

Socio-cultural changes influenced by information and communication technology

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Abstract. Information and communication technologies have eliminated communication barriers, transformed forms of communication into social sustainability, created a global virtual community with its own language and culture. The list of Internet phenomena, which includes elements of a mass culture modified by technology, is long indeed. It is apparent that social media platforms, being part of the innovation process in modern society, have had and continue to have an impact on people's identity, especially on the cultural identity and emotional tendencies of young people. The objective of this study is to consider these ongoing changes influenced by information and communication technologies. To achieve the objective, the hypothesis is put forward that information and communication technologies contribute to satisfying the need for communication and obtaining information, create the language picture of the virtual world on a global scale, have a significant impact on the emotional component and cultural universals of young people. The study consists of two parts. The first part is a systematic review of the scientific literature focused on social media platforms and the influence of such dynamic parameters as speed and scale of interaction on socio-cultural changes, emotional tendencies, attitudes and behavior of representatives of youth culture. The second part contains a logical conclusion on socio-psychological changes based on the results of a survey aimed at collecting the data necessary to analyse the use of social media technologies and to identify dominant platforms in the youth environment.

1 Introduction

The term "social change" encompasses any transformation of social structures, practices, lateral functions of individual and social patterns, forms of interaction and behavior. The term "information and communication technologies (ICT)" covers multimedia applications and services that allow users to access, retrieve, store, transmit and manipulate information in digital form. Given the versatile and multidimensional nature of the terms, the purpose of the article was not to consider the transformation all spheres of society at the micro, mezo, macrolevel under the influence of ICT. This study has a narrower scope, targeting the

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problem of scale and direction of socio-cultural changes in youth's environment under the influence of social media, as well as some important emotional tendencies.

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2 Materials and methods

2.1 Research area

An open access policy which extends to the websites of organizations, statistical data, peer-reviewed scientific journals has made it possible to collect materials, generalize and classify information for the study of socio-cultural changes. Challenges and trends discussed in previous studies contributed to the study of media determinism as one of the sources of changes in youth culture.

In recent decades, models of positive youth development have been proposed in the scientific literature, they focus on capacity, individual abilities and plasticity. These models include external and internal development assets, areas of social and psychological competencies, sustainability, spirituality, engagement and other significant components for improving the quality of life of young people [1].

Emotion has gained more interest in studies on cultural and historical psychology, cultural neurobiology, and activity theory. Most of these works originate in the reflections of the fundamental figures who worked in this field: L. S. Vygotsky, A. N. Leontyev, A. R. Luria and their followers. The researchers believed that personality is transformed through its social activities, perceptions, sensations, memory and emotions. Emotions are as much a cultural and historical product as are the forms of cognition and social concepts created in the history of social relations of society, which are the product of cultural heritage, formed in symbolically mediated activities [2].

Social media platforms help create and maintain social relationships between people with common interests or activities, providing opportunities for creating profiles, uploading images and videos, commenting on actions taken by other members of the network or group [3]. Social networking sites are constantly expanding as users develop new ways of using and creating content. Emotions in social media networks are transmitted through posts, comments, photos, tweets, likes and other means. On the one hand, socio-cultural relations constitute one of the forces behind the formation of emotions, on the other hand, they regulate socio-cultural life [4].

Social media usage is one of the most popular online activities of humanity in the twenty-first century. The growth in social networking sites and their usage is confirmed by a statistical forecast from the Advertising Research Foundation (ARF), according to which the number of social media users is expected to increase to 4.41 billion in 2025 [5]. Worldwide, the average time a person spends on social networks per day is 2 hours and 27 minutes [6]. Thus, over ten years of doing social networking, almost one year of life can be spent on social media.

Speed and scale of interaction in the virtual world intensify the emotional experience. And taking into account the growing dependence on ICT and social networking sites in particular, research interest extends to obtaining a clearer and more detailed understanding of whether and how the use of social networks is associated with emotional problems. Emotions received from virtual communication, as well as in the real world, help to

navigate complex and dense social landscapes. Mood problems and emotional issues have become especially acute since the beginning of the pandemic, which changed the order of life. Problems such as job loss, decline in earnings, social distancing, isolation can be treated in terms of personal, psychological or moral qualities – our own as well as qualities of other people who constitute a social circle, even a virtual one. ICTs have allowed people with common interests to communicate and to perceive self-isolation as less acute. The adoption of ICT served a “resilience” function in the academic world. Studies have shown a certain degree of similarity of psychological effects between social interactions both in the physical world and in the virtual environment [7]. The cultural services industry and participation in cultural events (visiting theaters, concerts, museums, exhibitions, etc.) have offered new and original solutions. There was an acceleration of growth in podcasts due to the transition to remote forms of work, training, and cultural leisure, thereby contributing to the growth of digital culture [8].

In many societies, virtual communication has become a temporary solution to problems caused by a more segmented social environment. The incentive for cultivating these online relationships is the search for solutions to the problems of the offline world. Social media are an example of how building meaningful relationships can rely on the resources provided by the Internet. Mixing virtual and real worlds has become part of the reality of modern youth, problems are not understood by them as just private problems that occur at the local level. Social media today help to find out first-hand the thoughts, feelings and concerns of people, both locally and internationally. A study conducted by Di Wang, Ahmad Al-Rubaie, Benjamin Hirsch and Gregory Cameron Pole, for example, proposes a general system for population happiness index monitoring using sentiment analysis from a social media stream (Twitter) through comprehensive multi-level filters, which is of great relevance not only during the pandemic [9]. Emotion identification enables people to understand better the population sentiment toward particular events [10].

Taken as a whole, these studies show that despite significant changes in modern relationship landscape which occurred with the advent of ICT and social networking sites, traditional relationship theories remain of relevance in understanding how interpersonal communication is related to culture. The identification of a modern online translation of traditional relationship theories has important theoretical implications [11]. Changes and additions that have occurred in the means of communication have changed the language and cultural models that are comprehensible to Internet users [12]. The culture of contemporary life is intertwined with ICT thus contributing to the transformation of society [13]. Theoretical and methodological set-up in philosophical and sociological concepts and studies considers technology as an independent force that drives changes in cultural symbols and value systems [14]. The most influential posts, comments and responses created by both influential users of social networks and ordinary subscribers are examined by means of cultural discourse analysis. Based on the sources of identity, relationships, actions, emotions, a virtual image of the world of social network users is made up [15]. There are a lot of studies on the impact of ICT on people and young people in particular. The global size of changes increases in direct proportion to the number of studies in which technological design, from a philosophical viewpoint, is about connecting what is desirable with what is technically possible [16]. There is no doubt that the exponential growth of information and communication technology in the first two decades of the twenty-first century have transformed societies and changed people's daily lives. Television, radio, paperback novels, movie theaters and wireline telephones have been replaced by e-books, smartphones, tablets, smartwatches, streaming media from Realplayer to Netflix. Such portable devices are changing the rules of the game, but there is one fundamental technological progress without which these devices would most likely not succeed – that's the invention of touchscreen technology [17].

2.2 Quantitative analysis

2.2.1. Questionnaire survey

This part of the study is based on a questionnaire survey conducted in 2022 among undergraduate and graduate students of the university in order to quantify the opinion of young people about the role and importance of social networks. Participants were male and female students between the ages of 18 to 22. Respondents were informed about anonymity, non-processing of personal data, were also assured of the confidentiality of information obtained from the survey and storage of survey data for no more than 5 days. The questionnaire questions were formulated on the basis of a model that assumes that the respondents use online social media platforms for communication, dating, entertainment, and creating social relationships with people sharing similar interests.

2.2.2. Selection of students.

Students were selected on such subjective criteria as accessibility, typicality, equal representation which meets the general requirements of the study. There was no need for representative selection and a procedure for probability estimation within the scope of the study. The authors understand that it is impossible to make scientifically based generalization by means of such selection because the properties of such selection do not reflect the properties of the universe of all students, but the survey was conducted to confirm and/or refute the hypothesis put forward in the study that information and communication technologies contribute to satisfying the need for communication and obtaining information, create the language picture of the virtual world on a global scale, have a significant impact on the emotional component and cultural universals of young people. To achieve the purpose of the study, the survey was conducted to provide an opportunity for logical conclusion confirming the hypothesis of the study.

2.2.3. Data collection.

To collect the data, a URL link to a web-page survey questionnaire was sent to the students <https://www.surveymonkey.com/>, the questionnaire consisted of two parts. The first part included questions about the use of social networking sites and their environments, where respondents compare their realistic offline self with the flawless, filtered and edited online versions of others. The second part of the questions was compiled in order to measure dependency of respondents on social media platforms. Behavioral dependence, expressed in an uncontrolled urge to use social networks, as well as to devote so much time to this activity that it impairs other important areas of life, is taken as a characteristic of dependence on social media. Students who agreed to take part in the survey filled out online questionnaires. Of the total number of students who received a link and an invitation to participate in the survey, more than 50% took part, namely 101 respondents. This is a good indicator of student activity, and a sufficient number of questionnaires to work with the hypothesis put forward in the study.

2.2.4. Categorization of responses and percentage content analysis

For better understanding of the collected data, the percentage method was used in the analysis (part of 100%) according to the formula $P = A1 / A2 * 100\%$, where A2 is a

constant value – the number of respondents who took part in the questionnaire and answered all the questions in two parts of the questionnaire – 101 students. A2 has a variable value, which depends on one of the respondents' chosen answer options to the question.

3 Results

Figure 1 based on respondents' responses are given below.

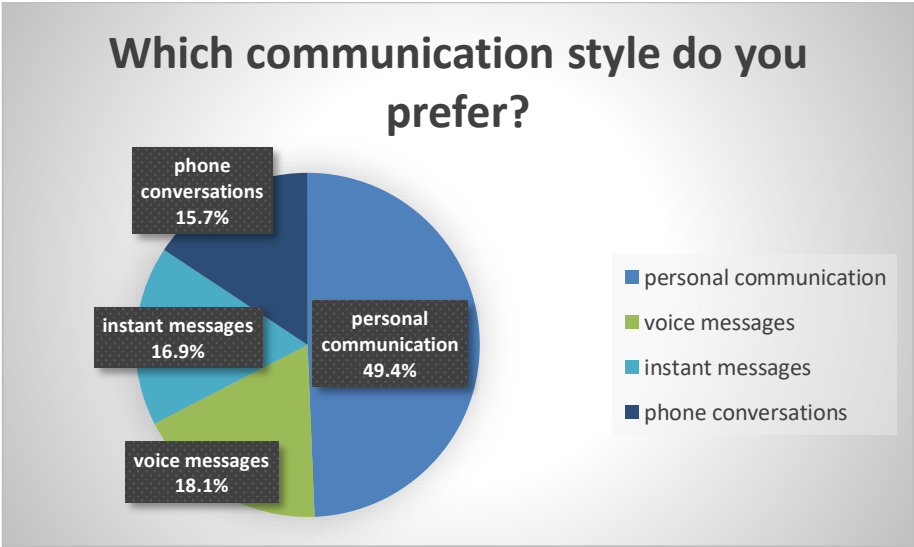


Fig. 1. Question 1: What style of communication do you prefer?

The nature of ICT has changed behavior and interaction. It is well known that the traditional method of communication includes, among other things, the continuous processing of wordless signals, such as facial expression, gestures, body language, eye contact, physical distance, etc. supplemented by virtual communication provided by modern means of ICT. These nonverbal signals are the heart and soul of traditional forms of interaction. It is impossible to understand the true meaning of the interaction without interpreting nonverbal signals. It allows you to draw conclusions about the intentions of another person, whether he is stressed or relaxed, how much he is involved in discourse etc. It is true for any type of personal interaction, even in cases where an active dialogue is not assumed. Nonverbal signals add depth to the interaction, but require cognitive and emotional effort. The informal type of discussion between friends, family, colleagues, etc. was given preference by almost half of the respondents. The absence of any temporary, territorial or other restrictions for communication provided by ICT is considered important, and accordingly, given preference by 49.4% of respondents who took part in the questionnaire survey, with every second respondent preferring non-synchronized communication.

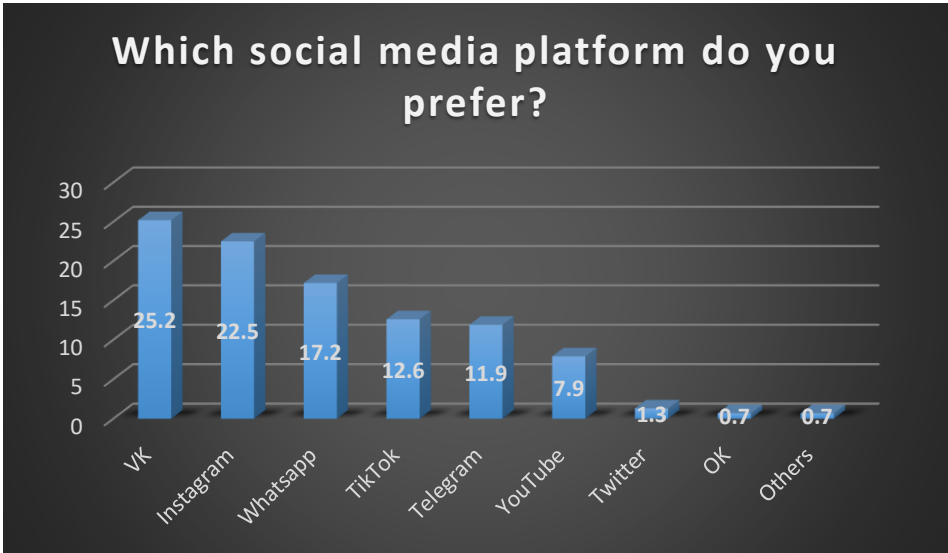


Fig. 2. Question 2: Which social media platform do you prefer?

Globally, to determine popularity and size of social networking sites, you can use the number of its active users currently registered on the platform, which shows both popularity and user engagement. In our study, this indicator is calculated based on the responses of respondents. The options for answering the question about the platform that is given more preference are social networks that already have their own history of development.

It follows from the respondents' answers that more than a third of the survey participants prefer the social network "VK". Originally launched in Russia in 2006, the VK social network service was an analogue to Facebook (an exclusive network for Harvard university students), and positioned itself as a resource for students and graduates of all Russian universities, later as a modern, fast way to communicate online.

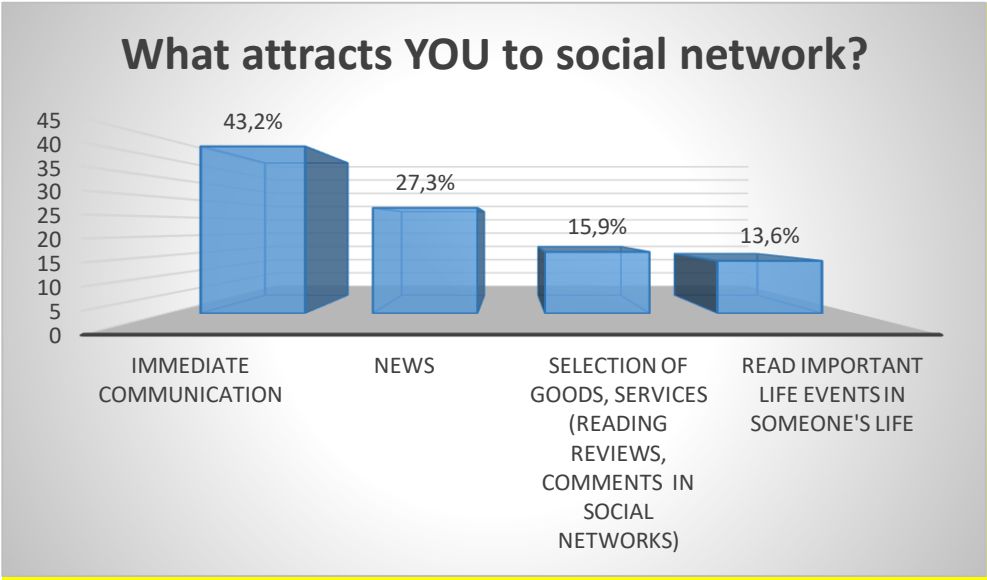


Fig. 3. Question 3. What attracts you to social network?

The use of social networking sites to communicate with friends, family, colleagues, clients is given preference by every nine out of 10 respondents.

In addition to the fact that social networks are a source of links to websites for many news agencies, users themselves share news by posting photos or videos of news events that are interesting to 27.3% of respondents. Meanwhile, the personal life of other users, including celebrities, is interesting to 13.6% of respondents.

Not so long ago, the idea of buying goods online was something exotic. However, the choice of goods and services using the Internet is changing consumer culture. 15.9 percent of those who took part in the survey rely on online advertising, opinions, reviews of goods and services when choosing goods and services.

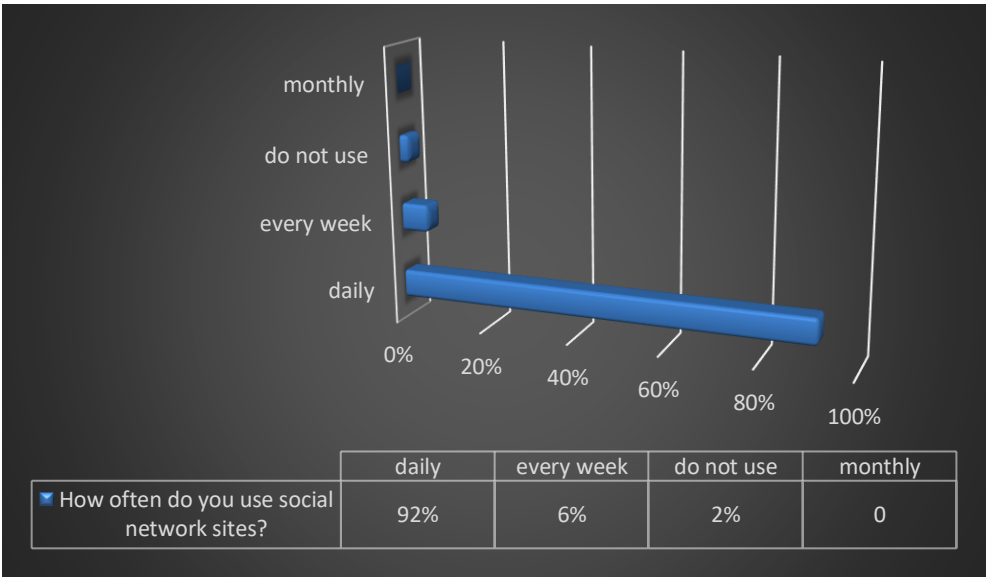


Fig. 4. Question 4. How often do you use social networking sites?

Society acquires new cultural traits, behavioral patterns and social norms and as a result creates new social structures.

ICTs significantly accelerate change process. As social platforms introduce new features and change their algorithms, trends in social networks are also undergoing evolution. Against the background of stay-at-home orders and the need for social distancing, people are looking for more meaningful interactions in virtual reality, which is gaining popularity on social networks.

Interaction through virtual reality gives the feeling that people are together, even if they are on the other side of the world, which is like a personal dialogue that is needed during social distancing. 9 out of 10 respondents have social networks firmly integrated into everyday life, but despite the great popularity of social networks, 2% of respondents noted that they do not use social networks.

4 Discussion

Technology is a product of a certain historical period and is integrated into lives of people of this period. The way people establish new connections and distribute interaction among

themselves through ICT is discussed by the example of social networks. Thanks to ICT, the segmentation of social experience is refracted and virtual communication receives a greater impetus. This strengthening of social trends has a direct impact on youth culture. The study relies upon a review of scientific literature, statistical data, and a questionnaire survey to propose a model explaining the relationship between the dynamics of growth of social networks and their users and sociocultural changes. The influence of ICT on the intersection of social and spatial relations in the modern world has led to the birth and dawn of social networks such as VK, Instagram, WhatsApp, TikTok and others uniting like-minded friends in online communities. At the individual level, the study shows the role of social networks in the lives of young people, as well as how they distribute their actions in social networks. Despite the fact that social networks offer the superimposition of various cultural influences, young people, along with other social networks, prefer the Russian social network VK and thus cultural identity.

In an ideal typical case, new users of social networks, like social networks themselves, arise when strangers enter the digital world and form relationships for the first time. The initial interactions may differ from later periods marked by more stable relationships, and in this case the behavior in the formation of connections may change over time, which has the prospect of further research. Society acquires new cultural traits, behavioral patterns and social norms and as a result creates new social structures. ICTs significantly accelerate change process. As social platforms introduce new features and change their algorithms, trends in social networks are also undergoing evolution.

The current trend towards user interaction in the social media environment contributes both to the formation of communities with similar interests, which are supported by algorithmic and business practices of social networks, and to the expression of individuality, which manifests itself from the moment of account creation (your nickname, your avatar photo and the text of your biographical profile). The actions of users on the web, the words and images they use, the texts and videos they share, the opinions they express, determine the socio-cultural identity of modernity.

5 Conclusion

The main thing in transformation is the transformation of the forms and content of life, its institutional sphere, norms, values, mentality and other socio-cultural aspects. The interest towards young people and social sustainability in the study is explained by the fact that it is young people who use ICT especially quickly, which increasingly blur the boundaries between online and offline activities.

From the time of the creation of the social network "Six Degrees" at the end of the last century and for the first two decades of this century, the number of social networks has grown considerably. They have created an environment that has no geographical, temporal, age, numerical or any other restrictions. The expansion of social networks has already made significant changes in the sociocultural and emotional behavioral paradigms of modern society. Further development of ICT will continue the transformation of society. One can only guess what the future of ICT and social networks will be in the next decade, what impact will be exerted on socio-cultural, emotional-behavioral and other conceptual models, but it is obvious that in one form or another they will continue their development and thereby arouse interest and stimulate further research. The authors hope that this present study will not just add on to existing research, but will also stimulate further research due to the relevance of studying global changes in modern society influenced by the development of information and communication technologies.

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