Specifically, the psychological characteristic "dishonesty" demonstrated a significant increase in the risk of developing RSD with an OR of 1.61, indicating that school-aged children with this trait are 61% more likely to suffer from RSD compared to those without it. A p-value < 0.05 confirms that this result is statistically significant.

The presence of the PPT "asociality" is also associated with an increased risk of developing respiratory system diseases (OR = 1.53), indicating a 53 % higher likelihood of developing RSD among individuals with this characteristic. A p-value < 0.05 further confirms the statistical significance of this result. These findings suggest that individuals with such psychological traits as dishonesty and asociality require special attention in the context of preventing respiratory system diseases.

The PPT "externality" serves as a protective factor against the development of respiratory system diseases (RSD), with an OR of 0.60, indicating that school-aged children with this trait are 40 % less likely to develop RSD. This is the only statistically significant OR value (p < 0.05) among the factors that reduce the risk of disease. Other psychological characteristics, such as anxiety, impulsiveness, aggressiveness, introversion, insecurity, and aesthetic insensitivity, showed OR values close to 1, suggesting no substantial effect of these traits on the risk of developing RSD. For these characteristics, the p-values exceeded 0.05, indicating a lack of statistical significance and suggesting that these results may be coincidental. Accordingly, these traits should not be considered as important risk factors for RSD prevention.

Since dishonesty and asociality were identified as significant risk factors, it is necessary to implement psychological and educational programs aimed at correcting these traits, particularly among children and adolescents. Such interventions can help reduce the risk of developing respiratory system diseases. Additionally, strengthening protective factors, particularly externality, which demonstrated a protective effect, is crucial. Supporting this trait by developing self-regulation skills and a sense of responsibility in children can contribute to reducing the risk of respiratory system diseases.

The influence of PPT on the development of digestive system diseases (DSD) was also studied. The results of studying the impact of PPT on the formation of digestive system diseases are presented in table 4.

According to the data presented in table 8, there is a statistically significant association between the presence of anxiety and the development of digestive system diseases (DSD). Students with anxiety have approximately 2.16 times higher odds of developing DSD compared to those without this psychological trait. It was also found that impulsiveness is associated with a slightly increased likelihood of developing DSD; however, this association is not statistically significant as the p-value exceeds 0.05. Similarly, aggressiveness does not show a statistically significant link with digestive system diseases.

There is a statistically significant association between asociality and digestive system diseases. Students with asocial traits have nearly twice the odds of developing DSD compared to those without these traits. The odds ratio (OR) for asociality is 1.89 (95 % CI: 1.23–2.91), with a p-value < 0.05. Traits such as introversion, insecurity, externality, and aesthetic insensitivity do not show a significant impact on the formation of DSD. Although the OR values below 1 suggest a potential reduction in risk, this association is not statistically confirmed.

The aim of the comparative analysis of the data presented in Tables 7 and 8 was to identify which psychological traits affect the development of respiratory system diseases (RSD) and digestive system diseases (DSD) and to compare their impact. The comparative analysis revealed that anxiety is a significant risk factor for digestive system diseases (DSD), increasing the risk of these diseases by more than twofold (OR = 2.16). However, in the case of respiratory system diseases (RSD), this risk is not statistically significant. This indicates that anxiety has a greater influence on the digestive system compared to the respiratory system.

Impulsiveness did not show a significant effect on the development of either RSD or DSD. However, the OR for DSD is higher, which may indicate a slightly greater influence on the development of digestive system diseases, although this association is not statistically significant.

Similar to impulsiveness, aggressiveness also did not demonstrate a significant impact on the development of either type of disease. Although the OR for DSD is somewhat higher, this effect does not reach the level of statistical significance.

Table 4

Statistical Analysis of Psychological Personality Traits and Digestive System Diseases (DSD)"(n, %)

Parameter	Parameter, Healthy	DSD (Present) n (%)	DSD (Absent) n (%)	p-value	OR (95% CI)
Anxiety	Parameter	66 (14,9)	377 (85,1)	<0,01	2,16 [1,45;3,22]
	Healthy	46 (7,5)	568 (92,5)		
Impulsiveness	Parameter	69 (12,2)	498 (87,8)	>0.05	1,44 [0,96;2,15]
	Healthy	43 (8,8)	447 (91,2)		
Aggressiveness	Parameter	66 (11,8)	491 (88,2)	>0.05	1,33 [0,89;1,97]
	Healthy	46 (9,2)	454 (90,8)		
Dishonesty	Parameter	43 (13,2)	283 (86,8)	>0.05	1,46 [0,97;2,19]
	Healthy	69 (9,4)	662 (90,6)		
Asociality	Parameter	35 (16,1)	183 (83,9)	<0,05	1,89 [1,23;2,91]
	Healthy	77 (9,2)	762 (90,8)		
Introversion	Parameter	31 (10,2)	273 (89,8)	>0.05	0,94 [0,61;1,46]
	Healthy	81 (10,8)	672 (89,2)		
Insecurity	Parameter	78 (9,7)	730 (90,3)	>0.05	0,67 [0,44;1,03]
	Healthy	34 (13,7)	213 (86,3)		
Externality	Parameter	31 (9,1)	311(90,9)	>0.05	0,78 [0,51;1,21]
	Healthy	81 (11,3)	636 (88,8)		
Aesthetic Insensitivity	Parameter	62 (9,6)	585 (90,4)	>0.05	0,76 [0,51;1,13]
	Healthy	50 (12,2)	360 (87,7)		

DSD (Present) – the number and percentage of children with digestive system diseases; DSD (Absent) – the number and percentage of children without digestive system diseases; p-value – probability value indicating statistical significance; OR (95% CI) – odds ratio with a 95% confidence interval.

Dishonesty is a significant risk factor for respiratory system diseases (RSD), but not for digestive system diseases (DSD). This suggests that dishonesty has a greater impact on the risk of developing respiratory diseases, which requires special attention from psychologists in the context of RSD prevention.

Introversion did not show a significant effect on the development of either type of disease. Although an OR of less than 1 might indicate a possible protective effect, none of the results are statistically significant, suggesting a lack of clear evidence for the impact of this trait. Similarly, insecurity did not show a statistically significant effect on the development of either disease type, although an inverse relationship was observed for DSD (OR < 1), indicating a potential protective effect. However, this association is not significant.

Externality demonstrated a significant protective effect against respiratory system diseases (RSD) (OR = 0.60, p < 0.05), but not against digestive system diseases (DSD). This suggests that externality may play an important role in protection against RSD, while the effect on DSD is not statistically significant. Aesthetic insensitivity did not show a significant impact on the development of either type of disease. While the OR values suggest a potential protective effect, none of the results are statistically significant.

The results of the data analysis show that the coefficient of determination, $R^2 = 0.474$, indicates that 47.4 % of the variation in the dependent variable for digestive system diseases (DSD) can be explained by this regression model. This points to a moderate level of explanatory power for the model. The adjusted $R^2 = 0.298$, which takes into account the number of independent variables, indicates that the model may not be highly robust for predicting DSD outcomes.

The obtained results indicate the need for further research to confirm or refine the identified associations.

Discussion and conclusions

The Cochrane Library and PubMed scientific databases, which are leading resources in modern evidence-based medicine, contain a significant number of studies dedicated to the impact of psychological personality traits (PPT) on the health of school-aged children. However, most of these studies do not focus on investigating the influence of already developed PPT on the health of schoolchildren. This hinders the identification of interrelationships between psychological traits and the physical condition of children, subsequently limiting the ability to develop effective, comprehensive medical and social measures for prevention and rehabilitation, particularly within the educational process.

Social factors are among the most prevalent and influential determinants of the physical and mental health, development, and functioning of schoolchildren. For instance, children growing up in poverty face a wide range of adverse health outcomes, including higher levels of chronic diseases and mental health issues. Digital technologies and social media can negatively impact sleep, physical activity, and mental health, contributing to increased levels of anxiety, often in ways that are not yet fully understood by researchers. The school environment also plays an important role in shaping the mental health of children; a more positive school climate is associated with lower levels of emotional and behavioral symptoms, an effect that has proven stronger than the school's socioeconomic status (Allport, 1937; Allport, 1955; O'Farrell et al., 2023). Social factors significantly affect the quality of children's nutrition during schooling, which may lead to the development of chronic diseases and psychological deviations (Allison et al., 2007; Godin et al., 2015; Whitehead et al., 2002). Moreover, family and the child's microsocial environment have a significant impact on the formation of health and mental development in the context of education (Cattell, & Eber, 1950; Fenwick-Smith et al., 2018).

According to randomized controlled trials (Allison et al., 2007; Burt, & Donnellan, 2008; Maslach, & Leiter, 2016), anxiety has negative effects on the formation of physical health. Our comparative analysis of the influence of psychological traits on the development of respiratory and digestive system diseases confirmed that anxiety is a significant risk factor for the development of digestive system diseases (DSD) – OR = 2.16, 95 % CI: 1.45–3.22, p < 0.01, indicating more than a twofold increased risk of developing these diseases among individuals with anxiety. In contrast, for respiratory system diseases (RSD), this risk is not statistically significant – OR = 1.29, 95% CI: 0.89–1.89, p > 0.05. Impulsiveness is also an important psychological

trait, underlying the formation of risk behaviors (Wit, 2009). However, in this analysis, aggressiveness did not demonstrate a significant impact on the risk of developing diseases.

Dishonesty is a significant risk factor for the development of respiratory system diseases (RSD) – OR = 1.61, 95 % CI: 1.09–2.36, p < 0.05, but not for digestive system diseases (DSD) – OR = 1.46, 95% CI: 0.97–2.19, p > 0.05. This indicates that dishonesty may have a greater impact on the risk of developing respiratory diseases, while its connection to digestive system diseases is less pronounced. At the same time, we did not find studies in the scientific literature that confirm or refute these findings regarding the influence of dishonesty on the development of physical diseases. The study of the impact of dishonesty on the formation of PPT requires further investigation.

In the study (Cacioppo et al., 2003), the authors pay significant attention to the impact of asociality on health formation, particularly the influence of social isolation on the development of psychosomatic diseases. According to the results of our study, asociality is a significant risk factor for the development of both digestive system diseases (DSD) and respiratory system diseases (RSD), with its impact being somewhat stronger on DSD (OR = 1.89, 95% CI: 1.23–2.91, p < 0.05) compared to RSD (OR = 1.53, 95 % CI: 1.00–2.36, p < 0.05). This indicates that asociality is an important risk factor for both groups of diseases, highlighting the need to consider this trait in preventive measures for both types of diseases.

Randomized controlled trials have indicated a link between aggressive behavior and an increased risk of cardiovascular diseases. A systematic randomized study has demonstrated the importance of a comprehensive approach to implementing social-emotional learning, which contributes to the elimination of negative social factors and, consequently, improves both physical and mental health (Cacioppo et al., 2003; Currie et al., 2012; López-Sánchez et al., 2023; Patalay et al., 2020). Another systematic review and meta-analysis (Maslach, & Leiter, 2016; Patalay et al., 2020; Smith, & Gallo, 2001) suggest that future research should focus on identifying mechanisms that link physical and social health. The authors of this study emphasize that children with a low socioeconomic status are at a higher risk of developing chronic diseases and psychological problems. They are more likely to suffer from stress, anxiety, and depression, which are associated with unstable home conditions and limited access to health-supportive resources (Allison et al., Currie et al., 2012; Reiss, 2013).

The authors pay considerable attention to the influence of externality and aesthetic insensitivity on health formation. Research indicates that children who receive emotional support from parents and teachers exhibit better mental and physical health, as well as higher self-esteem. The absence of such support can lead to the development of mental disorders, making it crucial for children to receive professional psychological assistance during their schooling (Burt, & Donnellan, 2008; Patalay et al., 2020; Vincent et al., 2017).

To address these issues, it is crucial not only to develop educational and professional programs but also to provide psychological and social support to children and their families. The growing problems among school-aged children highlight the need for joint preventive measures involving doctors, educators, and psychologists. A comprehensive approach to analyzing social and psychological factors is necessary for understanding and improving the health of school-aged children, as confirmed by research presented in scientific literature.

Conclusions. The conducted analysis, supported by data from PubMed and the Cochrane Library, indicates a close relationship between children's health and established

psychological personality traits (PPT). Improving children's overall health through the correction of PPT may contribute to reducing social problems, enhancing social adaptation, and improving academic performance. A comprehensive approach to monitoring the dynamics of health quality development among school-aged children, involving medical professionals, educators, and psychologists, is key to effectively addressing these issues.

The comparative analysis of the impact of PPT on the development of respiratory system diseases (RSD) and digestive system diseases (DSD) showed that anxiety is a significant risk factor for DSD (OR = 2.16, 95% CI: 1.45–3.22, p < 0.01), indicating more than a twofold increased risk of developing these diseases among individuals with anxiety. However, this risk is not significant for RSD (OR = 1.29, 95 % CI: 0.89–1.89, p > 0.05). Dishonesty was identified as a significant risk factor for RSD (OR = 1.61, 95 % CI: 1.09–2.36, p < 0.05), but not for DSD (OR = 1.46, 95 % CI: 0.97–2.19, p > 0.05), suggesting that dishonesty has a greater impact on the risk of developing respiratory diseases, whereas its association with digestive diseases is weaker. Asociality was found to be a significant risk factor for both disease types, with a more pronounced effect on DSD (OR = 1.89, 95 % CI: 1.23–2.91, p < 0.05) compared to RSD (OR = 1.53, 95 % CI: 1.00–2.36, p < 0.05). This indicates that asociality is an important risk factor for both RSD and DSD, emphasizing the need to consider this trait in the prevention of both types of diseases. Other psychological traits, such as impulsiveness, aggressiveness, introversion, insecurity, and aesthetic insensitivity, did not show a significant impact on the risk of developing either disease type in this analysis.

In creating a correlation matrix to establish the odds ratios (OR) for respiratory system diseases (RSD) and digestive system diseases (DSD), the correlation coefficient between OR for RSD and DSD was found to be 0.64, indicating a moderate positive relationship. This suggests that factors influencing the risk of one type of disease may have a similar effect on the other. The relationship between OR for RSD and the p-value for DSD showed a weak negative correlation coefficient of -0.20, indicating that as the OR for RSD increases, the significance of the effect on DSD decreases, although this association is weak. The correlation coefficient between OR for DSD and the p-value for DSD was -0.63, indicating a noticeable negative relationship. This implies that as the OR for DSD increases, the significance of this indicator decreases, which is typical in the analysis of statistical data.

The applied model has a moderate level of explanatory power, with R^2 = 0.474, indicating that approximately 47.4 % of the variation in the dependent variable p for digestive system diseases (DSD) can be explained by this regression model. With a moderate level of explanatory power, the overall statistical significance of the model is low (p-value = 0.146). The effect of the OR for respiratory system diseases (RSD) is minimal and positive, while the OR for DSD has a negative effect on the dependent variable p for DSD. These results highlight the need for further research to confirm or clarify the identified relationships.

Comprehensive support for children with established psychological personality traits (PPT) from parents, teachers, and psychologists can help them better adapt to these characteristics and use them for their personal development. Psychological counseling and social skills development programs may be beneficial for strengthening positive traits and reducing the negative health impacts, particularly concerning respiratory and digestive system diseases. Comprehensive child development support programs should be tailored to the needs of different age groups, considering the specific challenges faced by schoolchildren in the educational process.

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ВПЛИВ ПСИХОЛОГІЧНИХ ОСОБЛИВОСТЕЙ ОСОБИСТОСТІ
НА ФОРМУВАННЯ ЗДОРОВ'Я ДІТЕЙ ШКІЛЬНОГО ВІКУ В ОСВІТНЬОМУ ПРОЦЕСІ

В с т у п . *Наголошено, що вплив психологічних особливостей особистості (ПОО) на формування здоров'я дітей шкільного віку в умовах екстремального соціального середовища зростає, що підвищує значущість їх дослідження з теоретичної та практичної точки зору для покращення функціонування системи охорони здоров'я.*

М е т о д и . *Було проведено рандомізоване контрольоване дослідження за участю 1110 пацієнтів віком 9–17 років із застосуванням методу подвійного сліпого контролю. Дослідження охоплювало динаміку формування здоров'я у дітей шкільного віку під впливом проблем, викликаних сформованими психологічними особливостями особистості (тривожністю, агресивністю, невпевненістю, імпульсивністю, асоціальністю, інтроверсією, екстернальністю та естетичною нечутливістю). Збирання та опрацювання даних здійснено за допомогою автоматизованої системи проєкту Universal online, версія 45.*

Р е з у л ь т а т и . *Проаналізовано вплив сформованих психологічних особливостей особистості (імпульсивність, агресивність, невпевненість, екстернальність, нечесність, асоціальність та естетичну нечутливість) на розвиток захворювань дихальної та травної систем. Виявлено, що тривожність є значущим фактором ризику розвитку захворювань травної системи (ЗТС) – OR = 2,16, що свідчить про зростання більш ніж у два рази ризику виникнення захворювань серед осіб з тривожністю, але не для захворювань дихальної системи (ЗДС) – OR = 1,29, де цей ризик є статистично значущим. Нечесність є значущим фактором ризику для захворювань дихальної системи. Асоціальність є значущим фактором ризику для обох типів захворювань, причому її вплив на ЗТС дещо більший (OR = 1,89, 95 % ДІ: 1,23–2,91, p < 0,05) порівняно із ЗДС – OR = 1,53, 95 % ДІ: 1,00–2,36, p < 0,05, що вказує на те, що асоціальність є важливим фактором ризику формування як захворювань як дихальної, так і травної систем, що потребує врахування цієї особливості у профілактиці обох типів захворювань.*

В и с н о в к и . *Виявлено вплив сформованих психологічних особливостей особистості (ПОО) на розвиток захворювань дихальної та травної систем у дітей шкільного віку в процесі навчання. У разі несвоєчасного виявлення негативний комплексний вплив ПОО може призвести до системних дисфункцій через атипові клінічні форми захворювань дихальної та травної систем. Особливу увагу слід приділяти усуненню проявів тривожності, нечесності та асоціальності. Покращення загального стану здоров'я дітей може знизити соціальні проблеми, сприяти соціальній адаптації та покращити успішність.*

К л ю ч о в і   с л о в а : *здоров'я школярів, психологічні особливості особистості, агресивність, невпевненість, імпульсивність, тривожність, асоціальність, естетична нечутливість, захворювання системи дихання, захворювання системи травлення.*