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PSYCHOLOGICAL PREDICTORS OF ONLINE AND OFFLINE COMMUNICATION RULES IN ADOLESCENTS

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Abstract

From social psychology perspective, online communication allowing for more anonymity, impunity might be less polite, empathic and more aggressive than offline. Although cyberaggression is indeed rather frequent in adolescents, less is known about psychological factors of the difference between online and offline communication in different ages. Based on generation theory (Howe, Strauss, 1991), we use data from Russian population study of 1554 adolescents 12-17 years old, 736 youth 17-30 years old and 1105 parents of adolescents differentiating generations "X", "Y" and "Z". Participants appraised their compliance with communication rules online and offline, user activity and filled Buss-Perry Aggression Questionnaire. All but 12-13 years old also filled Interpersonal Reactivity Index and the Tolerance Index. Generation "Z" demonstrates higher online-offline difference in communication rules comparing to "X" and "Y". For any generation higher level of empathic perspective taking and concern as well as ethnic tolerance predict higher respect for communication rules online. In "Z" higher readiness to follow communication rules online is also related to lower anger and personal distress, in "Y" – with lower hostility and in "X" – with higher social tolerance. However, after adjusting for readiness to follow communication rules offline, only ethnic tolerance remains significant predictor in any generations while anger and empathic perspective taking predict readiness in "Z". User activity was weak negative predictor of readiness to follow communication rules online, however, after adjusting for offline behavior, it remained significant for "Z" only. Possible psychological factors are discussed.

Keywords: Online communication, empathy, tolerance, generation theory, adolescents, Russian population study.

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1. Introduction

From the traditional social psychological studies of P. Zimbardo and S. Milgram such factors as anonymity, impunity, authority are considered as provoking diffusion of responsibility and aggression. Most of these factors are typical traits of megalopolises but of Internet as well. Does it mean that online communication is "doomed" to be less polite and more aggressive comparing to communication offline? If there is a difference between online and offline communication, is it the same for contemporary adults - "digital immigrants" learning Internet during their adolescence comparing to contemporary adolescence – "digital natives" – for whom online is familiar from the early childhood (Prensky, 2001)? Mass media easily calls adolescents generation "Z" based on N. Howe and W. Strauss generation theory (1991, 1993) suggesting that there should be specificity of them comparing to elder "Y" (contemporary youth) and "X" (contemporary adults).

Partially supporting the idea that online communication might provoke aggression, European studies demonstrate that cyberbulling and other communication-related risks are rather widespread online (Livingstone et al., 2011). Russian adolescents are also familiar with aggression in the Internet (Soldatova et al., 2013, Soldatova & Rasskazova, 2016).

Different researchers considered various specific traits of online communication: interactive nature of technologies, opportunities for personalization and multi-functions (Srivastava, 2005), less orientation to traditional family values (How technologies…, 2009), opportunity to communicate unnoticed and keep secrets, to resolve difficult situations (e.g., when feeling guilty) without personal contact and feeling more control (Madell & Muncher, 2004, 2007). From the perspective of technological addiction studies, the nature of the Internet as immediately rewarding with distant negative consequences (Griffiths, 2005) and its possible role in mental defense against childhood psychotraumas (Schimmenti & Carretti, 2010) were discussed.

Unfortunately, empirical research based on these discussions rarely compares online and offline communication focusing of their general and specific psychological factors and mostly concentrates on just one generation making it difficult to conclude about differences between generations "X", "Y" and "Z" and even about their "existence" as separate categories.

2. Problem Statement

There could be different possible explanations of poorer communication online comparing to offline (impolite, aggressive etc.), especially in adolescents. First, communication rules online could be less obvious and poorer regulated by social norms. Nowadays researchers don't describe Internet anymore as a space of full freedom and anonymity without any regulation: while it provides opportunities for that, many people prefer to follow rules of being polite, respectful and tolerant online. Some authors suggest a new term of "digital citizenship" partially to characterize "digital" society as developing, creating new forms and rules of communication as well as social norms - what is good and bad online, how to behave in different situations, etc. (Mossberger et al., 2008).

Second, Internet suggests fewer opportunities for interaction and receiving feedback in the communication but more demands making it easier to meet people from different cultures, with different views all around the world. Thus, it demands for higher empathy and tolerance for successful

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communication and sensitivity to each other. In adolescents both empathy and tolerance may be developing and thus vulnerable under online demands. In line with this hypothesis, adolescents frequently do not feel difference between online and offline (Madell & Muncher, 2007) so could miss tiny indicators of their harming others.

Third, Internet could be just a convenient space for expression of anger and hostility that people already have – in this case one should expect that aggression would be prominent in both offline and online communication with the dominance in online.

Last but not least, there could be online-specific factors like user activity or Internet addiction that are more typical for adolescents than for adults and that could mediate easy violation of communication rules online in this group.

3. Research Questions

This study is devoted to the question of what is the difference between obeying communication rules online and offline for adolescents as representatives of generation "Z" compared to "X" and "Y" and what are the psychological predictors of following communication rules online.

4. Purpose of the Study

The first aim of the study was to compare subjective readiness to obey communication rules online and offline in contemporary adolescents as generation "Z" comparing to youth (generation "Y") and parents (generation "X"). The second aim was to reveal general and online-specific predictors (empathy, tolerance, aggression, user activity) of readiness to follow communication rules online.

5. Research Methods

The study used the primary data obtained in 2017-2018 in the project for psychological factors of cyberagression in Russian adolescents, youth and parents of adolescents that was supported by The Russian Association for Electronic Communications and Google. 17 cities from 8 Federal regions were included: South (Rostov-na-Donu, Volgograd), Privolzhsky (Kazan, Kirov), Siberian (Kemerovo, Novosibirsk), Far Eastern (Magadan, Petropavlovsk-Kamchatsky, Khabarovsk), North Caucasian (Makhachkala, Vladikavkaz), North-Western (St. Petersburg, Vologda), Central (Moscow, Moscow region), the Urals (Tyumen, Yekaterinburg).

5.1. Samples.

In accordance with N. Howe, W. Strauss (1991, 1993) generation theory we planned to model typical representatives for three generations: "X" (contemporary adults frequently having adolescent children), "Y" (youth) and "Z" (adolescents in their 11-17 years old). Given that generation boundaries suggested by authors fluctuate a bit across their studies and that they should be adapted to the cultural and social context of Russia and of Internet development in Russia (Soldatova & Rasskazova, 2016) our sampling was oriented on social context including 525 adolescents 12-13 years old (45.7% males), 1029 adolescents 14-17 years old (47.0% males), 736 youth 17-30 years old (40.8% males) and 1105 parents of adolescents 12-17 years old (19.4% males). From perspective of N. Howe and W. Strauss (1991) all the adolescents model

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the generation "Z" (12-13 years) or transitional period from "Y" to "Z" (14-17 years) while all the youth model the generation "Y" (19-29 years) and transitional period from "X" to "Y" (30-35 years). Parents were expectedly more heterogeneous but still 98.3% referred to generation "X" and transitions to "X" (from "Y" and from "baby-boomers"; 30-56 years).

5.2. Methods.

Design of the study was cross-sectional. To measure **subjective readiness to follow communication rules** participants appraised by the Likert 1-5 scale to what degree they follow nine general rules online and offline. The rules included: "Being polite to your interlocutors", "Behaving according to the rules of the place you are in", "Expressing your thoughts in the culturally appropriate and competent manner", "Sharing verified information only", "Sharing your knowledge and respecting the contribution of others in the knowledge sharing", "Regulating of your own emotions expression, keeping in mind that your words and actions can hurt others", "Respecting the privacy and personal boundaries of others", "Using your authority and abilities not to the detriment of others", "Being tolerant of the shortcomings of others". Cronbach's alpha varied 0.80-0.86 for offline rules and 0.84-0.89 for online rules.

User activity was assessed as a composite of two items used previously in Russian Kids Online project (Soldatova et al., 2013): "How much time on average do you spend online during working days / at the weekends". Cronbach's alpha 0.80-0.85 in youth and adolescents and 0.65 in parents.

Aggression was measured by the Aggression Questionnaire (Bass-Perry, 1992; Enikolopov, Tsybulsky, 2007) consisting of the three scales: Physical Aggression, Anger and Hostility.

Empathy was measured with Interpersonal Reactivity Index (Davis, 1983; Budagovskaja et al., 2013) including Perspective Taking, Fantasy, Empathic Concern and Personal Distress scales.

Tolerance as readiness to accept others with traits and views that are different from the person was assessed by the Tolerance Index that consists of three scales: Ethnic, Social Tolerance and Tolerance as a Personal Trait as well as total Index of Tolerance (Psikhodiagnostika…, 2008).

Adolescents 12-13 years old didn't fill measures for empathy and tolerance.

6. Findings

In line with the first aim we tested the effects of generations in obeying online and offline rules. Then in accordance with the second aim series of hierarchical regression were processed to reveal psychological predictors of readiness to follow communication rules online.

6.1. Subjective readiness to follow communication rules online and offline: comparisons of generations

The mean level of subjective readiness to follow communication rules online was pretty high: 3.9 out of 5 points (Figure 01). 2 (offline, online) × 9 (rules) × 4 ("X", "Y" and two groups of "Z" – 12-13 years old and 14-17 years old) ANOVA with repeated measures demonstrated that people are more ready to obey communication rules offline than online ($F=353.75$, $p<0.01$, $\eta^2=0.10$). In "X" this difference between offline and online is less pronounced than in "Y" and "Z" however the effect size is small ($F=15.84$, $p<0.01$, $\eta^2=0.02$, Henson, 2006).

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"Z" are least ready and "X" are most ready to follow any communication rules ($F=91.98$, $\eta^2=0.08$, according to Scheffe post hoc comparisons "X" differ from any other groups $p<0.01$). Interaction effects of group and type of communication with the type of rules are small ($F=4.96$-8.79, $p<0.01$, $\eta^2=0.01$).

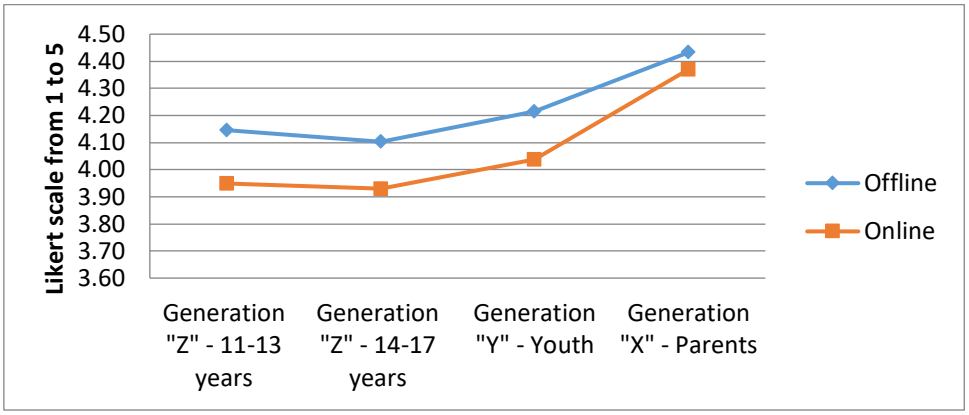

Figure 01. Readiness to follow communication rules online and offline in adolescents, youth and parents

6.2. Empathy, tolerance, and user activity as factors of following communication rules online: results of hierarchical regression.

While there is obviously strong correlation between offline and online ($r=0.63$-0.77, $p<0.01$), we processed two types of analyses: unadjusted and then adjusting for readiness to follow communication rules offline at the first step. So first results reveal predictors of the *general* readiness to obey communication rules online that is closely related to offline while the second results suggest *online-specific* predictors (e.g., predictors of the difference between online and offline). Female gender (but not age) was associated with higher readiness to follow rules in adolescents and youth and was controlled for at the first step of the regression. The second step of regression was stepwise and included all the scales measuring aggression, tolerance and empathy. User activity was added at the third step.

For any generation higher level of empathic perspective taking and concern as well as ethnic tolerance predicts higher respect for communication rules online (table 01). In "Z" higher readiness to follow communication rules online is also related to lower anger and personal distress, in "Y" – with lower hostility and in "X" – with higher social tolerance.

However, after adjusting for readiness to follow communication rules offline, only ethnic tolerance remains significant predictor of declared readiness in any generations while anger and empathic perspective taking predict readiness in "Z"; empathic concern and personal distress – in "X". Anger is included in the equation for "X" but with the positive sign allowing to suggest possible suppression effect of some of variables.

User activity was additional but weak negative predictor of readiness to follow communication rules online, however, after adjusting for offline behavior, it remained significant for "Z" only.

For adolescents 12-13 years who didn't fill tolerance and empathy scales general readiness to follow communication rules online was predicted by female gender ($\beta=0.12$, $\Delta R^2=1.4\%$, $p<0.05$) as well as lower anger ($\beta=-0.17$, $\Delta R^2=2.8\%$, $p<0.01$) and user activity ($\beta=-0.16$, $\Delta R^2=2.4\%$, $p<0.01$) while only gender remained significant after adjusting for offline.

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Table 01. Psychological predictors of readiness to follow communication rules online: results of the stepwise regressions

Dependent variables	**Generation "Z"**		**Generation "Y"**		**Generation "X"**	
	β	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
General readiness to follow communication rules in the Internet	Step 1: Gender (β=0.17**)	2.9%**	Step 1: Gender (β=0.19**)	3.4%**	Step 1: Gender (β=0.06**)	0.4%*
	Step 2: Empathy – perspective taking (β=0.22**), Anger (β=-0.15**), Tolerance - ethnic (β=0.12**), Empathy - Personal distress (β=-0.12**), Empathy - empathic concern (β=0.12**)	14.7%**	Step 2: Empathy - perspective taking (β=0.15**), Tolerance - ethnic (β=0.13**), Empathy - empathic concern (β=0.12**), Hostility (β=-0.17**)	12.9%**	Step 2: Empathy - perspective taking (β=0.20**), Tolerance - ethnic (β=0.09**), Empathy - personal distress (β=-0.12**), Empathy - empathic concern (β=0.10**), Tolerance - social (β=0.06**)	12.2%**
	Step 3: User activity (β=-0.14**)	2.0%**	Step 3: User activity (β=-0.03)	0.1%	Step 3: User activity (β=-0.06*)	0.4%*
Online-specific readiness to follow communication rules in the Internet	Step 1: Offline communication rules (β=0.73**), Gender (β=0.09**)	55.9%**	Step 1: Offline communication rules (β=0.76**), Gender (β=0.07**)	59.2%**	Step 1: Offline communication rules (β=0.76**), Gender (β=0.03)	58.2%**
	Step 2: Empathy - perspective taking (β=0.09**), Anger (β=-0.05*), Tolerance - ethnic (β=0.05*)	1.4%**	Step 2: Tolerance - ethnic (β=0.09**)	0.8%**	Step 2: Anger (β=0.07**), Tolerance - ethnic (β=0.06**), Empathy - empathic concern (β=0.10**), Empathy - personal distress (β=-0.06**)	1.8%**
	Step 3: User activity (β=-0.09**)	0.7%**	Step 3: User activity (β=-0.01)	0.0%	Step 3: User activity (β=-0.04*)	0.1%**

* - p<0.05, ** - p<0.01.

7. Conclusion

7.1. Communication rules online and offline

The high mean level of obeying communication rules online in any generation displays digital world as rather ordered and regulated rather than aggressive and un-permitted. However, in line with classical theories of social psychology, it is still less organized and regulated than offline where people are more ready to be polite and attentive to others. For social interventions, it is important that adolescents from generation "Z" seem to be a most vulnerable group to impolite and rude communication not only because they more frequently violate any rules but also because for them online-offline difference is a maximal one.

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We suggest that generation "Z" needs both interventions helping to develop and maintain regulation of any communication as well as interventions explaining specific effects of online communication.

7.2. Empathy, tolerance and aggression as predictors of following communication rules online in generations "X", "Y", "Z"

Data supports that in any generations it is not aggression per se that should be addressed dealing with aggressive and disrespectful online communication. The stronger predictors of following communication rules are empathy as capability to see wider perspective and concern for others and ethnic tolerance. Comparing to social and personal tolerance, relationship to the ethnicity could be just a more sensitive indicator of the tolerance in general.

For adolescents of "digital generation" the level of anger as aggression expression and personal distress in relationships are important factors suggesting that in this group difficulties of emotional regulation in communication could explain impolite and rude online behavior as well. Interestingly, for youth hostility as subjective experience was more important predictor of communication online than expression of anger that could be a result of better control over expressions in young adults. In parents as a model of generation "X" warm and sensitive relationship to others may become a key factor of communication regulation while the role of aggression diminishes.

7.3. The difference between online and offline: on the way to explanation

How to explain higher readiness of people (especially of generation "Z") to obey rules when communication offline comparing to online? Due to cross-sectional design of the study we could only make some suggestions. First, higher ethnic tolerance seems to be a specific indicator of the readiness to follow communication rules online that remains after adjusting for offline. For practice, in means that prevention of online aggression could start from improving tolerance rather than decreasing aggression per se. However, for adolescents from generation "Z" appropriate anger control and improving perspective taking with focus on others' needs could be additional targets for social programs. In theory, these results are in concordance with the explanation than personal intolerance provokes or mediates sensitivity to the anonymity and diffusion of responsibility of the "digital world" increasing the likelihood of violation of communication rules online but not offline. In adolescents further factors could be poor perspective taking and poor anger control.

Second, negative correlation between user activity and obeying communication rules online in generations "X" and "Z" allows to suggest that at least for contemporary adolescents time online predicts poorer self-control in communication. From the one hand, Internet access makes family and traditional values less prominent suggesting wide spectrum of different values that could be especially important for youth not having steady values (How technology..., 2009). From the other hand, those adolescents who tend to violate communication rules might have more difficulties in interpersonal communication. Internet could open for them more variants for maintaining and finding new contacts despite poor communicative skills provoking higher interest for online activities. Further research could help to differentiate these explanations.

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