

# Social Activity in the Real and Virtual World as a Factor in the Happiness of Schoolchildren

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**Keywords:** Digital education, Social networks, Online communities, Social activity, Happiness, Schoolchildren.

**Abstract:** The article raises issues of the subjective well-being of modern schoolchildren. The authors proceed from the hypothesis that the subjective experience of happiness depends on personal characteristics and social activity, including activity on social networks. Using the survey, data were obtained characterizing the level of happiness of 2,398 schoolchildren from Chelyabinsk and the Chelyabinsk region (Russia). Of these, 1193 are girls and 1196 are boys between the ages of 12 and 15. The results of the study showed that the happiness level of schoolchildren is associated with participation in cognitive network communities. However, the level of satisfaction with self-realization and the level of social activity makes it possible to better predict the level of happiness of schoolchildren.

## 1 INTRODUCTION


Modern schoolchildren live and study in a hybrid educational space. Their activity smoothly flows from the real world to the virtual world and back. Scientists have yet to determine how such transformations of the educational environment affect the quality of life of children.


Modern research shows that the use of digital technologies increases stress, leads to an increase in depressive states (Cunningham, Hudson, Harkness, 2021), and the formation of new forms of deviant behavior among adolescents (Sivrikova, 2021). These include: gambling addiction, phubbing, cyberloathing, digital autism, and more. This suggests that activity in the digital space will have a negative impact on the subjective well-being of the individual. In particular, problematic smartphone use by young people was found to be negatively


associated with eudaimonic motives of happiness and positively with hedonic motives of happiness [Kong, Tan, 2023].


It should be taken into account that the digital environment (including the educational one) significantly facilitates the life of a modern student. He does not have to go to libraries to find additional information on the subject. And he can do it at any time of the day or night. He can get advice from a specialist in a particular issue, find like-minded people and friends of interest. Spatial and temporal restrictions become conditional for student. Having such opportunities to satisfy their cognitive needs, modern schoolchildren should be happy.


In addition, the digital space provides almost limitless opportunities for entertainment and relaxation. A huge amount of content posted daily on the network is aimed at satisfying this need of schoolchildren.

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With the help of modern gadgets, thanks to the connection to the global network, schoolchildren could communicate with each other even under the restrictions imposed by a number of countries during the first and second waves of the COVID-19 pandemic. At the same time, the influence of digital communication can have a contradictory effect on the adolescent's experience of happiness.

For example, the researchers found that the COVID-19 outbreak has led to an increased intolerance for uncertainty among Turkish teenagers. And the growing intolerance of uncertainty negatively affected the Internet addiction and happiness of adolescents in this period [Evlî, EhimEdek, 2022].

Thus, on the one hand, we see that the hybrid world provides huge benefits for satisfaction of basic needs of schoolchildren. On the other hand, research results show that digital technologies do not always contribute to the preservation of mental well-being.

Therefore, the question of the impact of social activity in the real and virtual world on the happiness of schoolchildren remains open. The purpose of this study was to study the relationship between the level of happiness and the characteristics of social activity (in the real and virtual world) of schoolchildren.

## 2 LITERATURE REVIEW

### 2.1 Social activity and Happiness

According to modern complex concepts of happiness, in order to achieve sustainable development, it depends on objective and subjective factors. At the same time, it is internal subjective factors that are crucial for happiness. In particular, such internal criteria include human activity. It in itself can lead to satisfaction. And if this activity is meaningful for society, endowed with meaning, then its contribution to human happiness increases (Choon, Yong, Tan, Tan, 2022).

Many personality theories turn to the analysis of the role of social activity in achieving subjective well-being (happiness).

For example, the main postulate of activity theory says that the psyche and consciousness are formed and manifested in activity. At the same time, the joint activity of the child and the adult is necessary for the formation of higher mental functions. In this theory, communication as an element of social activity acts as a guarantor of the mental health of the individual, an integral element of which is subjective well-being.

According to humanistic psychology, an important characteristic of a person is his desire for self-actualization. It also manifests itself in the social activity of the individual. It is the satisfaction of this need that provides a person with a sense of happiness.

Thus, in psychology, there have long been theoretical models that explain the contribution of social activity to a person's achievement of happiness.

However, the results of empirical studies are contradictory and not so unambiguous. In particular, the researchers note that the manifestation of social activity of adolescents in real life, associated with the desire to show interest in the problems of society (participate in the activities of public associations, be responsible for the choice, attitude to politics, reform) does not always lead to well-being. It rather depends on the result of the social activity of the individual.

A sense of satisfaction may not arise due to the fact that their opinion, their position will not be heard (Campbell, Wolbrecht, 2019).

The formation of a sense of well-being through social activity in real life also depends on individual characteristics (the level of cognitive functions, motivation, personality traits), as well as on formed beliefs. In particular, European researchers have found that the greater the level of a teenager's cognitive interaction with politics (for example, their own political interest), the more they will be active and feel a sense of self-satisfaction (Šerek, Jugert, 2018.)

If beliefs are stable, then this develops adolescents' readiness for political action and leads to a sense of satisfaction [Šerek, Machackova, Macek, 2018]. On the other hand, a low level of political interest can lead to passivity in the manifestation of civic engagement and dissatisfaction.

American researchers say that the level of happiness is associated with social activity in extroverts. They explain their position by the fact that extroverts find joy in communication and simply in the presence of other people next to them (Naidu, Paravati, Gabriel, 2022).

Scientists from Norway have shown that promoting social participation in the classroom can stimulate some degree of positive emotion in the short term. But they do not affect mental health and loneliness in the long run. Social activity in the classroom contributes to short-term resistance to depression/anxiety (Morin, 2022).

But the happiness associated with gardening is connected with the fact that it is of a social or individual nature. Community gardeners report higher happiness and peak meaningfulness while gardening (Ambrose, Das, Fan, Ramaswami, 2023).

Another variable that mediates the relationship between happiness and social activity is the activity itself. Its duration, normativity, difficulty and pleasantness. For example, people tend to be happy when they are doing pleasant things. But many enjoyable activities can be harmful if overused. It turned out that even at the age of 5, children take into account the normative quality of involvement in activities (and not just pleasure) when assessing happiness (Chen, Harris, Yang, 2023).

Thus, on the example of different types of social activity, it was shown that its influence on happiness is ambiguous, because, indirectly by the individual characteristics of the individual, the result of the activity and its process. With the development of Internet technologies, the interest of researchers turned to how social activity on the Internet affects human happiness.

## **2.2 Network Communities and Happiness**

Studies by scientists have shown that the social activity of adolescents in social networks is more associated with watching video stories and evaluating them. However, with such activity, there is a tendency to escape from reality under the influence of certain behaviors that are demonstrated from the monitor screens, which ultimately does not contribute to the well-being and happiness of a person. (Pérez-Torres, Pastor-Ruiz, Ben-Boubaker, 2018).

Findings from other studies show that social media has a positive and significant association with happiness. However, the authors clarify that in different countries this positive relationship is not universal and differs depending on the level of economic development of the country (Avom, Malah, 2022).

In addition, it turned out that the level of subjective well-being is mediated by the form of digital communication. In particular, phone calls and text messages were found to be positively correlated with well-being, while online gaming was negatively associated with it. It also turned out that the relationship between digital media use and well-being depended on how the technology was used (Liu, Baumeister, Yang, Hu, 2019).

Research has found that the relationship between social media use and well-being (happiness) of adolescents depends on which personal area will be influenced by them (social networks).

If we are talking about training sessions using social networks (influence on the cognitive sphere), then students experience pleasure and satisfaction,

because this provides easy access to information, provides ease of communication for adolescents (Liang, Guo, Gong, Li, Li, 2022).

Through the use of social networks, adolescents achieve success in academic work, which also leads to a sense of satisfaction. Studies have shown that this leads to social acceptance among peers (Kathryn, 2021).

The use of play-based learning platforms (such as Kahoot in particular) also promotes well-being, as have a positive impact on a teenager's academic performance, positive relationships between children in the classroom, between teenagers and the teacher (Wang, Tahir, 2020).

The use of online MOOC platforms allows the formation of the ability to self-regulate behavior, which also leads to a sense of well-being (Jansen, Van Leeuwen, Janssen, Konein, 2020).

The feeling of happiness from the use of virtual reality during educational work is emphasized by researchers from Taiwan. They note that adolescents have the opportunity to receive feedback from their peers, develop learning motivation, from which they experience a sense of satisfaction (Chien, Hwang, Yong, 2020).

However, it was found that if the use of social networks is associated with a certain profile (subject dependence), frequency of use, as well as parental control, then in most cases this leads to negative consequences. Students develop anxiety, stress, which is not conducive to their well-being (Ramírez-Montoya, Lugo-Ocando, 2020).

A number of studies have established a link between the use of social networks and pathological depression in schoolchildren (loneliness, apathy), which leads to the need for specialist intervention in this process (Lozano-Blasco, Cortés-Pascual, 2020).

Thus, the results of empirical studies show that the role of social networks in children's happiness is ambiguous and is mediated by many factors: the topic of online communities, duration, individual characteristics and parental control.

The problem of analyzing the connection between the happiness of schoolchildren and their social activity in real and virtual space remains open.

## **3 RESEARCH METHODOLOGY**

### **3.1 Parents**

An on-line survey was conducted to collect data. It was attended by 2389 students of municipal educational institutions in Chelyabinsk and the

Chelyabinsk region (Russia). Of these, 1193 girls and 1196 boys. The age of respondents ranged from 12 to 15 years.

### 3.2 Measures

Given the importance of communication for adolescents, as part of an empirical study, we focused on the participation of schoolchildren in online communities as a reflection of their social activity in the virtual space. At the same time, schoolchildren were asked to indicate in which network communities they are (entertainment, educational, educational, other) and how much time they spend interacting in them. To study social activity in real space, the methodology of R.M. Shamionov and M.V. Grigoriev (Shamionov, Grigoryeva, 2019) was used. Also, during the study, schoolchildren were asked to assess on a 5-point scale how satisfied they were with their self-realization.

To determine the level of subjective experience of happiness, schoolchildren were asked to rate on a 4-point (yes, rather yes, rather no, no) scale whether they consider themselves a happy person. When analyzing the results based on the answers to this question, the sample was divided into 2 parts: happy (answers: yes and rather yes) and unhappy (answers: no and rather not).

### 3.3 Analytic Plan

The quantitative study was conducted as part of a non-experimental post-factum design, as the variables were not deliberately adjusted.

The data were collected online using the Yandex Form tool, which is the method most appropriate for this kind of research, not only because of the social situation, but also taking into account the subject and the target group (Muñoz -Rodríguez, Alonso, 2023).

Data collection took place from March to May 2022. The preliminary developed form was presented to teachers, school principals and representatives of parent committees for approval. After the approval of the survey text, an email was sent to teachers and school principals in the Chelyabinsk region, containing an introductory letter about the study, its ethical criteria (voluntary participation and data confidentiality), as well as a link to the form along with instructions for filling it out.

IBM SPSS Statistics software, version 23 for Windows, was used to analyze the data. Category variables were listed as frequency distributions.

Classification is one of the mining functions. The CHAID decision tree is the most commonly used

controlled classification method. It uses a tree-structured classifier that reflects a data classification procedure in which the top node of the tree is the root node. This study used a decision tree data mining application with the CHAID algorithm to help identify the features of social activity in the real and virtual world that mediate students' experiences of happiness.

Variables associated with social activity were included in the analysis using the automatic chi-square interaction detection (CHAID) algorithm.

## 4 RESEARCH RESULTS

### 4.1 Schoolchildren's experience happiness

The results of the study showed that schoolchildren consider themselves happy people. This is how 70.8% of respondents answered. 29.2% of schoolchildren surveyed noted that they were unhappy (Table 1).

Differences related to gender could not be found ( $\chi^2=2.607$ ;  $p = 0.115$ ).

Table 1: Distribution of schoolchildren with different levels of experience of happiness.

Study variables		Happiness level		total
		unhappy	happy	
girls	umber	366	827	1193
	%	30.7%	69.3%	100%
boys	umber	331	865	1196
	%	27.7%	72.3%	100%
Total	umber	697	1692	2389
	%	29.2%	70.8%	100.0%

### 4.2. Social activity of schoolchildren

In schoolchildren, all 4 components of social activity were quite pronounced (Figure 1). In particular, they anticipate the results of communication with other people quite well, clearly identify themselves and understand how to communicate in different

situations.

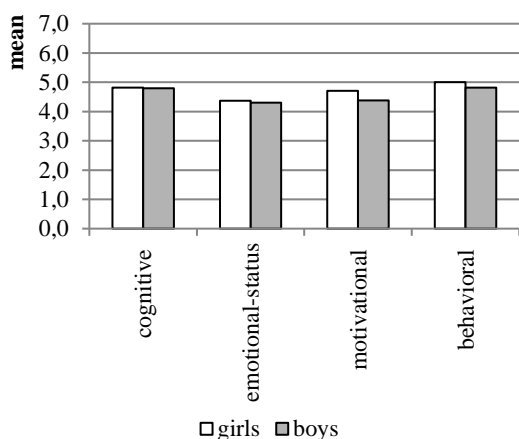


Figure 1: Features of social activity of schoolchildren.

They are characterized by an increased level of social contacts and success in real communication. They express a willingness to help other people and an interest in communication.

Separately, schoolchildren answered the question about the degree of satisfaction with self-realization. According to the data obtained, students are rather satisfied with their self-realization or completely satisfied with self-realization ( $X = 3.8$ ). This was the answer of 61% of respondents.

The results of diagnosing the characteristics of social activity of schoolchildren on the network showed that the study participants are in different communities. At the same time, the most popular among adolescents are entertainment communities (58.6%). About 40% of schoolchildren are in educational and educational network communities (Table 2).

Table 2: Distribution of school children by participation in network communities.

network communities	girls	boys	total	$\chi^2$	p
educational	41.2%	34.3%	37.8%	12.3	0.0001
entertaining	56.7%	60.6%	58.6%	3.9	0.027
cognitive	39.1%	39.6%	39.4%	0.1	0.42
neither	13.3%	11.8%	12.6%	1.3	0.14
others	17.2%	21.4%	19.3%	6.8	0.005

Separately, schoolchildren answered the question of how much time they spend in online communities. Most study participants visit network communities daily and spend 1-2 hours (26.7%), 3-5 hours

(21.6%), or more than 5 hours (13.2%) doing so (Table 3).

Table 3: Distribution of school children based on their time in network communities.

amount of time	girls	boys	total	$\chi^2$	p
1-2 hours a day	25.1%	28.3%	26.7%	3,1	0.08
3-5 hours a day	11.9%	14.5%	21.6%	0.01	0.9
Not every day, rarely	18.9%	16.5%	17.7%	2.3	0.1
Less than 1 hours a day	11.9%	14.5%	13.2%	3.6	0.6
More than 5 hours a day	18.9%	16.5%	13.2%	3.6	0.06

### 4.3. Correlation of happiness and social activity of schoolchildren

We used the variables studied to identify profiles of schoolchildren who considered themselves happy and did not consider themselves to be so. For this, a sample segmentation analysis based on the CHAID algorithm was used.

As a result, the model presented in Figure 2 was obtained. The mean percentage of total correct classification and the misclassification risk value were 25.3% (SD = 0.009). The resulting model made it possible to correctly classify 74.7% of schoolchildren. It turned out 18 nodes, 13 of which are terminal (Figure 2).

The classification tree shows that a sense of happiness is predicted by the variable "Satisfaction with self-realization" ( $\chi^2=328.95$ ;  $p = 0.00001$ ;  $df = 3$ ). As shown in Figure 3, the proportion of happy children and unhappy children is almost equalized (54% by 46%) in the fourth segment, which includes schoolchildren with an average level of satisfaction with self-realization (2-3 points).

Another prognostic variable appears in this segment. It is a behavioral component of social activity in the real world (nodes 12-14). If this variable drops below 3 points, then the number of happy children in the segment decreases to 35% (node 12).

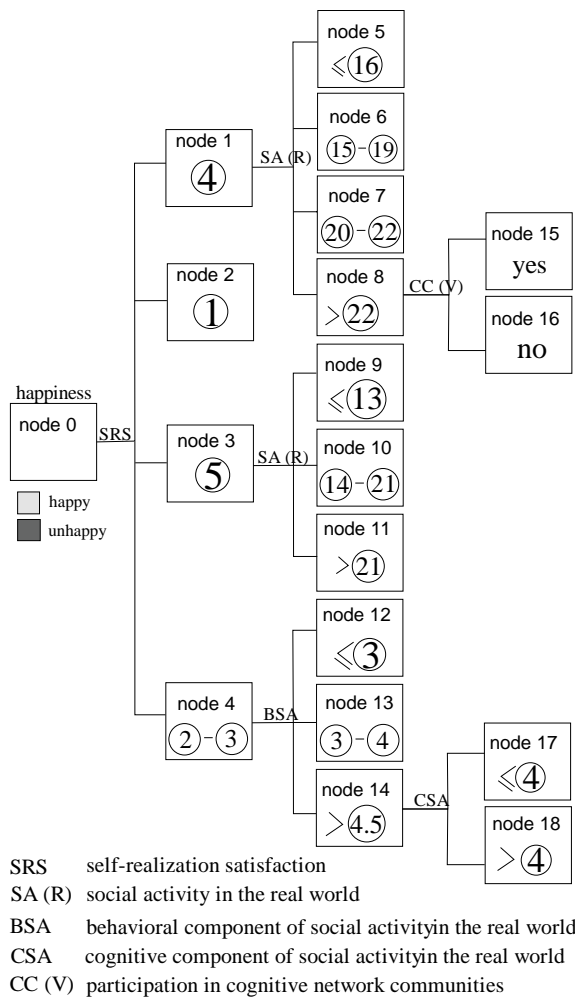


Figure 2: Happiness Determinant Classification Tree.

With a high level of development of this component of social activity, the number of happy schoolchildren in the segment increases to 62% (node 14). The last variable on which the happiness of schoolchildren in this segment depends is the cognitive component of social activity in real life (Figure 4). With a high value of this indicator, the proportion of happy schoolchildren in this segment reaches a maximum value of 65% (node 18). And with medium and low values, the share of unfortunate schoolchildren reaches its maximum in this segment (56%).

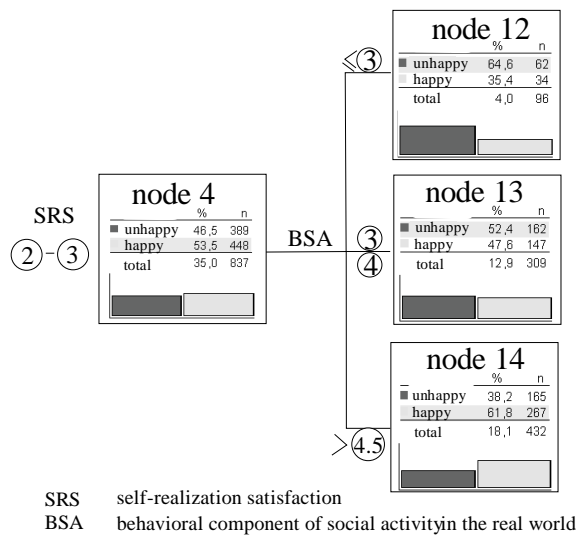


Figure 3: Determinants of schoolchildren happiness.

The largest share of unfortunate schoolchildren was in the terminal segment at number 2 (Figure 5) of children who were not satisfied with their self-realization (70.3%). The remaining two sample segments are distinguished by a high (4 points - node 1) and a very high (5 points - node 3) level of satisfaction with self-realization.

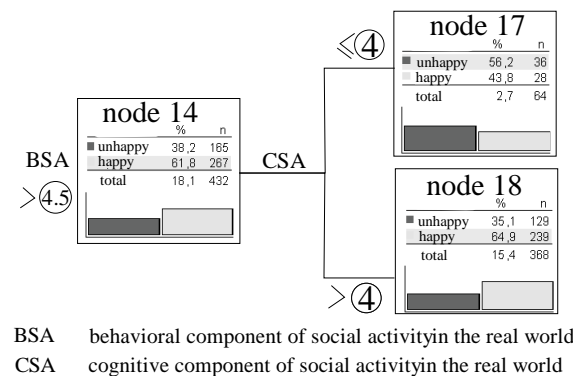
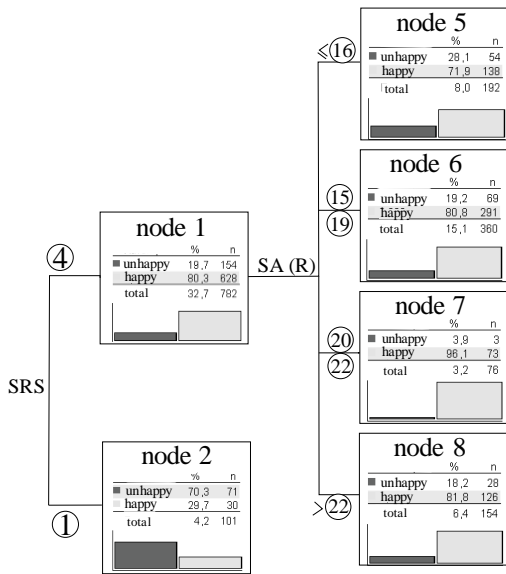


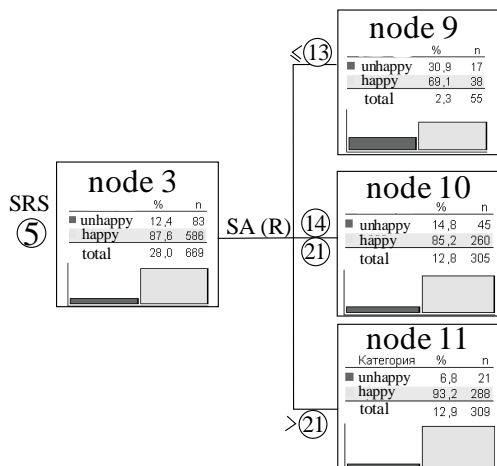
Figure 4: Determinants of schoolchildren happiness.

In both of these segments, the second determinant of children's happiness is social activity in real life. At the same time, in the second case (a very high level of satisfaction with self-realization), the maximum proportion of happy schoolchildren in the segment (93.2%) is observed with a high level of social activity in real life (Figure 6).



SRS self-realization satisfaction  
SA (R) social activity in the real world

Figure 5: Determinants of schoolchildren happiness.

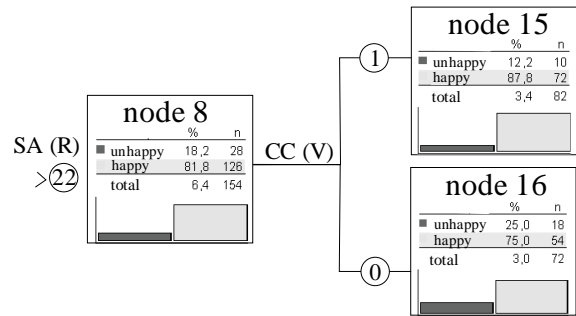


SRS self-realization satisfaction  
SA (R) social activity in the real world

Figure 6: Determinants of schoolchildren happiness.

In the first case (high level of satisfaction with self-realization), average values of the level of social activity are typical for groups of children with the maximum proportion of happy schoolchildren (96%) in this segment (Figure 5). In the case of high values of social activity in real life, another determinant begins to play its role in this segment. This is

inclusion in cognitive network communities (Figure 7).



SA (R) social activity in the real world  
CC (V) participation in cognitive network communities

Figure 7: Determinants of schoolchildren happiness

Thus, the resulting decision tree allows us to conclude that the happiness of children depends primarily on their social activity in real life. The main role in it is played by the degree of satisfaction with self-realization. Participation in cognitive social communities is an important factor in happiness for children who are satisfied with their self-realization and are distinguished by high social activity in real life.

## 4 DISCUSSION OF RESULTS

Based on the results of previous studies, we can state that our study highlights a number of important aspects that are consistent with previous data. First, it was noted that schoolchildren consider themselves to be happy people, which is consistent with the results recorded in other studies of adolescents (Otsuka, Kaneita, Itani, Jike, Osaki, Higuchi, Kanda, Kinjo, Kuwabara, Yoshimoto, 2020). In general, researchers say that subjective happiness decreases with age (Heizomi, Allahverdi-pour, Asghari Jafarabadi, Safaian, 2015; Stiglbauer, Gnambs, Gamsjäger, Batinic, 2013).

Secondly, the study showed that modern schoolchildren are socially active. Moreover, they have quite well developed all four components of social activity. This leads to the satisfaction of self-realization.

Thirdly, schoolchildren actively participate in online communities. At the same time, communities with entertainment content dominate. This is consistent with the data of other researchers that modern schoolchildren start registering in social networks quite early and by adolescence they are members of several of them (Muñoz-Rodríguez,

Alonso, Pessoa, Martín-Lucas, 2023 .; Valkenburg, 2022).

Fourth, the correlations found support the idea that subjective happiness is associated with social activity. This aspect is embedded in the PERMA model (Choon, Yong, Tan, Tan, 2022). In particular, it is indicated that participation in socially significant work can make a person feel happy and, ultimately, make others happy. In addition, people find pleasure in doing things, whether it's working on an interesting project, dancing, cooking, or playing the piano. The novelty of our study lies in the fact that we were able to establish that the happiness of schoolchildren rather depends on their social activity in reality.

The fact that, at a level of self-realization above the average and a high level of social activity, involvement in cognitive network communities plays a role in the experience of happiness in adolescents, indicates a high degree of integration of the real and virtual worlds in the lives of schoolchildren. They live, study and communicate in a hybrid space that involves the integration of real and virtual communities.

## 5 CONCLUSIONS

The results of the study showed that modern schoolchildren can call themselves happy people. Only 30% of the sample cannot say that about themselves. Schoolchildren are distinguished by an increased level of social activity and are rather or completely satisfied with their self-realization.

Their social activity extends both in real life and in online communities. Only 12.6% are not members of any online communities. The rest prefer entertainment communities. They are also members of educational and/or educational online communities that they visit every day.

At the same time, the happiness of children depends primarily on their social activity in real life. Satisfaction with self-realization plays an important role for this.

Participation in cognitive social communities is an important factor in happiness for children who are satisfied with their self-realization and are highly socially active in real life.

The present study has a number of limitations. Firstly, it does not take into account the sharp change in external conditions associated with the deterioration of the political and economic situation in the country, noted in 2022. Secondly, the conclusions are based on the results of students' self-reports about how they evaluate themselves, and not

on the results of objective measurements. Thirdly, the work did not investigate the level of satisfaction with the self-realization of schoolchildren in the virtual space.

All these limitations should be taken into account in further studies. In particular, it is important to monitor the studied indicators in a changing world.

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