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Research Article

**GENDER SPECIFICS OF USING DIGITAL TECHNOLOGIES  
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Kremlevskaya Street, 18, Russia**Abstract:**

*In this paper, the gender characteristics of children of preschool age that are actively using digital technologies in everyday life are studied, the age characteristics of children are described, and the terminology of the research is defined.*

*The study used psychological methods: questionnaire, observation of children of preschool age on the basis of the questionnaire "Masculinity, femininity and gender personality type" (a modification of O. G. Lopukhova), the conversation "Boys and girls" (a modification of N.Tatarintseva), the analysis of the heroes of modern cartoons and gaming applications, as well as statistical methods to interpret quantitative results.*

*The differences in behavior of boys and girls, different from their ideas about men and women are identified in this study. It is established that modern digital games, apps and animations offered by the developers and chosen by the children create their androgynous qualities, regardless of gender.*

*It is concluded that changes of the gender characteristics of boys and girls using digital technologies described by colleagues and specified by our research have a number of consequences in their further development – they become most vulnerable to the negative social phenomena, their cognitive function and relationships with parents and peers are affected too.*

**Keywords:** *digital children, gender differences, preschool age*

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**INTRODUCTION:**

Digital technologies take a leading position in the life of modern children. From the very birth the children are influenced by it. They live in a world saturated with technology, and use a variety of digital devices in their daily lives (Hague P. & Payton I., 2010; Plowman L., Stevenson A., Stephen J., & McPake J., 2012) [1]. This so-called "digital natives", the indigenous inhabitants of the digital society [2] aged 0 to 8 years (Bredenkamp H. & Copple D., 1997). This age period is characterized by speedy growth and development of the child, his mastery of the social space of human relations through communication with close adults, as well as through games and real relationships with peers [3].

The analysis of the psychological literature showed that research on gender differences in the interaction of children with digital devices is not sufficiently studied. However, the urgency of this problem grows over time and is connected with the fact that the digital behavior of children differs from the behavior of those who do not use modern technology to the same extent; the nature of the use of certain devices has its own characteristics; applications, games, cartoons, etc. are different for boys and girls; the time spent on the use of digital technologies is different.

As a result of these features, a personality of digital children is formed. Their psychological, social, physical, intellectual development is the result of adults' actions, as adults create digital devices, their contents and filling. So it depends on us, what our children will be: intellectually developed, socially skilled, psychologically stable, having their own position in life or, non-adaptive, psychologically unstable, having no goals in life people with less intellectual development.

**METHODS:**

The empirical part of the study consisted of several stages and included such psycho-diagnostic methods, as the survey on the use of digital technologies by children, observation of children of preschool age (the monitoring schema based on a questionnaire "Masculinist, femininist gender and personality type" (a modification of O. G. Lopukhova, 2013), the conversation "Boys and girls" (modified conversation Tatarintseva N.), analysis of the heroes of modern cartoons and gaming applications. The sample consisted of 50 children of 5-6 years.

In the first phase of the study there was a questionnaire survey which included questions

regarding the time frame for the use of mobile equipment, the types of mobile equipment popular with children (interactive toys, mobile phones, tablets, etc.), what kids do (play, downloading apps, watching cartoons, etc.). then children were divided into two groups: children actively using digital devices (53% of respondents) and those who almost never use them (47%).

In the second stage of investigation the observation of children actively using digital devices, was conducted with a help of a scheme of observation, where the information about each child in the game was recorded. It included parameters such as willingness to help, shyness, assertiveness, a tendency to show feelings, affection, dominance, etc. The results were put down in the protocol.

In the third stage, the interview "Boys and girls" was conducted (modified conversation by N. Tatarintseva). The purpose of this is to identify the views of children of senior preschool age on the features of an image "I", boys and girls, men and women.

In the fourth stage, children were offered well-known cartoon characters and gaming applications. The task was to determine what the qualities of a particular hero are, to which sex it belongs.

At the fifth stage the mathematical analysis of the data was carried out.

**RESULTS:**

During the observation of the children, actively using mobile devices it was found that boys are vulnerable, arrogant, weak-willed, dependent, unable to cope even with the basic difficulties. Girls, in turn, on the contrary, show perseverance, emotional coldness, become decisive even in the obvious situation which they will not be able to cope with.

Despite such observations, the views of boys and girls about men and women are characterized by tradition: children clearly know what qualities a man and a woman should have, other options (traditionally inappropriate views about men and women) cause laughter or indignation.

The discrepancy between children's behavior and their perceptions of gender roles is due to the influence of the media, which is often misleading and, at the same time, the influence of the family that is raising a child from birth, where the mother and father perform certain gender roles.

As a result of studying the contents of various digital devices, it was concluded that modern digital games, apps and animations proposed by the developers and chosen by children create their androgynous qualities, regardless of gender (63 %) . These children tend to have a combination of feminine and masculine qualities [4]. Boys and girls can easily adapt to circumstances, relationships, situations, behavior of such children more labile than those who are feminine or masculina type of personality.

In apps and cartoons the behavior of the main characters, their appearance are presented in such a way that the respondents were not always able to determine which gender is one or the other character, there was confusion about the definition of gender in their behavior. Accordingly, children have a blurred idea of what it means to be a boy and a girl, as the result not clear images concerning gender roles are formed, and the process of gender socialization is getting more complex.

The characters of girls and boys, animals, inanimate objects (cars, trains) are portrayed as an amorphous, asexual creatures with pungent colors. They perform absurd, sometimes unnatural motions or actions. For example, the characters of boys and girls fly, instead of walk, transform into robots, perform super tasks. Animals are portrayed disproportionately (huge eyes in relation to other parts of the body), sometimes they are "humanized" and are unusual for them.

The alleged male characters are characterized by indecisiveness, tearfulness, resentment, etc., whereas the alleged characters of the female sex, on the contrary, overcome the problems, look more physically fit, sometimes even aggressive.

Unfortunately, our observations of the development of digital technologies, children's applications, cartoons, interactive educational toys, as well as observation of children in children's educational centers and municipal autonomous educational institutions show that the number of applications of such content increases every month and attracts more and more children, and along with the androgyny it forms personality traits traditionally inappropriate to the given sex.

#### **DISCUSSION:**

Scientists identified psychological and physiological differences in the development of various areas of the cerebral cortex of boys and girls in the research. The brain of a boy and a girl's brain work differently, making the perception of the world, way of thinking,

the preferred actions of each sex representative happen by their scenario[5].

Near vision dominates with the girls, while the boys have far sight. Accordingly, girls choose games with objects at arm's length – playing with dolls, beads, rags, and boys often choose catch-up, throwing items away, etc. Boys in the preschool age have acute hearing, but girls are more sensitive to noise, touch. Non-standard, spatial reasoning dominates with boys, while girls have template thinking but pay attention to detail.

In other studies it was found that psychological differences between males and females are not as much as it seems. The social behavior of boys is characterized by a high level of aggressiveness and dominance, while girls are more friendly and contact. Both boys and girls may be anxious, impulsive, have low self esteem, etc [6]. Gender differences may not have biological basis, but may be associated with the trends of modern society and digital technologies take a leading position in this list.

According to research of Absi-SemaanN., CrombieG., FreemanC. at an early age, boys are given much more support from parents than girls in spite of the same ability and interest in the computer, they are twice more often bought computers and the software[7]. They are more likely to play video games, mostly "war and sport"-like, spend three times more time in front of the the computer in an informal atmosphere, acquiring valuable job skills.

Subsequently, boys and men have more positive attitudes, high self esteem, confidence at work. The work of girls and women is often characterized by a sense of insecurity and anxiety, belittling their own abilities in this area. Both consider computing to be a male activity. Acceptance by girls of their social role leads to a decrease in their involvement in the field of information technologies and achievements in spheres of activity that are not directly related to computer science [8]. It turns out that used for educational and game activities computer programs are addressed to boys rather than girls.

#### **CONCLUSION:**

Early studies revealed that the use of digital technologies by children are more likely to develop such qualities as perseverance, persistence in achieving goals, the tendency to make decisions based on their own criteria, coldness and no emotion in communication, propensity to conflicts, independence, disregard social norms, tendency to creative activity, the preference for the process to

obtaining a result, introversion and absorption in their own feelings, self-centeredness, and lack of responsibility in them. [9].

In the studies of Bepalko V. P. the confirmation of our position on social and cultural transformations taking place in modern society that produce gender change, deform sustainable stereotypes about the purpose of women and men in public life is provided [10].

It was revealed by E. S. Tolstonogova that the software designed for children is more adequate to the male style of thinking; females use information technology to solve problems of vital functions [11], and men regardless of age - to assert themselves.

Thus the changes of the gender characteristics of boys and girls using digital technologies described by the colleagues and specified by us entail a number of consequences in their further development – they become most susceptible to negative social phenomena [12], their cognitive functions, relationships with parents and peers suffer.

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