

**EdCW 2020****International Scientific and Practical Conference Education in a Changing World: Global Challenges and National Priorities****PRINT AND DIGITAL MEDIA: PSYCHOSEMANTIC ANALYSIS OF STUDENTS' ATTITUDE TO INFORMATION**

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**Abstract**

The article is devoted to the general problem of the impact of the Internet on the consciousness and behavior of its users. The prospects of conducting a comparative analysis of the influence of information obtained from different sources in order to establish the specificity of the impact of the Internet information itself are theoretically substantiated. The proposed research design is concretized on the issue of students' attitude to information, since the existing attitude acts as a personal determinant of the choice of certain sources. It has been empirically established that information transmitted in different ways has a different degree of students' trust, among which the print media have the minimum, and the Internet news portals have the maximum. Using the method of semantic differential, significant differences were found in the ideas about the nature of information broadcast by print and digital media. Information from print media is rated by students as more professionally processed. Digital media information, in turn, has great energetic potential, prompting thought and action. The construction of implicit models of information from print and digital media through factor analysis has shown that they are quite similar in structure and content. The main difference is the perception of Internet information by young people as objective, truthful and necessary.

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## 1. Introduction

The modern information society provides the consumer with a variety of both information sources and means of transmission of messages. Among the latter, the Internet is gaining more and more popularity, which has not only a number of technical advantages, but is also distinguished by the fact that there is no censorship. This feature of Internet information increases the risks both for the psychological health of an individual and for the national security of any modern state. Therefore, the fundamental problem of the impact of Internet information on the user is increasingly coming to the attention of psychologists, and is mainly presented in two groups of studies. Firstly, it is a theoretical and empirical study of the psychological safety of Internet information for users of different ages (Demidova, 2019; Gelimkhanova, 2019; Jia et al., 2017; Livingstone et al., 2015; Luchinkina, 2019; McDool et al., 2020; Panov & Patrakov, 2020; Shpagina & Chirkina, 2019, etc.). Secondly, it is the possibilities of manipulative influence on a person in the context of destructive information and propaganda (and, accordingly, counter-propaganda) activities carried out through the web (Astakhova & Koshkarova, 2019; Hancock, 2012; Krinitsky, 2019; Norris et al., 2019; Salikhov & Krasnoshchechenko, 2020; Zhang et al., 2013, etc.).

## 2. Problem Statement

It seems that another promising area of research that would make it possible to establish the specifics of the Internet itself, could be a comparative analysis of the information influence realized through different types of media. Currently, such an analysis is presented in sporadic studies. For example, a study by Russian psychologists (Drobysheva et al., 2019) is devoted to the problem of comparing public discourse on pension reform in the official print media and on the Internet. As a result of the emotional and lexical analysis of the texts (the “Trud” newspaper and Internet forums), quite significant differences were established, namely, the print media “adhere to the strategy of “smoothing out sharp corners”, focus on the rational perception of policy changes” (Drobysheva et al., 2019, p. 53). And the discourse of the Internet “is characterized by emotional charge, a surge of anxiety, irritation, despair and other negative experiences” (Drobysheva et al., 2019, p. 53). The presented data prove that different types of media, as one would expect based on the degree of their officiality, have diametrically opposite content regarding a specific social reform. But it should be noted that a modern, rather sophisticated consumer of an information product already has an approximate idea of this content, since in the conditions of the existing pluralism of information sources, the consumer has already developed a certain attitude towards them, which determines the appeal to a specific information resource.

Young people of Gen Z have a clear preference for digital media. It can be assumed that these preferences are associated not so much with the very method of transmitting information, but also with the attitude of young people to it. An analysis of this relationship will allow state digital resources to fulfil their not only educational and educational tasks, but also their regulatory and mobilization functions more effectively. Such an analysis seems to be especially relevant in the context of the political crisis in the Republic of Belarus, in the emergence and resolution of which digital media play a certain role.

### **3. Research Questions**

- What is the reference frequency and the degree of students' trust in information from different sources?
- What are the students' perceptions about the characteristics of the information broadcast by print and digital media?
- What is the content of implicit models of information from print and digital media in the minds of students?

### **4. Purpose of the Study**

The present study is a comparative analysis of the attitude of students to information from different types of media, carried out in the constructivist paradigm of psychology. Such knowledge is necessary both for the implementation of state educational policy in general, and for the optimization of educational work in a higher education institution in the context of digital everyday life.

### **5. Research Methods**

The study (voluntarily and anonymously) was attended by 100 students of 1-4 courses of various faculties of the Brest State University named after A.S. Pushkin. The age of the respondents is from 17 to 23 years old, among them 58 are girls and 42 are boys. The collection of empirical data was carried out in May-June 2020.

5.1. To study the attitude of students towards different sources of information (according to the method of its transmission), a ranking technique was used. Data processing consisted in calculating the arithmetic mean for each source, and then conducting a correlation analysis of the profiles in order to determine the relationship between the frequency of access to an information source and the credibility of the information content.

5.2. To study the ideas of students about the characteristics of information from sources of different types, the methodology of semantic differential was used. The descriptors were 30 characteristics of information presented in various dictionaries of the Russian language. The scales were unipolar constructions, since their use “gives an additional “degree of freedom” in the projection of the cognitive structures of the subjects on the experimental material, since it allows one to single out the subjective synonymy and antonymy of the described features, which does not necessarily coincide with the normative-linguistic ones” (Petrenko, 2005, p. 206). According to the specified scales of the semantic differential on a 7-point scale (from 1 to 7), the study participants were asked to evaluate the information received from print and digital media. Data processing was carried out by constructing averaged profiles of estimates.

5.3. To reconstruct implicit models of information from different types of media, factor analysis was used, the material for which was two matrices: 30 descriptors per 100 respondents. Factorization was carried

out using the procedure adopted in psychosemantics (Petrenko, 2005, pp. 91, 98, 191, 225): the centroid method with the extraction of the main components, including the varimax subroutine for turning factor structures (SPSSv. 16 program). The factors were formed only by those descriptors whose load had a high degree of statistical significance (for 40 variables,  $r = 0.4$  at  $p \leq 0.01$ ).

## 6. Findings

6.1. The results of students' ranking of information sources according to the criteria “reference frequency” and “degree of trust” are reflected in Table 01, which, along with the average marks, indicates the overall rank obtained: from 1 – maximum to 7 – minimum.

**Table 1.** Ranking results of information sources by students

| Information source                            | Ranking criteria    |      |                 |      |
|---|---------------------|------|-----------------|------|
|   | Reference frequency |      | Degree of trust |      |
|   | M                   | Rank | M               | Rank |
| Print media                                   | 2.04                | 7    | 3.31            | 7    |
| Television (domestic)                         | 3.06                | 5    | 3.26            | 6    |
| Television (foreign)                          | 3.11                | 4    | 3.36            | 5    |
| Radio   | 2.44                | 6    | 3.42            | 4    |
| Internet news portals                         | 5.86                | 2    | 5.18            | 1    |
| Social media                                  | 6.02                | 1    | 4.63            | 3    |
| Other people (relatives, acquaintances, etc.) | 5.42                | 3    | 5.05            | 2    |

The data in Table 01 prove that the most popular among young people are digital media (primarily social networks) and information transmitted in direct communication with other people. The least popular are print media, radio and domestic television. According to the degree of trust, the named sources change places somewhat: Internet news portals (tut.by, onliner.by, etc.) come first, then word of mouth, and only then social media. Students trust the print media the least. Despite the indicated discrepancies, correlation analysis showed a direct relationship between the frequency of reference to the source and the degree of trust in it ( $r = 0.79$ ,  $p = 0.05$ ).

Further analysis, which consists in modeling implicit concepts of information, is carried out with respect to two types of media, which are fundamentally different for students in the degree of trust in them.

6.2. Comparison of the averaged profiles of assessments that students put on information obtained from different types of media (print and Internet) showed that they are statistically significantly different from each other ( $t = 6.19$  at critical  $t = 3.64$  for  $p \leq 0.001$ ). For the convenience of comparative analysis, the grades given by students of information from different types of media (print and Internet) are presented in Tables 02 (the most highly rated parameters) and 03 (characteristics that received the lowest scores).

**Table 2.** Maximum estimates of information from different types of media

| № | Print media |      | Internet news portals      |      |
|---|-------------|------|----------------------------|------|
| 1 | structured  | 5.09 | fast                       | 6.29 |
| 2 | qualified   | 5.03 | fresh                      | 5.94 |
| 3 | substantial | 4.78 | necessary                  | 5.6  |
| 4 | descriptive | 4.66 | leading to conclusions     | 5.55 |
| 5 | analytical  | 4.62 | descriptive<br>substantial | 5.32 |
| 6 | verified    | 4.47 | complete                   | 5.29 |
| 7 | qualitative | 4.38 | leading to actions         | 5.17 |

The data in Table 03 demonstrate the coincidence of two characteristics of information (descriptive and meaningful) from different sources. According to young people, print media are distinguished by a higher degree of professional data processing, and Internet media, in addition to the naturally expected higher speed, have a certain motivating charge (prompting conclusions and actions).

**Table 3.** Minimum ratings of information from different types of media

| № | Print media        |      | Internet news portals |      |
|---|--------------------|------|-----------------------|------|
| 1 | raw                | 2.67 | secret                | 3.36 |
| 2 | secret             | 2.92 | scant                 | 3.44 |
| 3 | fast               | 3.11 | complex               | 3.56 |
| 4 | leading to actions | 3.50 | empty                 | 3.63 |
| 5 | critical           | 3.53 | raw                   | 3.79 |
| 6 | empty              | 3.71 | analytical            | 4.62 |
| 7 | conflictin         | 4.07 | qualified             | 4.8  |

The processing results, contained in Table 03, show that the general characteristics, which are insignificantly inherent in information from different types of media, are its secrecy, rawness and emptiness. Quite expectedly, print media are rated low for speed and energy potential; Internet sources are characterized by scarcity and complexity of information.

6.3. In the constructivist paradigm of psychology, the subject is viewed as an active researcher who forms their own interpretations of the surrounding world. One of the forms of spontaneous, predominantly unconscious generalization of life experience is implicit models or naive concepts (Dickson et al., 2019; Mokhova, 2004; Petrenko, 2002 etc.). In the context of this study, it is important to note that this is a type of procedural knowledge that mediates the interaction of a cognizing subject with the world, i.e. in accordance with the subject of this study – with different types of media.

As a result of the factor analysis, it was found that the implicit model of print media is represented in the minds of students by 8 orthogonal factors-categories that are significant according to the Kaiser criterion. It is quite natural that the factor structure of Internet portals in their minds is somewhat more complicated and is embodied in 9 categories. However, since most of the categories explain a very insignificant percentage of the total variance and have a modest amount of content (including two or three descriptors), for a more detailed analysis it seems appropriate to focus on the content of the three leading categories in terms of subjective significance. These are three categories that reflect the universal

coordinates of human consciousness: “Evaluation”, “Power” and “Activity” or E – P – A space (Bentler & LaVoie, 1972; Osgood et al., 1957; Petrenko, 2005 etc.).

The results of factorization are reflected in the Table 04, in which, next to the name of the category, the percentage of the variance described by it is indicated, and opposite the descriptor, its factor load (only those characteristics are indicated, the load of which as generating factors has a high statistical reliability, namely, exceeds the 1% error threshold,  $r = 0.46$ ).

**Table 4.** Leading categories in implicit models of different types of media

| F | Print media            |             | Internet news portals  |       |
|---|------------------------|-------------|------------------------|-------|
| 1 | Evaluation (28.75%)    |             | Evaluation (27.05%)    |       |
|   | Verified               | 0.853       | Qualified              | 0.795 |
|   | Accurate               | 0.846       | Real                   | 0.745 |
|   | Reliable               | 0.804       | Objective              | 0.735 |
|   | Real                   | 0.781       | Structured             | 0.698 |
|   | Qualitative            | 0.697       | Analytical             | 0.664 |
|   | Complete               | 0.679       | Essential              | 0.625 |
|   | Descriptive            | 0.610       | Truthful               | 0.606 |
|   | Empty                  | 0.579       | Reliable               | 0.603 |
|   |                        |             | Accurate               | 0.565 |
|   |                        | Verified    | 0.532                  |       |
|   |                        | Qualitative | 0.511                  |       |
|   |                        | Substantial | 0.508                  |       |
| 2 | Power (9.92%)          |             | Power (9.75%)          |       |
|   | Operative              | 0.737       | Operative              | 0.763 |
|   | Leading to conclusions | 0.711       | Leading to conclusions | 0.752 |
|   | Leading to actions     | 0.628       | Leading to actions     | 0.737 |
|   | Fast                   | 0.592       | Scandalous             | 0.636 |
|   | Necessary              | 0.589       |                        |       |
| 3 | Activity (7.72%)       |             | Activity (6.93%)       |       |
|   | Structured             | 0.801       | Necessary              | 0.658 |
|   | Analytical             | 0.706       | Fast                   | 0.655 |
|   | Substantial            | 0.600       | Comprehensive          | 0.653 |
|   | Qualified              | 0.551       | Complex                | 0.606 |

The first in terms of subjective significance factor “Evaluation”, as follows from the data in Table 04, includes in the implicit models of information from different types of media a common core formed by the basic characteristics attributed to the transmitted information (accurate, reliable, verified, real, qualitative). Along with this common core, certain differences can be found. Thus, the factor under discussion in relation to print media is a cognitively complex structure, represented by the “accurate” – “empty” poles. As for the Internet media, this category is more comprehensive. Firstly, it includes the criteria for professionalism in the processing and presentation of information (qualified, structured, analytical, substantial). These descriptors form the third “Power” factor in the implicit model of print media. Secondly, students evaluate Internet information as objective and truthful, in contrast to traditional mass media. This content of the leading category fully corresponds to the data obtained earlier using the ranking on the degree of trust of young people in different types of media.

The second universal category “Power” is fairly homogeneous in content for print media and Internet sources. Power is interpreted by young people as the influence of information on the way of thinking and behavior of its consumer, regardless of the information carrier itself.

The third category “Activity”, as already mentioned above with respect to print media, reflects a professional approach to information processing, and with regard to Internet resources, primarily the ability to satisfy individual consumer needs (leading descriptors “necessary” and “fast”).

## 7. Conclusion

The empirical data obtained confirm the hypothesis that students have different attitudes towards different types of media, which determines their appeal to different information resources. Young people have a more positive attitude towards digital media than towards print media. They not only trust Internet information to the uttermost, evaluating it as more honest, but also endow it with the power to cause changes in consciousness and behavior.

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