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**MAKING POLITICS ATTRACTIVE:
POLITICAL SATIRE AND
EXPOSURE TO POLITICAL
INFORMATION IN NEW MEDIA
ENVIRONMENT IN RUSSIA**

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MAKING POLITICS ATTRACTIVE: POLITICAL SATIRE AND EXPOSURE TO POLITICAL INFORMATION IN NEW MEDIA ENVIRONMENT IN RUSSIA†

There is an extensive body of research devoted to how political satire affects political knowledge and political behavior. Extant studies are focused on political satire in democratic countries and do not pay enough attention to authoritarian regimes. This study extends this research to non-democratic regimes, while also adding to it by exploring the extent to which the use of political satire encourages exposure to political information. We conduct an online experiment on the sample of Russian students. We borrow satirical pictures from Lentach – popular Russian social media public page, whose motto is “a propaganda of common sense” as opposed to biased political messages proliferated by government-controlled media outlets. Using both frequentist and Bayesian approaches, we found that access to political information containing satirical illustrating content increases attention to the information, relative to political news reports accompanied by standard news illustrations. The findings contribute to the literature on the political entertainment and exposure to political information, as well as to research on media under authoritarianism.

Key words: political satire, selective exposure, new media environment, authoritarianism, Russia

JEL Classification: Z19

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INTRODUCTION

Political satire is one of the major topics in communication literature during the last decade. On the one hand, scholars maintain that growing proliferation of media outlets and the opportunity to avoid political information lead to disengagement from news consumption. Prior (2007) concludes that this disengagement is a reason of the growing political apathy and low electoral turnout. On the other hand, highlighting the contingency of the traditional division between 'hard' and 'soft' political information, scholars focus on entertaining shows, especially late-night comedy talk shows, as a plausible source of political information (Compton, 2011, p. 9). Current research show that late-night shows though do not substitute news programs as a source of political information but encourage political awareness among those who encounter political information from news outlets (Balmas, 2014; Baumgartner & Morris, 2011; Xenos & Becker, 2009).

The majority of studies in the field are conducted on evidences from democratic countries. Since political communication scholars set the question on how communication shapes the conduct of politics (Bennet & Iyengar, 2008, p. 712), they are interested in autonomous and self-regulated media systems, which produce attitude or behavioral political effects. Authoritarian regimes seldom become the topic for political communication scholars. As commonly recognized, authoritarian regimes are characterized by depoliticization and low level of political participation. Government controlled media system is used to promote fluid and vague emotional dispositions, rather than public opinion (Linz, 2000). To achieve these goals, they restrict public sphere and delimit the proliferation of political information. In the broadcast era authoritarian regimes focused on mass media - TV, radio, and newspapers. Possessing a monopoly on the dissemination of political information, mass media under authoritarianism provided only a limited space for political broadcast, promoting legitimized messages.

However, the new media environment causes substantial changes in media regimes under authoritarian rule. As Prior (2007, p. 26) noted, "politics does not happen in empty space; it happens in a media environment". As democracies, authoritarian regimes undergo transformation processes challenging their opportunity to control public sphere. First, there is a proliferation of mobile devices, which though might be extensively controlled and even oppressed by the government, generate additional information flows and reduce communication costs. It leads to the rise of so called connective collective actions, which might contribute to protest movement (Toepfl, 2018). Second, growing Internetization challenges the monopoly of

mass media on dissemination of political information. It is hard to promote legitimized messages since the audiences become more fragmented and have an opportunity to avoid political information. Third, the multiplication of communication genres and their intertwining provides new opportunities for political engagement and information dissemination, which hardly can be controlled by the government. Chadwick (2013) states that the idea of news information cycle should be substituted by the political information cycle highlighting the multiplicity of actors, genres, media technologies which are involved in its circulation. These features make authoritarianism relevant for political communication research.

Delli Carpini et al. (2004) focus on the growing role of discursive participation as new mode of political engagement. However, authoritarian regimes cannot fully extrapolate their control beyond mass media and restrict citizens' consumption of political information. Moreover, this kind of politicization seems to be vulnerable for authoritarian rule since it is connected with the liberal mode of thinking (Young et al., 2017). In these circumstances authoritarian regimes rely on people's avoidance of unwanted political information, rather than on direct restriction of the Internet based public spheres. Our question is to what extent the presence of satirical content encourages exposure to political information and contributes to political awareness. To answer this question, we conduct an experimental study on how news texts accompanied by satirical pictures affect on selective exposure to political information as compared with news texts with neutral pictures (simple illustrations to a news post) and news texts without images at all.

POLITICAL HUMOR IN NEW MEDIA ENVIRONMENT:

THE CASE OF RUSSIA

The challenges the new media environment sets for authoritarian regimes, are accompanied by a decrease in possibility of using violence. As Guriev and Treisman states, contemporary autocrats prefer to avoid violence or to use it sparingly because of the probable economic or reputational costs (Guriev & Treisman, 2015). The control of information under authoritarianism is based either on direct censorship, or on self-censorship. Both of these types of control are directed toward professional journalists as an exclusive community of information gatekeepers.

In Russia's case the political regime has been substantially supported by establishing a set of formal and informal instruments of pressure on mass media. Vartanova describes the Russian media system as "statist commercialized"; being captured by the state, it also means that mass

media, especially TV-channels, remained open for content commodification, which resulted in the rise of advertising and entertainment during the 2000s (Vartanova, 2012). Along with the formal capture by the state, scholars focus on growing self-censorship among Russian journalists, which undermine their creativity in broadcasting political issues (Simons & Strovsky, 2006; Schimpfossel & Yablokov, 2014).

These features of the Russian media system are mirrored in satirical talk shows broadcasted by Russian government-controlled TV-channels. *KVN* [Club of the Funny and Inventive People] is a humorous show inherited from the Soviet era. Being originally aired between in 1961-1972, it was then rebooted in 1986 as a platform for political and social satire during the Perestroika. In 2000s *KVN* became a “semi-official state project” which promoted predominantly right-wing political discourse (Semenenko, 2018). *Prozhektorperishilton* [Spotlight of Paris Hilton] was aired between 2008 and 2012 with it then being rebooted in 2017. In this program four popular Russian comedians discuss the current news agenda with invited guests – famous politicians and artists. After its first release it was substituted by *Vechernyi Urgant* [Late Night Urgant] – a late night comedy talk show launched in 2012, which is very close in style to the Tonight Show with Jimmy Fallon. In both *Vechernyi Urgant* and *Prozhektorperishilton*, political satire avoids issues which are informally prohibited for Russian media, e.g. criticism of Vladimir Putin and covering any visceral political opposition.

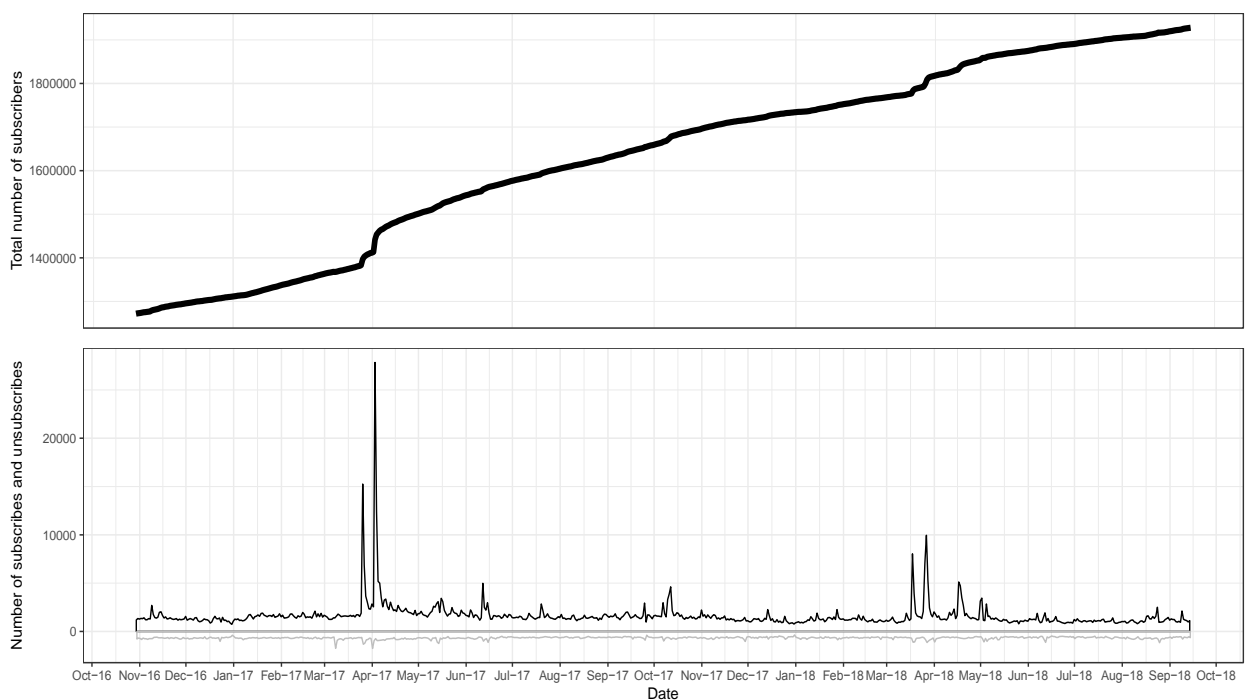


Figure 1. Dynamics of (un)subscribes of *Lentach* in VKontakte during the Oct 2016 – Oct 2018

Direct censorship and even self-censorship are not sufficient to undermine the proliferation of satirical content on the Internet, which makes authorities look for other instruments for its limitation (Davis, 2016). The new media environment provides conditions for production and sharing user-generated satirical content, which provides vast opportunities for political information dissemination and discursive engagement of population (Delli Carpini et al., 2004). There is extensive literature on the proliferation of discursive participation through political memes and the rise of authoritarian anxiety toward them in China (Fang, 2018; Wu, 2018). There is a well-known case in which Chinese authorities blocked search requests with Winnie the Pooh because of the popular internet-meme with Xi Jinping. Nevertheless, there is a consistent evidence that Chinese censorship is directed toward messages promoting collective actions and contributing to offline mobilization, rather than those containing just criticism of the government (King et al., 2013).

The Russian public sphere contains several popular media channels, which disseminate political information accompanied by memes. *Lentach* is the most popular one, with 1,927,907 subscribers and daily coverage of 1,000,000 users (collected by authors, using AdSpoiler; community growth dynamics is shown on Figure 1). *Lentach* became popular under the conditions of growing hybridization within the Russian media landscape. Being originated as a *Lenta.ru* official twitter account it became an independent community focused on creation of satirical images to current news agenda.

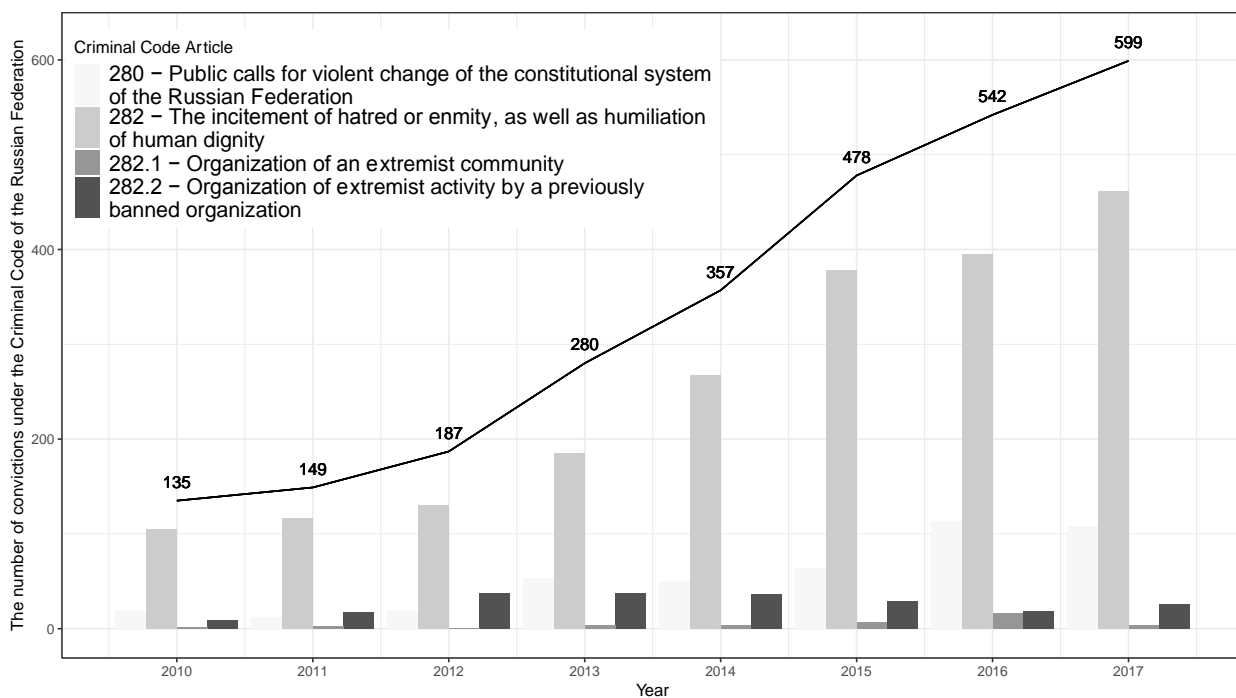


Figure 2. Number of convictions under the Criminal Code of the Russian Federation sanctioned for ‘extremism’ during the 2010-2017

Russian authorities try to exploit these new forms of political information, investing in these content productions (Tolz & Teper, 2018; Fedor & Fredheim, 2017) and extend the control of information dissemination on the Internet, including memes. There is a growing number of penal sanctions for liking and sharing ‘extremist information’ or ‘violating religious feelings’ (see Figure 2). Both of these laws contain a vague definition of ‘extremism’ or ‘violation of religious feelings’, which provides legal support for the prosecuting people for liking and sharing satirical memes on their personal pages in social media.

POLITICAL SATIRE AND SELECTIVE EXPOSURE

Defining Political Satire

Political satire is the inherent part of political humor concept. The term ‘political humor’ encompasses political issues, events or institutions in various forms of entertainment media content. Since political humor is a broad concept, scholars prefer to use narrower terms, such as political satire, parody or irony. Usually they juxtapose existing political reality with a normative ideal, just demonstrating this imperfection or even criticizing its aspects (Bloom & Bloom, 1979; Young, 2017). Previous research demonstrated the effects of political satire on attitudes and participation, which are exceptional for such type of media content, not for political humor in general (e.g. Feldman, Leiserwitz, & Maibach, 2011; Moy, Xenos, & Hess, 2006).

Political satire is usually operationalized as a satirical motif in late-night comedies, animational series and other types of entertainment media. However, this paradigm changed with the beginning of Web 2.0., when political satire and humorous criticism spoiled the web space. Political satire in this sense is not along a product of professional comedians and script writers, but instead is the user-generated content, that "represents issues of great civic importance" (Reilly, 2012, p. 273).

Memes have become an inherent part of messages containing political satire, due to the particular importance of visuality on the Internet in the digital age (Shifman, 2014). The existing body of literature covers various aspects of meme production and following dissemination, their meaning and interrelationships (e.g. Neumayer & Rossi, 2018; Bayerl & Stoykov, 2016; Davis & Love, 2018). However due to the controversial results found in studies on the effect of memes as a visual form of political humor there is no definite conclusion as yet. Hence, in our study we

focus on the visual form of user-generated political satire on the Internet in particular memes or other satirical images.

Defining Selective Exposure

Selective exposure is generally understood to mean "the motivated selection of messages matching one's beliefs or preferences" (Stroud, 2014). Several explorations of this phenomenon exist in the literature, presuming that selectivity is determined by information utility (Kim, 2007), emotions (Jonas, Graupmann, and Frey, 2006), like-mindedness of news (Fischer, Schulz-Hardt, and Frey, 2008), cognitive effort (Ziemke, 1980), etc.

The paradigm is centered around media choice, which should be differed from preferences and attention. There are several methodological implications inferred from this differentiation. First, while media preferences refer to surveys and self-reports, selective exposure approach predominantly implies experiments and observed behavior as a research strategy (Knobloch-Westerwick, 2015). Despite the proliferate character of self-report-based research on selective exposure, there are reasonable doubts in their validity (Dilliplane, Goldman, and Mutz, 2013a, Prior, 2013, Dilliplane, Goldman, and Mutz, 2013b). Second, while concepts of media exposure and media attention overlaps, the latter refers to psychic predisposition rather than to behavioral characteristic and then presupposes more complicated measurement strategy. Nevertheless, selective exposure implies an attention as a feature of its scale (Prior, 2013). Moreover, they hardly could be finally separated because both of these phenomena moderate each other. As Eveland, Hutchens, and Shen (2009) states, the best strategy to increase the research validity is to combine both of them.

The proliferation of media sources, varieties of content and other transformations of the new media environment significantly changed users' information consumption habits, making selectivity their inherent feature (e.g. Sunstein, 2011). Previous research have investigated various types of selective exposure, and particularly one of them set the direction for political satire research. Prior's (2007) research has demonstrated that in the trade-off between news and entertainment, the probability of citizens' selection of the latter is relatively higher. This was interpreted as the alarming message for communication research and triggered further investigation of ties between infotainment and citizens' perception of politics (e.g. Baum, 2005; Baum and Jamison, 2006). However, breaking the myth that entertainment is a threat to

democracy, recent research investigated plausible positive effects of the exposure to satirical content on citizens' preferences towards politics. In this study we are not interested in political consequences of exposure to entertainment media, instead focusing on how political satire encourages exposure to political information.

RETHINKING TIES BETWEEN POLITICAL HUMOR AND SELECTIVE EXPOSURE

Using the preceding discussion as a theoretical framework, we explore two major research questions: a) How does satirical content of news influence the exposure to political information and (b) Is this an effect of satirical content or just a power of visuals? Addressing the first question, we investigate the ties between political humor, particularly in the case of memes in the Web, and selective exposure, which is poorly covered in the literature mentioned above. Taking into consideration the vast body of literature on the consequences of flourishing visual content under the new media environment (e.g. Rodriguez & Dimitrova, 2011; Rogers & Thorson, 2000), we also focus on differences between meme effect and image effect. Hence, we have a set of hypotheses:

H1 or Humor Hypothesis: Satirical content encourages exposure to political information;

H2 or Visuals Hypothesis: Visual part of a message (in other words, an image) encourages exposure to political information regardless of whether its content is satirical or not;

H3 or Distinct Humor Effect Hypothesis: Satirical content encourages exposure to political information more, comparing this with the influence of a neutral visual content.

RESEARCH DESIGN

Participants

We conducted an online experiment, using students from the Higher School of Economics in Russia, which has campuses in four cities,¹ as participants. To recruit students, in May 2018 we sent invitations to participate in the experiment via study group e-mails (which are commonly used by lecturers to communicate with students and provide them with study materials) to members of undergraduate study groups associated with various departments with the exception of the social sciences². We sent 273 invitations to three campuses in Moscow (142), Perm (49), and Nizhniy Novgorod (82). To increase our response rate, we offered as an incentive

participation in a lottery, in which students who completed the experiment could win an Apple Watch (average cost in Russia of \$411 U.S.).

Overall, 879 students³ responded to the invitation and followed the link. 579 (65.9%) of these students successfully completed the experiment with an additional 37 (4.2%) completing enough of the questionnaire (over 80%) to include in our analysis, giving us a total N of 616. The mean age of participants was 20 (SD = 1.29), with most being women (83%). The majority of participants came from the Moscow campus (444, 72.1%), with the others studying in Nizhniy Novgorod (103, 16.7%) and Perm (69, 11.2%).

Procedure

After entering the online experiment environment (based on www.enjoysurvey.com⁴), participants received a short questionnaire, where they were asked about their university profile (campus, department, degree etc.) and socio-demographics. We also asked them to report media consumption and political background (party preferences, interest in politics, everyday political talk, etc.; see the questionnaire in Supplementary Materials). Each participant was then randomly assigned to either the control or to one of the treatment conditions, so we have the Control Group, the Neutral Image treatment group, and the Humorous Image treatment group.

In each condition participants were exposed to a series of political news or a ‘news feed’ that consisted of 6 news reports, shown to the participant one by one on a screen. Each news report contained a title (in bold) and a short text (approx. 150 words). Examining the hypotheses, it was necessary to manipulate the absence of image, as well as vary the type of content on the image (a neutral or a humorous one). Hence, participants in the Control group received news reports with entitled texts only; the Neutral Image got the same news reports with entitled texts, but also with neutral images found on the web. The Humorous Image condition also got the same news reports, but with extra memes (or humorous images), which we selected from the Lentach. All of the selected images, both neutral and humorous, reflect the content described in texts of news reports. Of the 616 who completed the experiment, 200 were exposed to the Neutral Image condition, 219 to the Humorous Image condition, and 197 were in the Control group. To assure the effectiveness of randomization, we checked for the covariate balance (see Appendix A).

Before the start of news feed, participants received the following instruction:

You will see a number of news reports about events that took place in our country and the world. We ask you to behave as you evaluate the information on the Internet and social media on a daily basis. You can carefully read, view or simply skip the newsletter by clicking the "Next" button. Your time to become acquainted with that news stories is unlimited.

[Russian Original Text: Вы увидите ряд новостных сообщений о событиях, которые произошли в нашей стране и мире. Мы просим Вас вести себя так, как Вы ежедневно оцениваете информацию в интернете и социальных сетях. Вы можете внимательно прочитать, просмотреть или просто пропустить новостное сообщение, нажав кнопку “Далее”. Ваше время знакомства с тем или иным новостным сюжетом никак не ограничено.]

At the end of the news feed, we asked participants in all conditions to answer four questions about the facts which were included in the news reports, including an option to choose “I don’t remember”. We also asked them, if they had previously seen any of these newsletters in their personal media consumption.

Dependent Variable

The web-based approach to experiment enables us to track unobtrusively observed behavior of participants. Using metadata, we measure, how long each participant spends to become familiar with a given news report (in milliseconds). We use as the dependent variable both time spent on a particular report and the total time that a participant spent to become familiar with the full news feed. Descriptive statistics for the Selective Exposure Rates are given in Table 1.

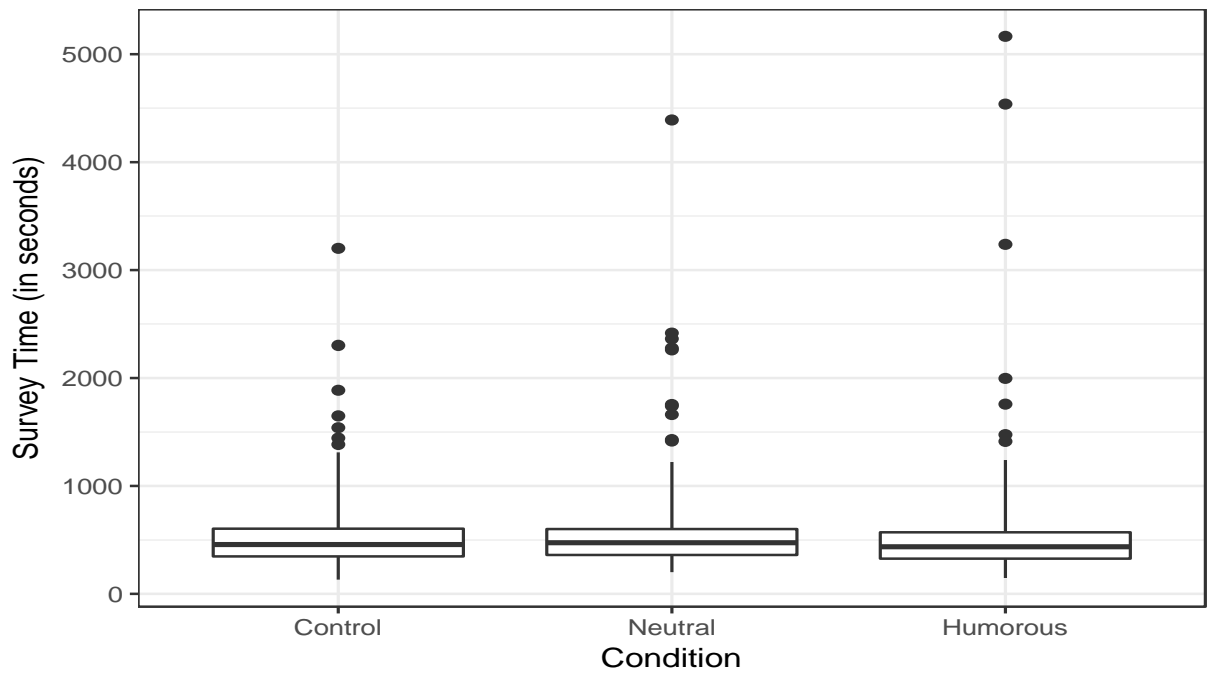


Figure 3. Distribution of Survey Time by conditions

Using the absolute amount of time has at least two potential drawbacks: time, which participants spend to become familiar with a particular newsletter, (1) could correlate with the order in which these reports are given; or (2) could be extremely long in comparison with the average value. To address the potential effect of order, we randomized the order of news reports for each participant. To avoid the potential influence of confounding reasons for taking more time, we omitted 26 observations, which were identified as outliers (the values of total survey time are higher than $3 \times \text{IQR}$ (Median = 454; IQR = 252.75), see Figure 3). In addition, there were several observations that, while not outliers as defined above, were statistically suspicious. According to classical psychological studies, average adults reading speed does not exceed 160 words per minute (Rubin, 2013). To address this, we used a data truncation approach, rescaling maximum values in Selective Exposure Rate for a separate news report to the value of 1800 milliseconds (~ 3 minutes). Overall, no more than 0.8% of observations were truncated.

	<i>Mean</i>	<i>SD</i>	<i>N</i>	<i>Truncated</i>
<i>SER Report #1</i>	238.33 (241.03)	204.08 (228.67)	590	2
<i>SER Report #2</i>	285.28 (290.02)	262.83 (294.31)	590	5
<i>SER Report #3</i>	215.13 (215.13)	183.82 (183.82)	590	0
<i>SER Report #4</i>	201.27 (202.98)	198.47 (214.09)	590	2
<i>SER Report #5</i>	250.92 (259.71)	247.06 (345.57)	590	4
<i>SER Report #6</i>	214.36 (224.96)	206.62 (348.50)	590	2
<i>SER Overall</i>	1405.28 (1433.83)	954.98 (1081.42)	590	-

Note: Selective Exposure Rate Overall is the sum of time, spent by a participant to read each report separately. Lower values of SER indicate, that participant immediately pushed “Next” button. Descriptive statistics values before data truncation are given in brackets.

Table 1. Descriptive Statistics of Selective Exposure Rates

Independent Variables

A total of 5 variables were included as independent variables in order to control the treatment effect (descriptive statistics are given in Appendix B). These variables could possibly affect our dependent variables. Following research on moderators of selective exposure, we control for both individual characteristics and environmental ones (Stroud, 2014).

Political Awareness. Prior research demonstrates, that selective exposure patterns could be moderated by individuals’ prior knowledge of political information or political awareness (Garrett, 2009). Following this, we ask participants, whether did they get familiar with the information in a news feed before. As a proxy for political awareness we use the number of newsletters (max = 6), which participants marked as ‘familiar’ ($\mu = 1.08$; $SD = 1.26$).

Prior Source of Information. We asked participants, which one source of information is of the highest priority for them and gave 6 options to choose. The distribution of answers through categories is as follows: 3.39% of participants chose *Broadcast TV*; 25.42% ones chose *Social Media*; 43.39% ones prefers *Online News Media* to other sources: 3.73% ones answered *YouTube and Bloggers*; 16.1% - *Messengers*. The rest of participants (7.97%) chose *Other* option (e.g. colleagues, friends, family and etc.). We control for media use for at least two substantial and methodological reasons. First, several researches previously found that media there is a relationship between media use and selective exposure (e.g. Stroud, 2008). Second, media use could affect our dependent variable, as for previous studies found its effect on reading habits, particularly on reading speed (Mokhtari, Reichard, & Gardner, 2009).

Entertainment Media Use. To separate out the effect of treatment from the viewing habits of entertainment media, we ask participants to report, whether they use *Lentach and TJ* (another internet media which provides satirical content and is well-known among Russian audience) as media sources. 52% use none of these sources. The variable ranges from 0 to 2 ($\mu = 0.62$; $SD = 0.71$).

Demographics. As controls, we use *Gender* (male coded high) and *Age* of participants. We invited to participate both graduate and undergraduate students of different levels, hence, there is a small variance in participants' age ($\mu = 20.36$; $SD = 1.29$) and a sample bias towards females (83%).

Methods

To test the set of hypotheses we conduct common statistical tests (one-way ANOVA, t-tests, difference in proportions) and implement several techniques to deal with the problem of multiple comparisons, that is the simultaneous test of different hypotheses (Bonferroni correction, Tukey HSD multiple comparisons of means). We also run an OLS regression model (see, Equation 1) to estimate differences of means in conditions ($TR1_i, TR2_i$) having the set of controls (\mathbf{X}).

$$y_i = \beta_0 + \beta_1 TR1_i + \beta_2 TR2_i + \mathbf{X}\boldsymbol{\beta} + \varepsilon_i \quad (1)$$

To combine the set of OLS regression models on the selective exposure rate for each news report separately, we run a linear mixed effects regression model or a multilevel model for the nested structure of the data (selective exposure rates for each news report are nested in participants; participants are nested in treatment condition). We estimate 2-Level regression instead of 3-Level one due to the small proportion of variance at Level 3 ($ICC_{2-level} = 0.429$; $ICC_{3-level} = 0.064$). The model formula is given in Equation 2.

$$y_{ij} = \gamma_{00} + \mathbf{NR}\boldsymbol{\gamma} + \gamma_{01} TR1_j + \gamma_{02} TR2_j + \mathbf{X}\boldsymbol{\gamma} + \delta_{0j} + \boldsymbol{\delta} + \varepsilon_{ij}, \quad (2)$$

where \mathbf{NR} is a set of dummies of news reports (fixed effects; 1-level); $TR1_j, TR2_j$ are dummies of treatment conditions (fixed effects; 2-level); \mathbf{X} is a set of controls (fixed effects; 2-level); $\boldsymbol{\delta}$ is a vector of random effects for news reports (random effects; 1-level).

RESULTS

To test the set of hypotheses we ran One-way ANOVA, comparing means of the Selective Exposure Rate across conditions. We found strong and statistically significant differences between means of total time spent by participants to become familiar with the news feed in each condition ($F = 12.21(df = 2)$, $p\text{-value} = 0.000$).

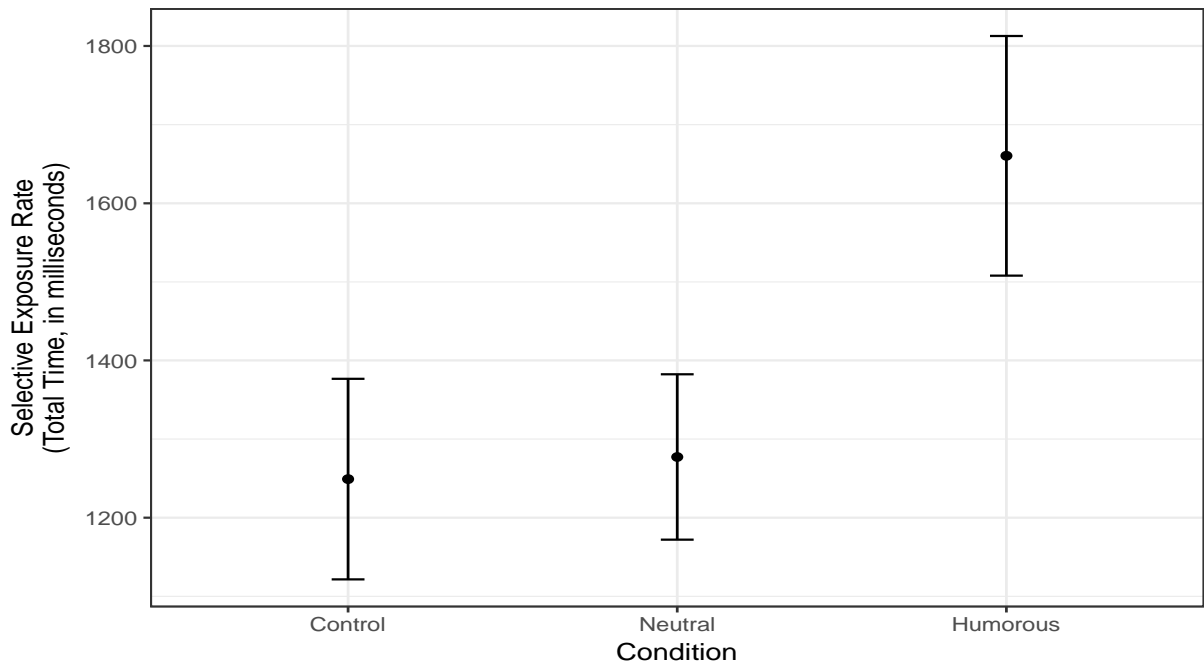


Figure 4. Means of Selective Exposure Rate in different conditions (with 95% confidence intervals)

Pairwise comparison of means indicated that there is no statistically significant difference between Control and Neutral conditions ($\mu_N - \mu_C = 28.12$; $p\text{-value adj.} = 0.954$), while the Humorous Image condition significantly differs from both Control ($\mu_H - \mu_C = 411.24$; $p\text{-value adj.} = 0.000$) and Neutral ($\mu_H - \mu_N = 383.12$; $p\text{-value adj.} = 0.000$) ones. Hence, we observe strong evidence for H1 (Humor Hypothesis) and H3 (Distinct Humor Effect Hypothesis), while there are no grounds for the truth of the H2 (Visual Effect Hypothesis). In the former case, the Figure 4 shows positive and significant increase of the Overall SER mean value, comparing with the Control and Neutral conditions. At the same time, image as itself does not contribute to the change of mean value, that is also shown on the Figure 4.

We observe the same pattern comparing SER mean values for a separate news report (with the exception of Report #3, see Appendix C). In 3 of 6 reports we observe evidence for H1 and H3, however in 2 other ones there is evidence for H1 only, while differences between Humor and Neutral Image conditions are not statistically significant. As for the Report #3, there is a slight

positive change of mean values, comparing Control, Neutral and Humor conditions, but the size of this effect is small to be statistically significant.

	(1) <i>OLS</i>	(2) <i>LME</i>
Neutral Image Treatment	46.115 (98.031)	8.379 (15.124)
Humorous Image Treatment	424.703*** (95.351)	72.029*** (14.711)
Gender	-183.342 (103.914)	-26.614 (16.032)
Age	14.189 (30.794)	1.374 (4.751)
Political Awareness	-40.324 (31.684)	-5.433 (4.888)
<i>Prior Source of Information:</i>		
Social Media	-586.528* (233.259)	-97.596** (35.987)
Online news media	-662.013** (228.993)	-112.547** (35.329)
YouTube & Bloggers	-682.939* (303.257)	-130.322** (46.786)
Messengers	-648.924** (241.652)	-110.632** (37.282)
Other	-398.082 (260.850)	-80.541* (40.244)
Entertainment Media Use	16.254 (57.381)	2.519 (8.853)
Constant	1,612.797* (650.758)	269.215** (100.398)
N	568	3,408
R^2		
Adjusted	0.050	-
Marginal	-	0.051
Conditional	-	0.85
Log Likelihood	-	-22,535.230
Residual Std. Error	920.177 (df = 556)	-
F Statistic	3.701*** (df = 11; 556)	-

Note: Dependent variables are the Overall Selective Exposure Rate in Model 1 and the Selective Exposure Rate by news report in Model 2. Number of observations is 568 and 3,408 in Model 1 and 2 accordingly due to the missingness in the Prior Political Knowledge variable. Fixed and random effects for the question number dummies (Model 2) are omitted from the table. Standard errors are in parentheses. Significance levels at * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 2. Regression results on Selective Exposure Rate

Models 1 and 2 in Table 2 also show that political humor encourages exposure to political information. In Model 1, we observe positive and significant influence on the Overall SER for those, who were exposed to the Humorous Image Treatment ($\beta = 424.703$; p -value < 0.001), while the effect of Neutral Image is insignificant ($\beta = 46.115$; p -value > 0.05). We do not

compare directly Humor and Neutral Image conditions In the OLS regression but having the significant effect of Humor and insignificance of Neutral Image coefficient, we could conclude, that there are strong evidences for H1 and H3 and no proofs for H2.

However in the case of multiple comparisons, regression estimates and Tukey correction of p-values might be exceedingly conservative. Moreover, p-values correction (e.g. Bonferroni or Tuckey) “severely reduces our power to detect an important effect,” as Gelman, Hill, and Yajima (2012, p. 192) write. Having this, we could overestimate our findings on H1 and H3 and underestimate the effect of Neutral Image, making wrong statements about H2. To adjust for multiple comparisons reducing the odds of Type II error, Gelman, Hill, and Yajima (2012) suggest the use of multilevel models (Bayesian or Frequentists ones).

To deal with this problem we use two strategies. First, we estimate linear mixed effects model (aka multilevel model) and, second, apply Bayesian evaluation of informative hypotheses approach to our data (will be given in detail in the next section). Furthermore, the first approach allows to use simultaneously SERs of all news reports separately as repeated measures for a particular participant. LME estimates are given in Table 2.

Model 2 (Table 2) also shows strong evidence for H1 and H3 and no support for H2. The effect of political humor is highly significant ($\beta = 72.029$; p-value < 0.001), while the neutral image’s one is not ($\beta = 8.379$; p-value > 0.05). Also, we observe the same (as in Model 1) pattern of control variables significance in Model 2. We observe significant differences between reading habits of those who indicate TV as the prior source of information and the rest of participants, who prefer Web sources (e.g. YouTube, social media, messengers, etc.). The latter ones read the complete news feed on average one minute faster (or 10 seconds faster for a particular news report) than the former. At the same time, demographics, prior political knowledge and entertainment media use do not affect the SER.

ROBUSTNESS CHECKS

Bayesian Evaluation of Informative Hypotheses

To check the robustness of results, we apply Bayesian evaluation of informative hypotheses (BEIH) instead of null hypothesis significance testing (NHST) to our data. Being frequentists,

we have a null hypothesis ($H_0: \mu_C = \mu_N = \mu_H$) and an alternative one ($H_1: \mu_C, \mu_N$ and μ_H are not the same). However, it does not make sense in our case for at least three reasons.

First, frequentist inference provides evidence to reject H_0 , but accepting H_1 we find ourselves in a situation that Hoijtink et al. label as “something is going on, but we don’t know what” (Hoijtink, Klugkist and Boelen, 2008, p. 1). Having this, the second reason is methodological one, because multiple comparisons are used to compare pairs one by one, however this approach does not provide evidence for the particular order of means. Nevertheless, we presume at the same time different orders of means, grounding these on theoretical assumptions. Hence, and this is the last reason, the meaning of null hypothesis such that “nothing is going on” (Cohen, 1994) does not reliable for us. At least, we have evidence for the Visuals Hypothesis from the findings of previous literature (e.g. Sargent, 2007; Knobloch et al., 2003), but confidence intervals do not allow us to indicate any arguments for on our data.

We have three parameters (means of groups), six (3!) possible orderings and four informative hypotheses. H_{1a}, H_{1c} contribute to Distinct Humor Effect Hypothesis; H_{1d} to Visuals Hypothesis; H_{1b} is also about the effect of humor (Humor Hypothesis), that is less than power of visuals. Having this, we ask, how often are the parameters ordered as proposed by H_i if there is no ordering imposed?

<i>Hypothesis</i>	<i>Prior (S_{exp})</i>	<i>Posterior (S_{obs})</i>	<i>Bayes Factor (BF)</i>	<i>PMP</i>
$H_{1a}: \{\mu_C\} < \{\mu_N\} < \{\mu_H\}$	16.7%	31.5%	1.888	27.6%
$H_{1b}: \{\mu_C\} < \{\mu_H\} < \{\mu_N\}$	16.7%	0.00%	0.003	0.00%
$H_{1c}: \{\mu_C, \mu_N\} < \{\mu_H\}$	33.3%	99.9%	2.998	43.9%
$H_{1d}: \{\mu_C\} < \{\mu_N, \mu_H\}$	33.3%	31.5%	0.946	13.8%
$H_2: \{\mu_C, \mu_N, \mu_H\}$	100.00%	100.00%	1.000	14.6%

Note: PMP is a posterior model probability, which is calculated as $PMP = BF_i / \sum BF$.

Table 3. Results of Bayesian evaluation of informative hypotheses

Based on the assumption of random ordering of parameters, we can easily calculate the prior probability of all hypotheses (S_{exp} or expected support). To obtain posterior probabilities (S_{obs} or observed support), we estimate Bayesian linear regression on the overall Selective exposure rate (the same as in Model 1, Table 2), using non-informative, punishing priors for regression coefficients with a mean of zero and a standard deviation taken from the frequentist estimates in Model 1 in Table 2. Last step, we calculate Bayes factors ($BF = S_{obs}/S_{exp}$).

Table 3 provides strong arguments about the robustness of our key findings. According to posterior model probabilities, there is 43.9% support for H_{1c} which is Distinct Humor Effect hypothesis. This is the largest PMP, hence we are highly confident about its acceptance. Alongside, the support for hypothesis H_{1a} is also considerable (27.6%), however in this case we also observe the distinct humor effect. In the case of Visuals Hypothesis, we observe only 13.8% support, that is even less than the support for random ordering (H_2 ; $PMP = 14.6\%$).

Treatment Effect Check

To check whether participants actually read texts of news reports (i.e. treatment effect check), we asked our participants four different questions about randomly selected news reports (other words, one question on one news report). Each question separately refers to the information placed (1) in a newsletter title; (2) in the first sentence of the newsletter; (3) in the main body of the text; (4) in the last sentence. We are interested in whether a participant read the text precisely, covering all parts of a text.

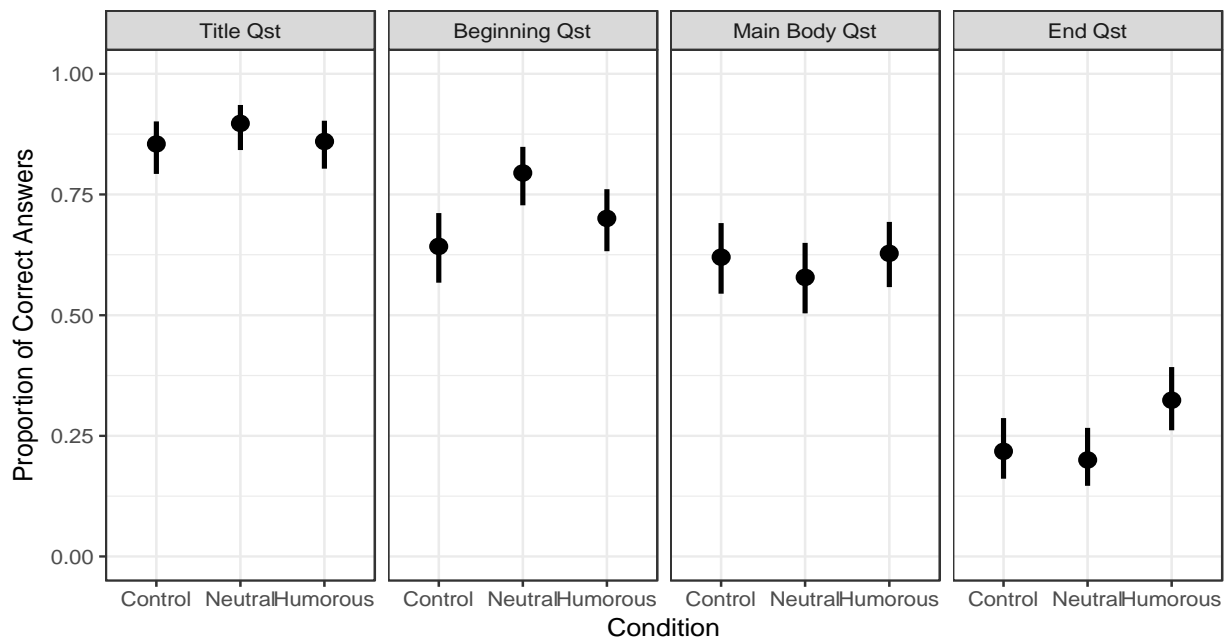


Figure 5. Cognitive Assessment Score by questions and conditions
(with 95% confidence intervals)

We assign one score, if a participant gave a correct answer and zero otherwise and use these scores separately in further statistical analysis. The distribution of correct answers is as follows: 87%, 71%, 61% and 25% (1st, 2nd, 3rd and 4th questions accordingly). We observe also on the Figure 5 this significant decrease in the proportion of correct answers from the Title Question to the End Question, which is quite intuitive for us.

We ask, whether the participants of one group answer on these questions better than others. Table 4 shows, that there are no statistically significant differences between groups answering on the Title Question ($\chi^2 = 1.78$ (df = 2); p-value > 0.05) and on the Main Body Question ($\chi^2 = 1.14$ (df = 2); p-value > 0.05). However we observe these differences in cases of the Beginning Question ($\chi^2 = 10.53$ (df = 2); p-value < 0.01) and the End Question ($\chi^2 = 9.43$ (df = 2); p-value < 0.01). In the former case, pairwise comparison of means provides is strong evidence for differences between Neutral Image and Control groups. On the Figure 5 we see, that participants give more correct answers in the Neutral Image Group.

Precise look on differences within the End Questions gives us significant insight about treatment effects. We presume, that small percentage of correct answers could indicate a guessing behavior, however while participants in Control and Neutral Image groups have 20%, there is 32% of correct answers in the Humorous Image group. Pairwise comparison of means indicates that these differences are slightly statistically significant, comparing Humorous Image group with Neutral Image (p-value < 0.05) and Control (p-value < 0.10) groups. Figure 5 also allows to summarize, that participants in Humorous Image group give more correct answers than in two other ones.

	Control <i>Proportion</i>	Neutral <i>Proportion</i>	Humorous <i>Proportion</i>	Pearson χ^2	N - C <i>P-Value</i>	H - C <i>P-Value</i>	H - N <i>P-Value</i>
Title Qst	0.85 [0.79; 0.90]	0.90 [0.84; 0.89]	0.86 [0.80; 0.90]	1.78 (df = 2)	0.85	1.00	0.99
Beginning Qst	0.64 [0.57; 0.71]	0.79 [0.73; 0.85]	0.70 [0.63; 0.76]	10.53 (df = 2)**	0.0055	0.8093	0.130
Main Body Qst	0.62 [0.54; 0.69]	0.58 [0.50; 0.65]	0.63 [0.56; 0.69]	1.14 (df = 2)	1.00	1.00	1.00
End Qst	0.22 [0.16; 0.29]	0.20 [0.15; 0.27]	0.32 [0.26; 0.39]	9.43 (df = 2)**	1.00	0.082	0.024

Note: 95% confidence intervals of proportions (by each condition) are given in brackets. To conduct pairwise comparisons, we use Pairwise comparison of proportions with the Bonferroni correction of p-values. Significance levels at ***p<.001, **p<.01, *p<.05.

Table 4. Comparison of Proportions across conditions

DISCUSSION AND CONCLUSION

This study addresses the issue to what extent political satire affects exposure to political information. Current studies provide controversial outlook to satire role in politics. In this study

we conducted an experimental research on how memes affect selective exposure to political information. To grasp the pure satirical effect, we divided those who get text information accompanied by neutral illustrating image and those who get text information accompanied by meme, into two treatment groups. There are two major findings in our study.

First, the presence of an image slightly encourages exposure to political information. There are no statistically significant differences between selective exposure means in treatment and control conditions in frequentist approach. Bayesian approach also provides us weak support for the power of visual content. This finding confronts extant literature on selective exposure, which states that image presence substantially increases exposure to news items (Sargent, 2007; Knobloch et al., 2003). This contradiction could be explained by significant changes in media environment. We also found that those who got information from TV sources spend more time on consuming news items in our experiment than those who got information from online news sources and social media. While central features of the new media environment are multiaxiality and hyperreality (Williams & Delli Carpini, 2011), images become a habitual element of new media environment. The power of visuals is embedded in the content, rather than in its form. This finding supports the idea that communication research should focus on particular features of images.

Second, satirical content encourages exposure to political information comparing with both neutral visual content and control condition. We showed that the hybridization of news and entertainment increases public exposure and understanding of political information. Our results showed that participants in satirical image condition in average better answered memory questions than participants from neutral image and control conditions. Moreover, there are statistically significant differences among the groups on the memory question, which was in the end of the news item. This finding contributes to the idea that political satire attracts people to politics at least in the form of discursive participation. Current studies in political memes focus predominantly on negative aspects of their growing role in public sphere (e.g. Ross & Rivers, 2017; Topinka, 2018; Horsti, 2017). Our study highlights that political memes attract people in political information consumption. This finding contributes to the idea of online participation culture, which stimulates information seeking and online deliberation (Milner, 2013; Gil de Zuniga et al., 2012).

Our results contribute to the literature on new media environment in authoritarian regimes particularly in Russia. Providing vast opportunities for political information dissemination

Lentach encourages the exposure to political information. While the majority of studies on political behavior in Russia focus on political interest, news consumption or exposure to oppositional sources, our findings show that there is a latent politicization effect produced by hybrid information genres, which cannot be grasped by these measures. This effect challenges the very nature of authoritarian government: to preserve low level of political engagement and control over political information dissemination, it needs either to expand repressions beyond political system and mass media, transforming itself to more severe political forms, or to decentralize censorship relying on people avoidance of unwanted information. Both of these ways contradicts the idea of authoritarianism and makes its borders blurred (Carothers, 2002; Levitsky & Way, 2010; Diamond, 2002). Making politics attractive for people new media environment makes these regimes search for new options in the “menu of manipulation”.

While our results show that political satire encourages exposure to political information, there is lack of certainty to what extent online satirical media affect political knowledge and political behavior under authoritarianism. There is a proliferate point of view that new media environment enables internet users to “shape, share, reframe and remix” media messages (Jenkins et al., 2013). However, current evidences from authoritarian regimes also reveal that satirical information in the internet does not set the agenda being subordinated to mass media (e.g. Toepfl, 2011). Further research should focus on whether satirical content encourages the resistance toward legitimized messages, promoted by government-controlled mass media, and affects political behavior.

We also have several limitations in this study. First, we conducted an experimental research in artificial rather than natural conditions. Participants knew that they participated in the academic study and their behavior could differ from habitual online practices. To increase the reliability of our results same study should be conducted using unobtrusive measures in natural conditions. Second, we tested our hypotheses on student sample. Despite the analysis showed the insignificance of age, our participants belonged to one age cohort. Population-based survey analysis could smooth the influence of socio-demographic characteristics. Third, we took into consideration particular types of political satire, which was produced by *Lentach*. To approve our findings further research should focus on other types of political satire in Russian Internet.

Notes

1. Only three campuses participated in this study.
2. We excluded social sciences under the assumption that these students might be overly familiar with the material included in the experiment.
3. We cannot calculate explicitly the whole coverage of potential participants, because we do not know the number of students in each group (on average 25 students per group).
4. The access to the web-platform was supported within the framework of a subsidy by the Russian Academic Excellence Project “5-100”; within the framework of the Basic Research Program at the National Research University Higher School of Economics (HSE).

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APPENDIX

A. Covariate Balance across Control/Treatments Conditions

	Sample		Control		Neutral		Humorous		C - N	C - H	H - N
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	P-Value	P-Value	P-Value
<i>Gender*</i>	0.17		0.173		0.14		0.196		1.00	1.00	0.48
<i>Age</i>	20.38	1.29	20.35	1.30	20.35	1.29	20.43	1.29	0.999	0.836	0.826
<i>Education</i>	2.36	1.22	2.35	1.25	2.36	1.19	2.38	1.22	0.996	0.957	0.978
<i>Department (#)</i>	8.02	2.47	8.06	2.47	8.12	2.53	7.89	2.43	0.969	0.785	0.635
<i>News Interest</i>	4.96	1.53	4.85	1.57	5.07	1.39	4.95	1.62	0.334	0.778	0.720
<i>Politics Interest</i>	3.97	1.61	3.99	1.73	3.92	1.51	4.00	1.60	0.903	0.999	0.883
<i>Entertainment Media*</i>	0.61		0.63		0.58		0.62		1.00	1.00	1.00

Note: Tukey multiple comparisons of means are used to compare means. Pairwise comparison of proportions with the Bonferroni correction of p-values is used to compare proportions. Dummy variables are coded by asterisks.

B. Descriptive Statistics of Independent Variables

Statistic	N	Mean	St. Dev.	Min	Q25%	Q75%	Max
Gender*	590	0.169	-	-	-	-	-
Age	586	20.358	1.260	18	19	21	26
Political Awareness	571	1.075	1.256	0	0	2	6
Entertainment Media Use	590	0.615	0.709	0	0	1	2
Prior Source of Information*:							
TV	590	0.034	-	-	-	-	-
Social Media	590	0.254	-	-	-	-	-
Online News Media	590	0.434	-	-	-	-	-
YouTube & Bloggers	590	0.037	-	-	-	-	-
Messengers	590	0.161	-	-	-	-	-
Other	590	0.080	-	-	-	-	-

Note: Dummy variables are coded by asterisks.

Q6 – multiple – randomized. Where do you ordinary get information and news?

- | | |
|--------------------------|--|
| 1) TV | 6) Printed Media |
| 2) Social Media | 7) Radio |
| 3) Online News Media | 8) Family |
| 4) YouTube | 9) Colleagues or Friends |
| 5) Messengers & Channels | 10) Other (please, specify) – <i>fixed – free.</i> |

Q7 – single – randomized. Choose only ONE source of information, which is of the most priority to you:

- | | |
|--------------------------|--|
| 1) TV | 6) Printed Media |
| 2) Social Media | 7) Radio |
| 3) Online News Media | 8) Family |
| 4) YouTube | 9) Colleagues or Friends |
| 5) Messengers & Channels | 10) Other (please, specify) – <i>fixed – free.</i> |

Q8 – multiple – randomized. Do you watch the news from any of the TV channels listed below?

- | | | |
|----------------|--------------|--|
| 1) Channel One | 6) TVC | 11) Other (please, specify) – <i>fixed – free.</i> |
| 2) TV Rain | 7) REN-TV | |
| 3) Russia TV | 8) Moscow 24 | |
| 4) NTV | 9) CNN | 12) Don't watch TV – <i>fixed – exclusive.</i> |
| 5) Euronews | 10) BBC | |

Q9 – multiple – randomized. Do you use any of the Internet resources listed below as a news source?

- | | | |
|-----------------------|-----------------|--|
| 1) Republic | 9) TASS | 18) TJ |
| 2) Snob | 10) Interfax | 19) Other (please, specify) – <i>fixed – free.</i> |
| 3) Lentach | 11) Vedomosti | |
| 4) Afisha | 12) The Village | 20) Don't use Internet sources – <i>fixed – exclusive.</i> |
| 5) Meduza | 13) RBK | |
| 6) Rossiyskaya Gazeta | 14) lenta.ru | |
| 7) Russia Today | 15) Izvetiya | |
| 8) Ria-Novosti | 16) Mediazone | |
| | 17) gazeta.ru | |

Q10 – multiple – randomized. Do you use any of the channels listed below as a news source?

- | | |
|---------------------------|---|
| 1) Nezygar | 7) Kashin Personal Blog |
| 2) Varlamov Personal Blog | 8) Protests Moscow |
| 3) Davydov.Index | 9) Other (please, specify) – <i>fixed – free.</i> |
| 4) WOW News | 10) Don't use Internet channels – <i>fixed – exclusive.</i> |
| 5) LIFE SHOT | |
| 6) Navalny Personal Blog | |

SCREEN 3 – Interest to politics

Q11 – single – randomized. Which of the following parties do you like the most?

- | | |
|-------------------------|------------------------|
| 1) United Russia | 5) Parnas |
| 2) KPRF | 6) Yabloko |
| 3) LDPR | 7) Party of Progress |
| 4) Spravedlivaya Russia | 8) None – <i>fixed</i> |

Q12 – scale (1-7). How often do You follow the news?

- | | |
|-------------------------------|-----------------------------|
| 1) Once a month | 5) Once a day |
| 2) Two or three times a month | 6) Two or three times a day |
| 3) Once a week | 7) Several times a day |
| 4) Two or three times a week | |

Q13 – scale (1-7). Are You interested in politics?

- 1) I'm not interested at all
- 3) I'm periodically interested

- 7) I'm very interested
- Q14 – *scale (1-7)*. How often do you discuss political issues with your surroundings?
- | | |
|-------------------------------|-----------------------------|
| 1) Once a month | 5) Once a day |
| 2) Two or three times a month | 6) Two or three times a day |
| 3) Once a week | 7) Several times a day |
| 4) Two or three times a week | |

- Q15 – *scale (1-7)*. How do you think power authority should be distributed?
- | |
|---|
| 1) I support a single and strong leader, who concentrates all power |
| 7) I support collective management, distributing power and performing only representative functions |

- Q16 – *scale (1-7)*. How do you think the financing of the health system should be organized?
- | |
|---|
| 1) Citizens must pay for all services independently |
| 7) The state must pay for all services |

SCREEN 4 – Instructions

You will see a number of news reports about the events that took place in our country and the world. We ask you to behave as you evaluate the information on the Internet and social media on a daily basis. You can carefully read, view or simply skip the newsletter by clicking the "Next" button. Your time to get acquainted with that news stories is not limited.

SCREENS 5-10 – Experiment – Control / Treatment 1 “Neutral” / Treatment 2 “Humorous” – RANDOM ASSIGNMENT

SCREEN 11 – Treatment Effect Check – RANDOMIZED ORDER

- Q17 – *single – randomized*. What is the main goal in the life of Natalia Poklonskaya?
- | | |
|---------------------------------|------------------------------------|
| 1) Family | 4) Love |
| 2) Faith | 5) I don't remember – <i>fixed</i> |
| 3) Happiness (correct) | |

- Q18 – *single – randomized*. What law was adopted by Vladimir Putin?
- | |
|---|
| 1) On life imprisonment for terrorists' informants |
| 2) On life imprisonment for terrorists |
| 3) On life imprisonment for terrorists' recruiters (correct) |
| 4) On life imprisonment for terrorists' accomplices |
| 5) I don't remember – <i>fixed</i> |

- Q19 – *single – randomized*. Will Grigoriy Yavlinsky participate in the next presidential election?
- | | | |
|---------------------------|-------|---------------------|
| 1) Yes (correct) | 2) No | 3) I don't remember |
|---------------------------|-------|---------------------|

- Q20 – *single – randomized*. In which social network did the Investigative Committee of Russia launch its channel?
- | |
|------------------------------------|
| 1) Telegram |
| 2) V Kontakte |
| 3) YouTube (correct) |
| 4) Twitter |
| 5) I don't remember – <i>fixed</i> |

SCREEN 12 – Prior Knowledge Check

- Q21 – *single*. Did you know the information that appeared in the news reports?
- | |
|--------------------------------------|
| 1) I'm not familiar at all |
| 2) Some of the information was known |
| 3) All information was known |

- Q22 – *multiple – randomized*. Which of the news were familiar to you before the survey?
(list of news reports titles)

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