The #faceofdepression Hashtag in the Facebook and VKontakte Social Networks: The Public Discourse Features among a Russian-Speaking Audience

Anastasiya O. Folts,[a*] Mariya M. Danina[b]

[a]*Lomonosov Moscow State University, Moscow, Russia*
[b]*Psychological Institute of Russian Academy of Education, Moscow, Russia*

[*]Corresponding author email: mdanina@yandex.ru

Background. Previous studies of depression in social networks examined the public discourse to look more closely at how users talk about their depressive symptoms. One of these studies, published in JMIR Mental Health journal, was devoted to the trending hashtag #MyDepressionLooksLike on Twitter. The data were collected from an English-language sample; in turn, no similar studies were conducted on a Russian-speaking audience. The appearance of the #faceofdepression hashtag in Russia allowed for a comparative study.

Objective. The purpose of this study was to analyze the thematic structure of the Russian-language posts under #faceofdepression on the social networks Facebook and VKontakte (VK) in 2017 and to compare the results obtained to the analysis of the English-language posts under #MyDepressionLooksLike. First, we suggested that the themes of the Russian-language posts under the hashtag #faceofdepression on Facebook and VK are similar to the themes of the English-language posts under the hashtag #MyDepressionLooksLike on Twitter. Second, there will be a significant difference in the frequency of the themes' representation in different social networks. Third, the unique characteristic of the public discussion in Russia is a topic about antistigma of depression.

Design. To test these hypotheses, we exported the data from Facebook and VK (1527 Facebook and 496 VK publications) by keywords and hashtags using the TargetHunter and YouScan analytical programs. We analyzed a group of posts describing the authors' personal experience (159 original posts on VK and 231 original posts on Facebook). In those posts, users mentioned their depression symptoms, the way they combat the disease, and difficulties encountered throughout the course of the disorder.

Results. Through the thematic analysis of the posts, we identified seven topics that fit into the initial categorical grid used to analyze #MyDepressionLooksLike on Twitter by Lachmar, E. M., Wittenborn, A. K., Bogen, K. W., and McCauley, H. L. (2017). We also discovered an eighth topic, which was missing in Lachmar's study. This topic was called "antistigma" and it proved the Russian-language discourse to be more socially oriented. We also found that Twitter users reported much more often on changes in thinking and perception (25% of all posts) compared to VK (6%) and Facebook users (15%). At the same time, VK users noted changes in their emotional sphere (19%) more often than Twitter users (8%). Facebook users more frequently described ways of coping with depression (22%) than VK (13%) and Twitter users (5%).

Conclusion. We conclude that our hypotheses are generally confirmed.

Keywords: public discourse, depression, Facebook, VKontakte, Twitter, antistigma, mass communication on the Internet

Introduction

Depression is a disease that strongly affects the health and life of individuals. Mental disorders make up 3 of the 10 leading causes of disease burden in middle-income countries. Their lifetime prevalence in Europe accounts for 9% in men and 17% in women[1] of working age.

At the same time, the public perception of depression is not that unambiguous. The World Health Organization is seriously concerned about the problem of stigmatization of mental disorders in general, and depression in particular. Some representations portray depression as a lack of will, laziness, and bad mood. These representations discourage those suffering from depression from seeking help in time, thus worsening their medical condition, increasing their social isolation and risk of suicide.

Mass media coverage of the problems of mental health has expanded of late, but media portrayals of mental disorders have been recognized as being misleading and stigmatizing (Morgan, Jorm, 2009; McGinty et al., 2014; Chen, Lawrie, 2017). For example, it was found that 39% of all media stories focused on mentally unstable people being dangerous and violent (Corrigan et al., 2005). Surely there are some stories containing themes that fall into a broad category of advocacy action and encouraging society to antistigma. But against the general media background, trends such as projects may prove ineffective. Researchers discovered that social networks, unlike traditional media, communicate different attitudes toward those with mental illnesses. For instance, by examining the connotations of posts[2] on Twitter in 2014, Reavley and Pilkington (2014) showed that 65% of the posts were supportive, 27% were neutral, 7% were specifically antistigma, and less than 1% reflected stigmatizing attitudes or personal experience of stigma. More than one-third of the tweets that reflected stigmatizing attitudes were mocking or trivializing toward those with depression (37%). The attitude that those with depression should "snap out of it" was evident in 30% of stigmatizing tweets.

Thus, in addition to the "downward" social processes aimed at changing societal attitudes regarding mental illnesses, the number of spontaneous processes has increased in recent years, initiated and supported by those who have had experience with mental disorders. Due to the development of the Internet, such processes have become increasingly noticeable and involving. Earlier, main help was most often rendered through information portals and forums, where a user could find information about his or her illness. At present, public discourse and mass actions on social networks affect not only those who are facing the problem, but also their friends and family.

Previous studies of depression-related social networks can be divided into two groups. The first includes projects aimed at identifying the markers of depression by analyzing the users' behavior, the content on their pages, and communication with their subscribers. These types of research activities have become more popular, although they remain lacking. Thus, an attempt to predict postpartum depression and identify women in risk groups was conducted by De Choudhury et al. (2013,

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[1]   http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf

[2]   A post in a social network is any article or entry made by a private user, media company, or brand in its account, on a "wall," or in a group that could be open or closed to the public.

2014) using data captured from Twitter and Facebook. The research suggests that reduced social activity, increased interest in social and medical problems, increased negative effects, the cluster structure of the social network, and more active expression of religious views are signals that can result in depression (De Choudhury et al., 2013).

A study of Instagram showed that photos posted by depressed individuals were more likely to be bluer, grayer, and darker, and to receive fewer likes[3]. Depressed Instagram users in the sample had an outsized preference for filtering out all colors from posted photos and showed an aversion to artificially lighting photos compared to non-depressed controls. Depressed users were more likely to post photos with faces, but they preferred to post fewer faces per photo than the controls (Reece, Danforth, 2017).

The second type of studies examined the processes of self-disclosure, obtaining social support, forming an identity, and overcoming stigmatization through discussing depression on social networks. Researchers are interested in the way users receive social support on social networks when disclosing information about their mental illnesses.

A prior study of depression forums revealed that sharing a personal story in support groups helps individuals not only obtain support but also attribute their own identity and express their emotions (Lamerichs, 2003). Balani and De Choudhury (2015) developed a classifier that characterizes Reddit posts as of high, low, or no self-disclosure. Other researchers used different types of content in online support groups, for example, reflecting the measure of empathy, questions asked, and answers formulated, etc. (Davison et al., 1997).

Balani and De Choudhury (2015) conducted their study based on Instagram. They captured #depression posts and found out that posts asking for support obtained significantly more comments than the other publications. All else being equal, a post requesting help received 1.55 times more involvement than a post without a request; it also often received comments with tool support (how to deal with a problem). Posts about illnesses received 2.13 times more social support than posts without such content.

Although those with mental disorders consider Facebook an appealing venue for self-disclosure, the low positivity of their disclosures elicited an undesirable response from others (Forest, Wood, 2012). At the same time, Instagram posts with deep and detailed stories about personal difficulties are heavily supported. Personal stories receive more emotional and tool support, expressions of empathy, and validation. Posts with self-presentation often receive informational support and advice.

A group of studies assessing public discourse about self-disclosure on social networks stands apart. This group is extremely narrow but represents interesting data on how the self-disclosing process on social networks becomes more massive and involving, engaging more users who previously did not face mental illnesses.

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[3]   A like button/option is a feature in social networks, blogs, forums, and media sites wherein the user can express what they like, enjoy, and support. Internet services usually display the number of users who liked each post and may show a list of them. Liking is an alternative to other methods of expressing a reaction to content, such as writing a reply text, but pressing a "like" button is much easier and faster and thus more popular.

One of the studies is devoted to the thematic analysis of public discourse with the hashtag[4] #WhyWeTweetMH ("Why we write about mental health") (Berry et al., 2017). The following post topics were described in the work:

Theme 1. Tweets about mental health provide a sense of community

- Tweets to contact, socialize, and reduce isolation
- Tweets to send and receive messages about support and hope
- Tweets to share and receive information

Theme 2. Tweets about mental health to combat stigma and raise awareness

- Tweets to combat stigma
- Tweets to raise awareness
- Tweets to wage campaigns

Theme 3. Tweets about mental health because Twitter is a safe space for expression

- Tweets to share honest experiences without a feeling of being blamed
- Tweets to vent, have a voice, and feel heard
- The benefit of Twitter over other social media sites

Theme 4. Tweets about mental health are empowering coping mechanisms

- Tweets about mental health provide an opportunity to escape
- Tweets about mental health have an empowering self-management strategy

A study by Lachmar et al. (2017) is much closer to our research. The study examined the public discourse of the trending hashtag #MyDepressionLooksLike and looked more closely at how users talk about their depressive symptoms on Twitter. The authors found that tweets on #MyDepressionLooksLike revealed various topics that described the inner world of those with depression. Some users described the cognitive, personal, and social consequences of depression. They also wrote about a feeling of sadness, hiding depression symptoms, seeking help, and thoughts about suicide. The content of these topics complied with the modern concepts of symptoms and mechanisms of depression: these are dysfunctional beliefs, changes in the emotional sphere, changes in the way of life and motivation, etc. A person or community can obtain some benefits by spreading information about depression, but these benefits and stories need to be explored thoroughly to expand the concept of depression in social media.

Justification for the choice of social networks

We used VKontakte (VK) and Facebook for our research for several reasons.

An estimated 110 million Russians are Internet users. The penetration of social networks is estimated at 47%, with 67.8 million Russians having accounts.[5]

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[4]   A hashtag is a type of metadata tag in social networks allowing users to apply different marks enabling others to find messages with a specific theme or content.

[5]   https://www.web-canape.ru/business/socialnye-seti-v-2018-godu-globalnoe-issledovanie/

VK is the second-largest social network in Russia after YouTube with 36.8 million monthly users (in December 2018).[6] YouTube has a monthly reach of 39.7 million users but it loses VK as a communication tool because it is widely perceived as a video blogging platform, not as a space for social discussion. Facebook is the main network worldwide with 2.61 billion users globally but it has only 22.3 million users in Russia and is in fifth place.[7] Twitter is much less popular among Russian-speaking audiences and its popularity is falling rapidly,[8] reaching 7.7 million users in 2017.

VK is the most popular network in Russia by the number of active authors (those who publish at least one post a month) of 36 million in 2018, while Instagram has 23.7 million users, [9] Facebook has 2.2 million, YouTube has 1.1 million, and Twitter has 818,000 active users.

As the user base of social networks has grown, their audiences have been partially intersected. Research into social networks in Russia by the Russian Internet Corporation Mail.ru found that the 25-34 age group is active both on VK (28%) and Facebook (26%), but there are more managers among Facebook users (16% compared with 13% on VK) and fewer students (13% compared with 19% on VK). The gender composition is the same: 47% are men and 53% are women.[10]

Many Russian users have accounts on various social networks. VK and Odnoklassniki have the most "loyal" users: 14% and 7% of their monthly audience did not visit other networks. Meanwhile, nine out of ten Facebook users visit VK.[11]

The main difference between social networks is not in age or demographics, but in the way users behave, in their interests, and the need for particular content.

S. Bodrunova and A. Litvinenko (2014) proved that since 2009, Facebook played a significant role in building the online public sphere in Russia because it has "all the necessary features for the rise of an online communicative milieu for the 'thinking community.' " Facebook became the space for discussion and played a significant role in the political and deliberative polarization of the online audience. At the same time, VK seemed to play a less important role in users' mobilization, and the alternative-agenda media cluster appears to be almost two times less important for the VK audience.

We can compare the most popular content on VK and Facebook using the social analytical platform Brand Analytics that shows the most readable posts per three hours, per day or week real-time, and publicly available. We have chosen the 25 newest publications per week (this is the maximum possible number on the platform).[12]

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[6]   https://webindex.mediascope.net/top-resources/projects

[7]   https://mediascope.net/upload/iblock/f97/18.04.2019_Mediascope_%D0%95%D0%BA%D0%
       B0%D1%82%D0%B5%D1%80%D0%B8%D0%BD%D0%B0%20%D0%9A%D1%83%D1%80
       %D0%BD%D0%BE%D1%81%D0%BE%D0%B2%D0%B0_%D0%A0%D0%98%D0%A4+%D0-
       %9A%D0%98%D0%91%202019.pdf

[8]   https://www.statista.com/statistics/303719/twitters-annual-growth-rate-in-russia/

[9]   https://br-analytics.ru/blog/socseti-v-rossii-osen-2018/

[10]   https://corp.mail.ru/media/files/issledovanie-auditorij-sotcialnykh-setej.pdf

[11]   Ibid.

[12]   https://br-analytics.ru/mediatrends/?fm_date=week&layout=layout_block&hubs=fb

Content of mass interest is the essence of VK: commercial contests and prize drawing by different Russian brands (10); spam of different types (8); entertaining posts on most visited public groups (4); and funny pictures and jokes (3; weekly data: June 29 to July 6). Facebook is more political and socially oriented: it includes articles published by media outlets devoted to Russian, Georgian, and Ukrainian politics and conflict relations (12), social policy in Russia (2), commercial contests and prize drawing by different Russian brands (3), lifehacks (2), human stories (2), spam of different types (2), tests (1), and opinion polls (1).

The aim of our research was a comparative analysis of attitudes toward depression among the Russian-speaking users on Facebook and VK under the hashtag #faceofdepression.

We conducted an exploratory study to suggest the following three hypotheses:

1. Themes of the Russian-language posts under the hashtag #faceofdepression on Facebook and VK are similar to the themes of the English-language posts under the hashtag #MyDepressionLooksLike on Twitter.
2. There will be a significant difference in the frequency of the themes represented in different social networks.
3. The distinctive feature of the public discourse in Russia is topics about antistigma and overcoming prejudice against those with depression.

Methods

Materials

Analyzing publications under the hashtag #faceofdepression, we captured 496 posts from VK and 1527 posts from Facebook.

Each post from the data set was assigned to one of the six following groups:

1. Reposts. The most numerous group, which includes links to media articles, reposted materials from groups (on VK) and public pages (on Facebook), and celebrities' reposts about their experiences (more than 70% of the posts on both social networks).
2. Posts with a description of the authors' personal experiences. In these posts, users talk about their depression symptoms, their fight against disease, and difficulties encountered during that time (15%).
3. General reasoning about depression or public discourse, when users share their thoughts, not their experiences. Among these posts, there were also posts by psychologists with advice on how to combat depression (7%).
4. Very short posts (10–15 words maximum) where the authors support the idea of the #faceofdepression (5%).
5. Posts describing depression among friends and relatives. Users speak about how they noticed (or often did not notice) depression symptoms (approximately 1%).
6. Posts with criticism of the idea of public discourse or ridiculing its mass character (approximately 1%).

Group number 2 is the most important for understanding the essence of the hashtag #faceofdepression. Posts from this group reflect the maximum degree of self-disclosure, and as a result, most actively involve the mechanisms of empathy, involvement, and social support. Thus, we used this particular group of posts as the subject of our study.

We analyzed 159 original posts on VK and 231 original posts on Facebook.

Socio-demographic characteristics of the authors of posts on VK: The majority of the authors were women (79% of women versus 21% of men). The uniform distribution of the authors among age groups from 21 to 34 years: 21-23 years (28%), 24-26 years (33%), 27-29 years (28%), and 30-34 years (31%). Authors under the age of 20 and over 35 totaled 27%.

Socio-demographic characteristics of the authors of posts on Facebook: posts are predominantly written by women (86%).

Procedure

To capture relevant texts, we used two analytical programs, TargetHunter and YouScan. YouScan is a social analytics platform that monitors social media, blogs, forums, and online media. The service subscriber sets up an account to see specific topics and obtains the results in the online interface in real-time. The results uploaded are all texts corresponding to the specified parameters, including duplicate texts. The parameters include keywords, the presence or absence of images, the date of publication, and other attributes. It is possible to set a uniqueness filter that allows the user to see only original posts when each publication is linked to a specific author. TargetHunter works the same way, also analyzing the socio-demographic characteristics of the authors of the posts. The platform does not upload posts in the online interface and provides information about unique users of the social network.

We conducted a content analysis of the captured posts according to the method of thematic text analysis using a categorical grid developed by Lachmar et al. (2017). Four people who specialize in psychology and media research participated in the coding procedure. Their special task was to identify themes that did not fall into any group proposed for encoding. This procedure, on the one hand, made it possible to establish similarities between our results and those of Lachmar et al., and on the other hand, to note the differences.

Results

Through a thematic analysis of the posts, we identified seven topics that comply with the initial categorical grid used by Lachmar et al. (2017). We also found the eighth topic, which was missed in Lachmar's study. This topic was called "antistigma." The names of the themes, the frequency of their occurrence in raw numbers, and examples illustrating the content are given below.

*Theme 1. Dysfunctional thoughts (*Facebook [FB]: n = 104, VK: n = 21)

This topic includes posts about various cognitive distortions: first, changes in the perception of oneself, the future, other people, and the world. Often it is a change of perception toward noticing only negative content.

Participants wrote about:
- Self-hatred:

"... Sometimes I talked with people, but it always seemed to me that they all considered me insignificant, weak, stupid, ugly". (VK)

"For several years I hated myself for not being able to pull myself together and to become happy, like all normal people. For several years I simply did not exist". (FB)

- Conviction in their worthlessness and uselessness:

"I cannot see in myself anything for which I can be respected and loved. I cannot do anything the way I would like to, always haunted by the feeling that everything is falling out of hand". (VK)

- Loss in space:

"I do not leave home for weeks, sometimes because I lose orientation ability. I cannot distinguish the floor from the ceiling; or I immediately feel myself in 32 spaces at the same time and I cannot choose in which I am, it is terribly scary and drives me crazy". (FB)

- Derealization:

"Everything seems unreal, blurry, slow, and gray as if reality is turning into a low-grade art-house film". (VK)

"My entire existence collapsed and was reset to a state of absolute 'nothing.' That 'nothing' settled for a long time inside myself". (FB)

Theme 2. Lifestyle challenges (FB: n = 119; VK: n = 56)

This topic includes posts in which the participants described changes in their lifestyle associated with the depressive state.

- The participants in the discussion described a decrease in motivation and working capacity:

"Sometimes I can lie around on the sofa all day and stare straight in front of myself. I am not able to do anything. I do not care about anything". (FB)

"I lay for days. Without any desire to eat, live, or do anything". (VK)

- Many participants wrote about sleep and eating disorders:

"Insomnia alternated with sleep for 12 hours, hunger strikes alternated with uncontrolled overeating". (VK)

"For the second time in my adulthood, I lost weight to the bone (it's when it hurts to lie, it hurts to sit) (...) I just barely ate anything and generally lay almost all day long (...) Even such a classic depression, with emaciation, refusal of food, apathy, and sometimes unwashed hair people do not notice". (FB)

- The feeling of fatigue, exhaustion, and lack of strength can be also found:

"I was broken, I felt tired, abandoned, devastated". (VK)

- The participants wrote about difficulties in performing household duties and self-care:

"Any thoughts about any activity (to go shopping, to open a book, to check the schedule, whatever it was) are accompanied by a fit of nausea". (VK)

"Yesterday you led an active life, and today you are not able to take a spoon". (FB)

- There were some cases in which the external signs of depression were not visible:

"And the doctor asks: 'What's happened?!' But nothing has happened to me. NO-THING. No catastrophe, nobody died … something is wrong with my body. I endured almost two years of such fun". (FB)

Theme 3. Social struggle (FB: n = 59; VK: n = 47)

This topic includes posts that report about difficulties in the social sphere and a sense of loneliness, misunderstanding, and isolation.

"I will not lie and tell how my friends and relatives helped me. No one helped. And no one drove me into depression. I was just unbearable for my relatives and myself". (FB)

"In that period of my life, there was too much loneliness, misunderstanding, and rejection". (VK)

Some of the participants describe the communication topic as full of conflict, emphasizing the simultaneous need for social contacts and the desire to avoid them. The participants often mentioned depreciation of their condition by others:

"I wanted to tell someone about what was happening to me, but on the other hand, I was afraid that someone would find out that my soul is full of the nightmare". (VK);

"No one cares about you. It hurts when you notice senseless or sometimes indifferent glances of those you love, who are just irritated. They shrug their shoulders and consider my depression false: 'Come on, what's up? An hour in the morning is worth two in the evening. Are you going to do something with your life? Don't argue! Man is such a creature, he can get used to everything. Raise your arm high and drop it abruptly. Why are you so sad? Oh God, he is his usual self again!'". (FB)

Theme 4. Hiding behind a mask (FB: n = 75; VK: n = 45)

Many try to hide their depression, to mask it by laughing and smiling. At the same time, the participants acknowledge: "The worst thing in depression is that no one can see it." Thus, it turns out that those with depression partly create this situation themselves:

"I post lots of pictures on Instagram, they present my happy and busy life, which is only a way to fill a void". (VK)

"I remember one comment to the photo on my Facebook: 'Harmony and pacification!' wrote a friend. In fact, that the photo was taken amid my struggle for life". (FB)

"All these years of depression (about 20-25 in my life), everyone (except one of my former partners, who lived with me, nannies of my son, and himself sometimes) saw me only as a luxurious, well-groomed, dressed in designer clothes with expensive jewelry, riding expensive cars, smiling, strong-willed, active woman, to which the majority of men were even scared to flirt with; either he fails, or a lady is too expensive". (FB)

"I tried to look better so that others could not guess the horror that seized me entirely. I hide everything inside, and I only dreamed that someone would notice it, someone would understand". (VK)

Theme 5. Apathy and sadness (FB: n = 96; VK: n = 62)

The discussion participants described various emotional manifestations of depression. They often mentioned four: shame, fear, guilt, and aggression.

- Shame

"That shame created a vicious circle — I had no power to do what I promised or wanted to do — it provoked shame, shame increased disgust for myself, self-disgust made another obstacle to doing something, and this led to another outbreak of shame". (FB)

"I'm ashamed to speak about depression, because of the nasty voice in my head, which reminds me of hundreds of people who live much worse than me". (VK)

- Fear

"When I talk about fear – it is not about emotions, I do talk about physiological sensations. Fear in depression is physiological — you are thrown into a cold sweat, your heart is beating wildly, your head is spinning, you feel sick, you lose the sense of reality". (FB)

"And the emotions inside you are only fear and anxiety. That's all. In one word: stupor". (VK)

- Sense of guilt

"From the age of 14, I live with a constant, endless sense of guilt, every year it becomes sharper, brighter, and more unbearable". (FB).

- Aggression

"At some point, I started yelling back, grab a belt from her hand and throw it out of the window. And then, at the age of 15-18, I started to destroy things. At that time I broke about 6 phones, three pairs of glasses, my favorite headphones, a passport, all the cards, and some other stuff. I demolished the window in my room three times, ruined the closet door, and broke some part of the table". (FB)

Theme 6. Seeking relief (FB: n = 149; VK: n = 44).

This topic includes statements describing the participants' attempts to overcome the symptoms of depression. Different coping strategies are represented in the texts of the posts. All can be divided into constructive and destructive methods. Destructive coping methods are drinking alcohol and, more rarely, using drugs. The most constructive method is using antidepressants combined with psychotherapy. The participants wrote that it is one of the most effective means to combat depression, but some mentioned that they overcame depression without antidepressants.

"I cry and drink alcohol because it is 'cheaper than a psychoanalyst' ". (FB);

"I drink alcohol and comfort myself thinking that this alcohol is expensive and of high quality". (VK)

"I quit alcohol cold turkey, dragged myself out for walks, completed a 'depression meditations' course, and even tried to make a romantic relationship". (FB)

"People helped me, just pulled me out. Psychologists helped as well. I took some medicines, some kind of pills, and I think pills helped, too. But they were people we love who helped me". (FB)

In some posts, the participants wrote about how they tried to cope with depression with the help of sports and travel:

"I have tried many things to overcome depression: dancing, yoga, gym, haircuts and hair colors, courses in every way of self-improvement possible, language schools, traveling, extreme, needlework, and so on. And nothing brought relief to me". (FB)

"I practiced mountain climbing, contact improvisation, Kabbalah, special dream practice, rebalancing, qigong, tai chi, meditation. Everything gave only a temporary effect, and then the depression only became worse". (FB)

Theme 7. Self-harm and suicidal behavior (FB: n = 63; VK: n = 41)

The posts included in this group describe suicidal intentions and attempts, various self-harming behavior, and thoughts about death:

"I tried everything just to stop this stupid, ugly, unbearable stream of ugly thoughts, and then I came to something that you will never be able to refuse self-harm". (VK)

"It thinks I tried to kill myself 7 times or so, those were 7 attempts and about six months that I planned suicide, thought about it". (FB)

"For example, I was rescued in the intensive care unit of Sklifosovsky Hospital. I was also rescued in the central district hospital in Kolomna. For example, once I had cerebral edema because of lack of oxygen". (FB)

Theme 8. Antistigma (FB: n = 22; VK: n = 16)

Many posts contained an important message about the stigma of mental disorders (including depression). Stigmatization creates difficulties when seeking help for overcoming depression. We found that the topic of stigma is specific for the Russian-speaking Facebook and VK users compared to the English-speaking Twitter users. This topic was not singled out in Lachmar's study (2017).

"We need to struggle with stigma. Mentally ill people are people quite like you". (VK)

"You cannot overcome depression through phrases like 'stay calm and get a grip' or 'you can do it.' It is a disease, it can be treated, and it must be treated. It has nothing to do with willpower. Having depression is not embarrassing, you are not guilty. So, do not be afraid or be shy of psychiatrists as you are not afraid of therapists and surgeons". (FB)

"I would not talk about smart alecks who push the idea that depression is an imaginary disorder of gluttons and lazybones (…). 'Stop beefing! Think positive. In Africa, children are starving and you're just suffering from an excess of prosperity. Smile, your sad face is frustrating. It's not a big deal. Don't overreact. Tear your ass off the couch. Do some sports.' Such recommendations are meaningless and cruel. Diseases are not cured by an effort of the will. Advising a person with depression to 'stay calm and get a grip' is like advising a patient with broken legs to run a marathon right now". (FB)

"I like this discussion. I like today's Facebook as a tool of antistigma". (FB)

Table 1 shows the themes' proportional frequency in the Russian-language posts on VK and Facebook compared to the data obtained by Lachmar et al. on Twitter.

After revealing a thematic difference in describing depression in three social networks, we used a non-parametric chi-squared criterion to identify significant differences between the samples from the Lachmar et al. study and Russian-language samples from two social networks. A comparison of the posts of the English-speaking Twitter users and the Russian-speaking Facebook and VK users showed significant differences (p < 0.001), as well as a comparison of the Russian-speaking audiences (p = 0.04). A one-to-one comparison of the individual data of the users of

Table 1

The thematic structure of posts with a description of personal experience

Category	Twitter (English-speaking audience)	VKontakte (Russian-speaking audience)	Facebook (Russian-speaking audience)
Theme 1. Dysfunctional thoughts	498 **(25%)***	21 (6%)	104 (15%)
Theme 2. Lifestyle challenges	416 (21%)	56 (17%)	119 (17%)
Theme 3. Social struggle	433 (22%)	47 (14%)	59 (8.5%)
Theme 4. Hiding behind a mask	236 (12%)	45 (14%)	75 (11%)
Theme 5. Apathy and sadness	149 (8%)	62 **(19%)**	96 (14%)
Theme 6. Seeking relief	110 (5%)	44 (13%)	149 **(22%)**
Theme 7. Self-harm and suicidal behavior	136 (7%)	41 (12%)	63 (9%)
Theme 8. Antistigma	0	16 (5%)	22 (3%)
The ratio of themes and posts	1978 themes/ 3225 original texts	332 themes/ 159 original texts	687 themes/ 231 original texts

Note: Maximums in percentages are marked with bold type.

the Russian-language samples shows significant differences between the "Dysfunctional thoughts" and "Seeking relief" scales ($p < 0.001$).

Discussion

The results of our study show similarity in how people describe depression on different social networks and in different cultures. The only specific topic was the antistigma of depression, which was not explicitly presented in the study of the English-speaking audience on Twitter.

Studies at the intersection of psychiatry and media research have shown that mass media contribute significantly to shaping public perceptions of mental disorders, including negative perceptions (Sieff, 2003). Philo (1999) found that not only official media are a source of information and insights into those with mental disorders, but also fictional stories (for example, films, serials, etc.).

A comparison of the frequency of the occurrence of topics related to psychiatry in the Russian media showed that the illegal actions of mentally unstable people are one of the most popular topics in all publications on psychiatry (23%). The texts' authors regularly use disparaging and derogatory names for mental disorders (Serebrinskaya, 2005)

V. Yastrebov and S. Trushchelev (2009) conclude that there is a stereotype of media coverage of psychiatric problems, which leads to negative public perceptions, hinders timely access to health care, exacerbates isolation of patients from others, and builds stigma in psychiatry.

The persistence of stigma was also confirmed by research aimed at identifying beliefs associated with those suffering from depression. A study conducted on a Russian-language sample (Dubitskaya, 2009) showed that those who are not involved in psychology and psychiatry rated people with depression as "whiners and pessimists" (95%), "egoists" (86.67%), and "lazy people" (38.33%), and these people are "resentful of their tearfulness" (75%) and are "a burden to fellow officers" (96.67%). Additionally, the majority of respondents believed that those suffering from depression should not have children (78.3%) or work as managers (88.33%). These conclusions agree with the English-speaking sample (Arboleda-Florez, 2002), which showed that those with severe depression are described as dangerous, developmentally disabled, of low intelligence, have communication disorders, are dysfunctional, and do not contribute as workers as they lack the desire or are lazy.

Some cross-cultural studies also show some differences between depression perceptions in Russia, Britain, and the US. For example, the Russian respondents were less tolerant of mental disorders than the British participants. The authors of the study see this as a consequence of insufficient knowledge, lack of economic welfare, and social upheaval, relegating concern for mental illnesses to secondary importance (Shulman, Adams, 2002).

It has been clearly shown that Russian participants endorsed the view that those with depression are "weak-willed" more strongly than their US counterparts. The Russian participants also endorsed the view that those with depression lead an "immoral lifestyle" more often than their US counterparts (Nersessova, Jurcik, Hulsey, 2019).

Thus, the topic of stigmatization of mental disorders, in particular depression, which is more clearly presented in our data, is a natural consequence of the specificity of the perceptions of this disorder in the collective consciousness of Russians.

Facebook (22%) and VK users (13%) describe ways of coping with depression much more often than Twitter users (5%). This is also consistent with the data that the US participants endorsed psychotherapists as a source of help more often than their Russian counterparts. Russians, in contrast, endorsed all help-seeking methods significantly less often than the US participants (Nersessova, Jurcik, Hulsey, 2019).

Despite the similarity of the descriptions of depression on social networks and the topics discussed, some differences were found in the frequency of the occurrence of topics. Twitter users reported significantly more often about changes in thinking and perception (25% of all posts) than VK (6%) and Facebook users (15%). We suggest that this is due to a large amount of English self-help literature on depression based on a cognitive-behavioral approach, in which thoughts and beliefs are the main focus of attention and change. There are practically no such books published in Russia. However, this requires further study.

At the same time, VK (19%) and Facebook (14%) users more often noted changes in the emotional sphere than Twitter users (8%). This trend is in contrast to the data obtained in the study of the emotional expression of Russians compared to Americans (Sheldon et al., 2017). Russian students were less likely than US students to express unhappiness to "everyone" (3% vs 17%) and to "family" (48% vs 70%). Russians are more self-distancing than Americans when it comes to reflecting on their own emotions, and such emotional self-distancing does not have to be negative correlates in Russia as it does in the US. At the same time, our data reflect the

communication within the public discourse on social networks, that is, attempts of users to reveal taboo and difficulties. Perhaps overcoming the habitual propensity to inhibit negative feelings is reflected in the high indicators on these topics.

Conclusion

We conclude that despite the similarities, there are substantive differences in the texts of the posts on the three social networks that do not allow us to confirm the second hypothesis. A further and more detailed study of the linguistic features of posts published on these social networks will make it possible to elucidate the specific meaningful characteristics of these texts.

Limitations

A conclusion cannot be reached because of the limitations of the research method. We captured the published posts with hashtags without controlling the search algorithms on Facebook and VK, so we do not know how many posts were not shown on both social networks. Also, we used ready-made categories of content analysis to structure the data. This could affect the results obtained in this study.

It is necessary to continue the research into users' self-disclosure on social networks within this and other public discourses; how such self-disclosure affects the participants and their families, friends, and acquaintances, etc.; and how self-disclosures can activate mechanisms of empathy, social support, and inclusion in other users.

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