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**TYPE OF COGNITIVE PROCESSING OF SOCIAL  
INFORMATION AND ADOLESCENT'S MORAL JUDGMENTS**

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***Abstract***

As a central task of adolescent development, the process of self-determination is realized in an information-driven society. Digital socialization restructures the model and forms of building communication with significant others and, primarily, with peers. It is imperative to analyze the moral regulation of interactions in the context of intensified Internet communication. The aim of our study was to investigate moral development typical of adolescents that employ various cognitive types of social information processing during their communication in social media. The study involved 224 adolescents aged 13-18 years. A battery of methods included techniques for determining cognitive ways of evaluating social information from the Internet, assessing the level of moral development (moral judgments and moral responsibility), and features of personal core beliefs. The outcomes are based on classification of the cognitive types of social information processing in adolescents in social media targeted for teenage audiences: "Behaviorists", "Analysts", "Effective doers". An analysis of the moral development features in teens with different types of cognitive information processing found out that the group of effective doers is more focused on postconventional moral judgments and recognition of moral responsibility for one's actions. Adolescents with ineffective cognitive ways of social information processing ("Behaviorists" and "Analysts") demonstrate preferences towards the preconventional level of moral development and are less willing to accept moral responsibility while recognizing the fact that misconduct is punishable. It was shown that the basic assumption "Belief in good luck" is more typical of adolescents with an "effective" cognitive type of social information processing.

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**Keywords:** Social information processing, moral development, internet, adolescence.



## **1. Introduction**

The modern social situation of development in adolescence is determined by the conditions of the developing information community (Martsinkovskaya, 2012; Molchanov, 2016). As a central task of adolescent development, the process of self-determination is realized mainly in peer interaction, where most of the communication is realized distantly by various means of communication, most often via the Internet. Digital socialization is a key characteristic of today's youth generation (Soldatova & Rasskazova, 2014). The question of benefits and risks of digital socialization remains open, but it is clear that given the new socio-cultural situation, technologies begin to determine the content of information socialization (Belinskaya & Tikhomandritskaya, 2013). Technological limitations of gadgets, social networking opportunities define the space of opportunities and forms of teen communication. Internet communication, like any form of interaction, takes place in the value-moral normative space of moral regulation, in which the nature of moral self-regulation both prevents and provokes the risks of encountering situations of a partner's deviant behavior, cyber bullying, and various online risks (Voiskounsky, 2017). Since the Internet and social media today constitute a major source of information that defines modern adolescents' world assumptions, their moral consciousness and ideas about justice, moral responsibility and duty become associated largely with the cognitive methods of social information processing (Molchanov, Almazova, Poskrebisheva, & Kirsanov, 2018). Analysis of the features of cognitive methods of processing information in social media poses an important challenge precisely in adolescence, which tends to make teens conform to the opinions of others, especially their peers (Lansford et al., 2006; Kupersmidt, Stelter, & Dodge, 2011).

## **2. Problem Statement**

The cognitive model of social information processing proposed by Crick and Dodge (1994) highlights a number of stages from recognition of social signals to the system of social information interpretation and processing. In the previous study, we proposed an original method for assessing the characteristics of the cognitive processing of social information during communication in social media. We identified differences in the efficiency of cognitive information processing cycles by adolescents in the sample surveyed: effectiveness of evaluating the prospects for adolescents' actions and behavioral responses and their ability to differentiate and choose adequate social behaviors and implement them combine with lower productivity of interpretation. The severity of Internet addiction reduces the effectiveness of online cognitive assessment of social information. Based on the analysis of the data obtained, three types of cognitive processing of information were identified, each differing in the efficacy of perception realization and information decoding, its interpretation, goal clarification, assessment of short-term, medium-term and long-term prospects for action and behavioral reactions and the ability to differentiate and choose adequate social behavioral forms (Molchanov et al., 2018). We believe the moral regulation of behavior to be associated with the specifics of cognitive processing of social information (Molchanov, 2007).

### **3. Research Questions**

3.1 To study the relationship between the characteristics of adolescents' moral development (the level of moral judgment and moral responsibility) and various cognitive types of online social information processing and during communication in social media.

3.2 To study the relationship between the features of personal core beliefs as a world assumptions component in adolescents and various cognitive types of online social information processing and during communication in social media.

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

The aim of the study was to study the relationship between the features of moral development, which determine adolescents' ideas about the moral regulation of social relations, and various cognitive types of social information processing in the Internet and during communication in social media.

### **5. Research Methods**

#### **5.1. Participants**

The study involved 224 adolescents aged 13-18 years. Of these, 49% were boys and 51% were girls.

#### **5.2. Methods**

To address the research problems, the following methods were used:

1. The author's methodology of cognitive ways of evaluating online social information, developed on the basis of the Crick and Dodge model (Molchanov S.V., Almazova O.V., Poskrebysheva N.N.);
2. Methodology of moral choices and responsibility (MORS - Moral Situations from Real Life);
3. Method for assessing moral judgments "Justice-Caring" (authored by Molchanov S.V.);
4. Chen internet addiction scale;
5. Janoff-Bulman's World Assumptions Scale (as cited in Kalmykova & Padun, 2002).

### **6. Findings**

The previous stage of our research highlighted cognitive types of social information processing in adolescents during their communication in social media. The cluster analysis allowed us to identify 3 clusters for which significant differences were established in assessing all components of cognitive assessment of social information in different clusters ( $p < 0.01$ ), enabling us to consider the selected groups as groups characterized by different cognitive types of social information assessment (the Kruskal-Wallis criterion). Let us briefly describe the clusters obtained - cognitive types of social information processing by adolescents during their communication in social media:

Type 1 (25% of the respondents) - its representatives are characterized by narrow, one-sided, fragmentary perception of information. In interpreting the information, they often focus on certain insignificant aspects of it, demonstrating a low level of goal awareness and rigidity, but at the same time, they reveal abilities to adequately assess the consequences of their actions and make choices about socially adequate goals and pursue them. Cognitive assessment of social information is characterized by their orientation towards actions without analyzing, interpreting the situation and clarifying their goals (“Behaviorists”).

Type 2 (23% of the respondents) - the second type is characterized by a fairly holistic perception of the situation in the information flow and a frequent focus on some minor aspects of information in the process of its interpretation. Being aware of the goals, willing to make changes and possessing a wide repertoire of behavioral reactions, adolescents of this group tend to be incapable of assessing the consequences of their actions and instead fix mainly on short-term consequences, which leads to the choice of concrete actions and their realization being erroneous and ineffective. They are characterized by orientation towards situational analysis without making an adequate choice of actions and taking into account their consequences (“Analysts”).

Type 3 (51% of the respondents) - its representatives are distinguished by the completeness and integrity of information perception, their interpretation reveals a critical attitude to the information field as they make comparisons with other information and single out important / relevant information. Adolescents of this group are characterized by goal awareness, readiness for their change and a wide range of behavioral reactions aimed at finding solutions to difficulties. Prediction of short-term, long-term and medium-term prospects for action allows us to differentiate and select adequate social forms of behavior and effectively implement them. Type 3 was designated as an effective type of cognitive assessment of social information.

The study of moral development features in adolescents with different types of cognitive processing of social information during communication in social media was carried out at two tiers – analyzing their moral judgments and their moral responsibility. Let us consider the moral judgments features in adolescents who represent various types of cognitive information assessment. The results are presented in Table 01.

**Table 01.** Mean scores of the moral judgments on the scales of the “Justice-Caring” method for adolescents with different types of cognitive processing of information and differences between them.

Questionnaire scale	Behaviorists	Analysts	Effective doers	Significance of Differences
<i>Justice 1</i>	<b>2.49</b>	<b>2.29</b>	<b>2.15</b>	<b>0.018</b>
<i>Justice 2</i>	<b>2.60</b>	<b>2.61</b>	<b>2.28</b>	<b>0.006</b>
Justice 3	2.95	2.74	2.72	0.228
Justice 4	2.92	2.57	2.71	0.154
<i>Justice 5</i>	<b>3.60</b>	<b>3.46</b>	<b>3.87</b>	<b>0.015</b>
Justice 6	3.37	3.49	3.49	0.554
<i>Caring 1</i>	<b>2.73</b>	<b>3.19</b>	<b>2.73</b>	<b>0.004</b>
Caring 2	3.40	3.12	3.40	0.108
<i>Caring3</i>	<b>3.40</b>	<b>3.25</b>	<b>3.59</b>	<b>0.040</b>
<i>Caring 4</i>	<b>3.26</b>	<b>2.91</b>	<b>3.31</b>	<b>0.041</b>
Caring 5	3.15	2.96	3.16	0.170

Classified as a group of Effective doers according to their cognitive methods of information processing, these adolescents were found to have attained the highest scores on the Social Contract scale and the lowest ones on the Power of Authorities, Fear of Punishment and Instrumental Exchange scales. The lowest scores on the Social Contract scale and the highest scores for the preconvention level moral judgments “Power of Authorities, Fear of Punishment” and “Instrumental Exchange” were obtained in the group of Analysts. The highest scores for the pre-conventional level scales - “Power of Authorities, Fear of Punishment” and “Instrumental Exchange” belonged to the group of Behaviorists. Thus, we can state a higher level of post-conventional moral consciousness in adolescents from the Effective group and a more pronounced orientation to the pre-conventional level in adolescents with ineffective KIP methods (Behaviorists and Analysts).

An analysis was made of the characteristics of moral responsibility in adolescents with different types of cognitive processing of information – their readiness to accept moral responsibility and recognition of the need for punishment in a situation of moral transgression. The results are presented in Table 02.

**Table 02.** Mean scores on the moral responsibility scale in adolescents with different KIP types, the differences between them.

Questionnaire scale	Behaviorists	Analysts	Effective doers	Significance of Differences
Assessment of behavior in a situation of moral norm violation	18.44	18.39	18.14	0.598
<b>Recognition of responsibility</b>	<b>17.73</b>	<b>16.27</b>	<b>18.51</b>	<b>0.004</b>
The need for punishment	21.12	20.98	20.32	0.056

Significant differences were found to exist only on the “recognition of responsibility” scale. Teenagers from the group of Analysts were least inclined to acknowledge responsibility for actions that violate the moral standard, which we believe to be associated with difficulties in cognitive information assessment in the block of assessing the consequences of actions and a narrower focus on aggressive, isolating and phobic social environment reactions.

Consider the features of personal core beliefs as a world assumptions component for groups with different cognitive types of social information processing that are present in Table 03.

**Table 03.** Mean scores of personal core beliefs in adolescents with different types of cognitive assessment, the differences between them.

Questionnaire scale	Type 1	Type 2	Type 3	Significance of differences
The outside world’s friendliness	3.98	3.70	3.87	0.730
The outside world’s justice	3.50	3.27	3.38	0.634
The positivity of the self-image	3.68	3.81	3.94	0.429
<b>Belief in good luck</b>	<b>3.83</b>	<b>4.15</b>	<b>4.33</b>	<b>0.017</b>
Feeling one is in control over life	3.86	4.02	4.14	0.352

Teens in the Effective group are more likely to believe in good luck in their lives while those in the Behaviorist group are less likely to do so.

## 7. Conclusion

The study has identified the following features of moral development in adolescents with different cognitive types of social information processing during communication in social media: the Effective group is more focused on the post-conventional stages of moral consciousness development and recognition of moral responsibility for misconduct. Adolescents with ineffective ways of cognitive assessment (the Behaviorists and the Analysts) are more focused on the pre-conventional level of moral development and demonstrate less support for the role of moral responsibility and recognition of the need and significance of punishment for misconduct.

The high efficiency of cognitive processing of social information in adolescents during their communicating in social media is associated with their belief in good luck, a positive core belief constituting a world assumptions component in contrast to adolescents with other cognitive types of social information processing.

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