

Научная статья | Original paper

## Individual and perceived social attitudes towards suicide in relation to suicide risk

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### Abstract

**Context and relevance.** The relationship between social attitudes towards suicide and the actual suicidal behavior of individuals remains a matter of unresolved scientific dispute. **Objective.** The present study aimed to examine both individual and perceived social attitudes towards suicide in their connection to low or high suicide risk. **Hypothesis.** 1) persons with different levels of suicide risk vary in their individual and perceived social attitudes towards suicide; 2) higher levels of suicide risk are interrelated with a more positive individual attitude and a more negative perceived social attitude towards suicide. **Methods and materials.** 520 respondents participated in an online survey, which included sociodemographic information; Beck Depression Inventory; “Auto- and Hetero-Aggression” questionnaire; measuring individual and perceived social representations of suicide; and questions related to social engagement, mental health and suicidal behavior. **Results.** A fuzzy clustering procedure yielded 4 clusters of respondents. These clusters varied significantly across most of the examined suicidality-related parameters, reflecting different levels of suicide risk. Higher levels of education, high numbers of individuals considered close and a subjective assessment of one’s social circle as wide may be considered to be protective factors for suicidal behavior. Self-harm behavior, auto-aggression, and a family history of suicide may all serve as predictors of suicidal behavior. Hetero-aggression, marriage and having children among

youth were not shown to be interrelated with suicidality. Greater susceptibility to suicide stigma and having an inner conflict with society, defined by a “gap” between positive individual and extremely negative perceived social attitudes towards suicide, may be considered to be strong indicators of acute suicide crisis. **Conclusions.** Relative to the general population, negative attitudes towards suicide might serve as a protective factor, but they have a very strong detrimental effect on those in most need of compassion — people with the highest levels of suicide risk. This results in their reluctance to self-disclose and seek help.

**Keywords:** suicide risk, suicide stigma, attitudes towards suicide, suicidal behavior, depression

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## Индивидуальное и воспринимаемое общественное отношение к самоубийству и их взаимосвязь с суицидальным риском

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### Резюме

**Контекст и актуальность.** Влияние отношения общества к суицидам на их распространенность продолжает оставаться предметом

научных споров. **Цель.** Настоящее исследование было направлено на изучение как индивидуального, так и воспринимаемого общественного отношения к суициду в их связи с уровнем суицидального риска. **Гипотезы:** 1) люди с разным уровнем суицидального риска различаются по своему индивидуальному и воспринимаемому общественному отношению к самоубийству; 2) повышенный суицидальный риск взаимосвязан с более позитивным индивидуальным и более негативным воспринимаемым общественным отношением к самоубийству. **Методы и материалы.** 520 респондентов приняли участие в онлайн-опросе, который включал сбор социально-демографической информации, заполнение опросника депрессии Бека и опросника «Ауто- и гетероагрессия» Е.П. Ильина, оценку индивидуальной и воспринимаемой общественной репрезентаций суицида, а также вопросы, связанные с социальной активностью, психическим здоровьем и суицидальным поведением. **Результаты.** С помощью кластеризации были выделены 4 группы респондентов с разным уровнем суицидального риска. Высокий уровень образования, большое количество близких людей, широкий круг общения могут рассматриваться как защитные факторы, препятствующие суицидальному поведению. Самоповреждающее поведение, аутоагрессия, семейная история суицидов могут служить предикторами суицидального поведения. Гетероагрессия, брак и наличие детей в молодом возрасте не связаны с суицидальным риском. Повышенная чувствительность к стигме суицидента и внутренний конфликт с обществом, выраженные в «разрыве» между позитивным индивидуальным и крайне негативным воспринимаемым общественным отношением к самоубийству, являются надежными индикаторами острого суицидального кризиса. **Выводы.** В отношении населения в целом негативное отношение общества к самоубийству может рассматриваться как защитный фактор, однако оно оказывает сильное неблагоприятное воздействие на людей с высоким уровнем суицидального риска, следствием чего становится их нежелание говорить о своих проблемах и обращаться за профессиональной помощью.

**Ключевые слова:** суицидальный риск, стигматизация, отношение к суициду, суицидальное поведение, депрессия

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## Introduction

Suicide remains one of the most pressing public health problems globally. More than seven hundred thousand people die by suicide annually. It is the fourth leading cause of death among young people aged 15—29 years (WHO, 2021). In Russia, suicide rates have been steadily decreasing since their peak in 1995 (41,4 per 100,000 population in 1995; 39,1 in 2000; 23,4 in 2010; 11,3 in 2020; 9,2 in 2022) (Russian Statistical Yearbook, 2023). However, due to differences in categories, definitions, and methods used, the WHO's estimates of suicide rates in Russia have remained relatively high. According to the report “Suicide Worldwide in 2019: Global Health Estimates” (WHO, 2021), Russia was ranked number eleven among countries with the highest suicide rates.

Suicide rates in Russia exhibit significant regional differences. For instance, in 2015, the suicide rate in the Altai region was 56,4 per 100,000; Chechnya — 0,6 per 100,000 — while the country's average for the same year was 17,4 per 100,000. This substantial difference is often attributed to cultural attitudes towards suicide. While a rigorous taboo exists in Islamic regions (Chechnya, Ingushetia, Dagestan, etc.), considered a strong protective factor against suicide, permissive attitudes among some ethnic groups — such as the Altai people and Buryats — are associated with their high suicide rates (such attitudes may be explained by the prevalence of Buddhism in these groups, which is less strict than Islam in condemning suicide) (Polozhy, 2019). It is important to note that strong cultural taboos may also be linked to underreporting of suicide statistics (Rezaeian, 2010). However, despite possible underreporting, D. Lester argues that suicide rates in Muslim countries do indeed appear to be lower compared to other countries, while the rates of suicide attempts seem to be similar (Lester, 2006).

Researchers have demonstrated that there is a positive correlation between suicidality and pro-suicide attitudes (Kodaka et al., 2013; Arnautovska & Grad, 2010). Therefore, negative attitudes are often

considered protective factors against suicidal behavior among the general population, leading individuals to reconsider their suicidal ideation. At the same time, this seemingly protective effect has a dark side: stigmatization of those who attempt or are bereaved by suicide discourages some from seeking professional help and exacerbates social isolation (Chistopolskaya & Enikolopov, 2018; Borisonic & Lyubov, 2016). Research on stigma and self-stigma among individuals with mental disorders who have attempted suicide shows that stigma related to suicide often prevails over stigma related to mental illness (Polozhy & Ruzhenkova, 2016). Although healthcare professionals claim to hold more compassionate attitudes towards suicidal patients compared to the general population, surveys indicate that: 61,5% of psychiatrists and 77,4% of nurses would not consider having an intimate relationship with a person who has attempted suicide in the past; 43,2% of psychiatrists and 74,9% of nurses would prohibit individuals who had attempted suicide from holding teaching positions (Polozhy et al., 2017).

Such attitudes likely worsen social isolation and limit career opportunities for individuals with suicidal histories. Up to sixty percent of people experiencing suicidal thoughts do not disclose them — hindering access to professional treatment (Hallford et al., 2023). The main reasons for nondisclosure include self-stigma and shame. Researchers highlight a reciprocal relationship between stigma and suicidality: a suicide attempt can generate stigmatizing and self-stigmatizing attitudes, while stigma surrounding suicide and mental illness can increase risk for suicidal behavior (Carpiniello & Pinna, 2017).

As these studies suggest, mental health professionals have not yet reached a consensus and often hold opposing views on whether negative attitudes towards suicide serve as protective factors against suicidal behavior. Although several studies have examined social attitudes towards suicide within the Russian population (Bukin & Tishchenko, 2016; Surmach et al., 2019), no research has yet measured both individual and perceived social attitudes towards suicide in relation to different levels of suicidality. We propose that comparing these two types of attitudes could provide valuable insights into this issue. Hypothesis: higher levels of suicidality are associated with more positive individual attitudes and more negative perceived social attitudes towards suicide.

## Materials and methods

**Procedure.** The present work is part of a larger research project devoted to studying perceptions of suicide- and depression-related humor. The study was conducted in accordance with the Helsinki Declaration. Individuals aged 15 years and older were invited to complete a voluntary and anonymous online survey posted on various social media platforms. When distributing the link, special emphasis was placed on Internet communities and chats related to humorous communication on topics such as mental disorders, depression, and/or suicide. The consent form provided potential respondents with information about the significance and objectives of the research.

The online survey included:

Demographic information: sex; age; level of education; marital status (not engaged in a romantic relationship; engaged in a romantic relationship; not married but living together; married); presence of children; number of people in one's household.

Social engagement: number of people considered close; size of social circle (almost nobody; very narrow; rather narrow; rather wide; very wide).

Information about mental disorders and suicide attempts ("yes" or "no" questions): participants were asked if they had been diagnosed with any mental disorder, had prior suicide attempts, and/or engaged in self-harm behavior. They were also asked if someone close to them had a mental illness and/or attempted or committed suicide. It is important to note that the study did not include confirmation of self-reported diagnoses by mental health professionals.

Individual and perceived social representations of suicide (developed by the study's authors based on a literature review of prevailing attitudes towards suicide (e.g., Lyubov, 2019; Talanov & Kiseleva, 2018)): six questions about one's individual attitude and perceived social attitude towards suicide. To measure these attitudes, the following series of questions was devised: "In your opinion, is suicide a manifestation of cowardice or courage?", "...weakness or strength?", "...a stupid decision or a deliberate, carefully considered decision?", and "In society's opinion, is suicide <same options>." The answers were recorded using 7-point Likert scales: from "−3" to "+3." The final scores for individual and perceived social representations of suicide were calculated by summing the scores for the corresponding questions, resulting in ranges from "−9" to "+9." Internal consistency:

Cronbach's  $\alpha = ,82$  for individual representation of suicide and  $\alpha = ,85$  for perceived social representation.

Beck Depression Inventory in Russian adaptation (Tarabrina, 2001). This includes 21 groups of statements ranked according to their contribution to depression severity. Internal consistency (obtained in this study): Cronbach's  $\alpha = ,94$ .

“Auto- and Hetero-Aggression” Questionnaire (Ilyin, 2001), which consists of 20 questions referring to two scales: “auto-aggression” (directed inward) and “hetero-aggression” (directed outward). Internal consistency (obtained in this study): Cronbach's  $\alpha = ,76$  for auto-aggression and  $\alpha = ,69$  for hetero-aggression.

On the final page of the survey, participants were asked to share their most pleasant memory. The main aim of this question was psychological debriefing: since a significant portion of the questions related to suicide could potentially evoke negative feelings. Afterwards, responses were analyzed to determine whether participants actually shared pleasant memories or not (coded as 1/0).

**Statistical analysis.** Since each subject is characterized by numerous factors related to suicide risk and all these factors interact with each other, we conducted a fuzzy clustering analysis of the data. The purpose of clustering was to identify generalized groups of respondents with different levels of suicide risk. Clustering was performed using the R Statistical Package (R Core Team, 2024), specifically the “fanny” function in the cluster package, using squared Euclidean distances. The number of clusters was determined by: 1) a silhouette and scatter plot; 2) conceptual considerations (four groups of respondents with different qualitative characteristics and levels of suicide risk were feasible to analyze).

Next, we compared the four groups separately across each measured parameter. Fisher's exact test and the Chi-square test were used for categorical data. The results of comparisons of the four groups' quantitative parameters were obtained using two-sample Wilcoxon tests. The p-values for all the aforementioned statistical procedures were adjusted for multiple testing using the Benjamini-Hochberg procedure.

## Results

**Description of the sample.** The obtained sample included 520 subjects (after excluding 2 subjects who withdrew from participation via the consent



form webpage): 409 females and 111 males, aged 15—61 years ( $M = 30,22$ ,  $SD = 9,80$ ). Marital status: 40% reported being single; 14% — having romantic relationships and living apart; 15% — living together with a partner but not married; 31% — married. Regarding education, 3% indicated incomplete secondary education, 7% — secondary education, 9% — secondary special education, 23% — incomplete higher education, 56% — higher education, and 2% — postgraduate scientific degree. Almost half of the sample (44%) self-reported having a mental disorder.

**Results of the fuzzy clustering analysis.** A fuzzy clustering of the obtained variables (using the FANNY function in R) yielded four clusters of respondents. No significant inter-cluster differences were found for sex ( $p > ,05$ ), hetero-aggression ( $p > ,05$ ), or sharing a pleasant memory ( $p > ,05$ ). The remaining parameters showed significant differences, as detailed in Table 1.

**Description of the obtained clusters.** Cluster 1 was the largest group ( $n = 152$ ) comprised of young people ( $M = 25,68$ ,  $SD = 5,1$ ). Most members of this group reported having higher education or a post-graduate degree (57,9%) and being engaged in a romantic relationship (57,24%), either officially married or not. They are characterized as having a “rather wide” or “wide” social circle and, on average, they had 5 people they considered close ( $M = 4,94$ ). Only 15,13% self-reported as having a mental disorder, 15,13% — suicide attempts, whereas prior self-harm behavior was reported by 36,84%. Among all the clusters, Cluster 1 was characterized as having the lowest level of depression (69,74% reported no depressive symptoms). As for their attitudes towards suicide, both individual ( $M = -3,12$ ,  $SD = 3,8$ ) and perceived social ( $M = -5,76$ ,  $SD = 3,5$ ) representations were negative. 27,63% indicated that they had at least one person with a mental disorder in their social circle that they considered close, 25% — had someone close to them that had attempted suicide/died by suicide.

Cluster 2 was the oldest group, comprised mostly of people in their 30s and 40s ( $M = 42,6$ ,  $SD = 6,7$ ). Not surprisingly, these subjects were characterized as having the highest percentage (among all clusters) of those with higher education or a post-graduate degree (85,8%), being married (60,81%) and having children (70,27%). They also reported having the largest number of people in their household ( $M = 3,96$ ). Regarding the number of people they considered close and the size of their social circle — Cluster 2 and 1 yielded similar results. Although Cluster 2 had a higher mean depression score ( $M = 9,57$ ) than Cluster 1, fewer subjects self-reported



Table 1  
Descriptive statistics and significant inter-cluster differences

Variable	Cluster 1, n = 152	Cluster 2, n = 148	Cluster 3, n = 94	Cluster 4, n = 126	Inter-cluster differences					
					p (1–2)	p (1–3)	p (1–4)	p (2–3)	p (2–4)	p (3–4)
Mean age, years	25,68	42,6	25,9	24,4	<0,001			<0,001	<0,001	
Marital status					<0,001			<0,001	<0,001	
Not engaged in a romantic relationship, %	42,76	18,24	56,38	51,59						
Engaged in a romantic relationship, but not living together, %	19,08	9,46	11,71	12,7						
Not married, but living together, %	15,79	11,49	14,89	19,05						
Married, %	22,37	60,81	17,02	16,66						
Presence of children, %	9,87	70,27	7,45	5,56	<0,001			<0,001	<0,001	
Level of education					<0,001	<0,05	<0,05	<0,001	<0,001	<0,001
Incomplete Secondary, %	1,97	0,68	9,57	3,17						
Secondary, %	7,89	0	11,7	10,32						
Special Secondary, %	3,95	5,41	10,64	19,05						
Incomplete Higher, %	28,29	8,11	32,98	26,19						
Higher, %	57,24	81,76	32,98	40,48						
Post-graduate levels, %	0,66	4,04	2,13	0,79						

Variable	Inter-cluster differences						Cluster 1, n = 152	Cluster 2, n = 148	Cluster 3, n = 94	Cluster 4, n = 126
	p (1–2)	p (1–3)	p (1–4)	p (2–3)	p (2–4)	p (3–4)				
Number of people in a household, mean score	< 0,05			< 0,001	< 0,001	< 0,001	3,59	3,96	3,43	3,48
Social circle, mean score		< 0,001	< 0,001	< 0,001	< 0,001	< 0,05	3,35	3,27	2,4	2,79
Number of close ones, mean score		< 0,001	< 0,001	< 0,001	< 0,001		4,94	5,18	2,9	3,47
Mental disorder (self-reported), %	< 0,001	< 0,001	< 0,001	< 0,001	< 0,001		35,53	19,59	74,47	61,11
Prior self-harm behavior, %	< 0,001	< 0,001	< 0,001	< 0,001	< 0,001	< 0,001	36,84	18,92	87,23	71,43
Prior suicide attempts, %		< 0,001	< 0,001	< 0,001	< 0,001	< 0,001	15,13	10,14	54,26	35,71
Mental disorders among close ones, %		< 0,05	< 0,001		< 0,001		27,63	31,08	43,62	48,41
Suicide and/or suicide attempts among close ones, %			< 0,05		< 0,001		25	21,62	34,04	38,89
Mean BDI score	< 0,001	< 0,001	< 0,001	< 0,001	< 0,001	< 0,001	6,97	9,57	38	20,6
Levels of depression (BDI)	< 0,001	< 0,001	< 0,001	< 0,001	< 0,001	< 0,001				
No depression, %							69,74	56,76	0	0
Mild depression, %							30,26	25	0	16,67

Variable	Cluster 1, n = 152	Cluster 2, n = 148	Cluster 3, n = 94	Cluster 4, n = 126	Inter-cluster differences					
					p (1–2)	p (1–3)	p (1–4)	p (2–3)	p (2–4)	p (3–4)
Moderate depression, %	0	11,49	0	26,98						
Severe depression, %	0	6,75	9,57	56,35						
Extreme depression, %	0	0	90,43	0						
Suicidal ideation (BDI), mean score	0,12	0,18	1,82	0,72		< 0,001	< 0,001	< 0,001	< 0,001	< 0,001
Mean autoaggression score	3,22	3,34	6,41	5,56		< 0,001	< 0,001	< 0,001	< ,001	< 0,05
Individual representa- tion of suicide, mean score	–3,12	–3,25	2,1	0,35		< 0,001	< 0,001	< 0,001	< 0,001	< 0,001
Perceived social rep- resentation of suicide, mean score	–5,76	–5,97	–7,4	–6,3		< 0,05		< 0,05		< 0,05

Note: p (1–2), p (1–3), p (1–4), p (2–3), p (2–4), p (3–4) stand for p-values of inter-cluster comparisons between clusters 1 and 2, 1 and 3, 1 and 4, 2 and 3, 2 and 4, 3 and 4 respectively. Empty cells in “Inter-cluster differences” columns stand for  $p > 0,05$ .

as having a mental disorder (19,59%) or practicing prior self-harm behavior (18,92%). Prior suicide attempts, mental disorders or suicide attempts/suicides among close ones did not differ significantly from Cluster 1. Both individual ( $M = -3,25$ ,  $SD = 3,8$ ) and perceived social ( $M = -5,97$ ,  $SD = 3,2$ ) representations of suicide were negative and revealed no significant differences from Cluster 1.

Cluster 3 was the smallest group ( $n = 94$ ). It included young people ( $M = 25,9$ ,  $SD = 7,1$ ), most of whom were single (56,38%). Compared to all other groups, the subjects of Cluster 3 were characterized as having the lowest level of education (only 35,11% with higher education or a post-graduate degree) and the highest proportion of prior suicide attempts (54,26%) and self-harm behavior (87,23%). They also yielded the highest scores for the following clinical parameters associated with suicide risk: depression level ( $M = 38$ , 90,43% of these subjects had an extreme level of depression), auto-aggression ( $M = 6,41$ ), suicidal ideation ( $M = 1,82$ ). Concerning their attitudes towards suicide, their individual representation was the most positive ( $M = 2,1$ ,  $SD = 3,9$ ), while their perceived social representation was the most negative ( $M = -7,4$ ,  $SD = 2,7$ ) compared to other clusters. The proportion of subjects with mental disorders (74,47%) was significantly higher than in Cluster 1 and 2. The proportion of people with mental disorders among those close to them (43,62%) was significantly higher than in Cluster 1 (27,63%).

Cluster 4 included young people ( $M = 24,4$ ;  $SD = 4,7$ ), 51,59% of whom were single and 41,27% had higher education or a post-graduate degree. Compared to Clusters 1 and 2, these subjects scored higher in depression ( $M = 20,6$ , 56,35% had severe levels of depression), suicidal ideation ( $M = ,72$ ) and auto-aggression ( $M = 5,56$ ). This cluster also included a higher proportion of subjects with prior suicide attempts (35,71%) and self-harm behavior (71,73%). At the same time, Cluster 4's results for these parameters were lower than those in Cluster 3. The average number of people the subjects considered close was statistically equivalent for Clusters 4 and 3 ( $M = 3,47$  and  $M = 2,9$  respectively) and was lower than those in Cluster 1 ( $M = 4,94$ ) and Cluster 2 ( $M = 5,18$ ). The proportion of subjects in Cluster 4 with mental disorders was 61,11%, which was higher than in Cluster 1 and 2, but not significantly different from Cluster 3. Cluster 4 was also characterized as having a slightly positive individual representation of suicide ( $M = ,35$ ,  $SD = 3,9$ ). Their perceived social representation of suicide was

less negative ( $M = -6,3$ ,  $SD = 3,4$ ) than in Cluster 3. The percentage of people reporting that they had someone close to them with a mental disorder (48,81%) and prior suicide attempts/suicides (38,89%) was higher than in Clusters 1 and 2 but not significantly different from Cluster 3.

## Discussion

**Suicide risk.** Although a large body of research has been dedicated to studying the risk factors of suicide, predicting suicidal behavior remains a difficult task (Chistopolskaya, Kolachev, Enikolopov, 2023). Suicide is now understood to be a complex phenomenon, determined by a combination of psychological, clinical, biological, and environmental/social risk factors. Such factors include the following strong predictive parameters: prior suicide attempts, depression, any diagnosed mental disorder, low educational level, high isolation, and weak social support (Jha, Chan, Orji, 2023). As can be seen from the results of the present study, the obtained clusters significantly differ from one another in all of the aforementioned factors. This allows us to describe them in accordance with their higher or lower suicide risk levels (relative to the total sample).

Overall, Clusters 1 and 2 comprised subjects with a low risk of suicide. They had stronger social support and higher levels of education. A significantly smaller percentage of these individuals had attempted suicide or self-reported a mental disorder. These clusters also yielded lower scores for depression and suicidal ideation compared to Clusters 3 and 4.

As for Clusters 3 and 4, a significantly higher percentage of these respondents reported prior suicide attempts. In addition, they were characterized by higher levels of depression and suicidal ideation and lower levels of education. Therefore, the suicide risk for respondents from Cluster 4 may be best described as moderately high, while the risk for those from Cluster 3 was the highest (compared to Cluster 4; respondents in Cluster 3 scored significantly higher on most suicidality-related parameters).

**Comparison of Clusters 1 and 2 (respondents with low suicide risk).** The comparison of Clusters 1 and 2 shows that they significantly differ in age: while Cluster 1 is mainly comprised of young people in their 20s, Cluster 2 includes respondents in their 30s and 40s. The results reveal that self-reported mental disorders are more common among the younger genera-

tion. Since mental illness has become one of the most popular topics on social media platforms, the younger generation is more aware of mental health problems and more motivated to seek professional help when needed. In 2020, 46% of young people (18—24 years old) in Russia demonstrated increased trust in psychologists (this percentage was significantly lower among other age groups) (WCIOM, 2020). Therefore, the older generation may simply be underdiagnosed. This explanation is indirectly supported by the following: despite having a lower percentage of respondents with mental disorders, Cluster 2 was characterized by a significantly higher proportion of respondents with depressive symptoms, with levels ranging from mild to severe.

Notwithstanding the low depression and suicidal ideation levels among Cluster 1 respondents, the percentage of respondents with prior self-harm behavior was significantly higher in Cluster 1 than in Cluster 2. Non-suicidal self-injury (NSSI) is indeed most common among young people and adolescents (Daryin, Zaitseva, 2023). Although a large body of research states that NSSI is a strong risk factor for suicide, self-injury is often performed in the absence of suicidal ideation (Klonsky, Victor, Saffer, 2014). Presumably, the high rates of self-harm accompanied by mild or absent depressive symptoms in Cluster 1 might be due to its low intensity (the present survey didn't include measurement of the frequency and duration of NSSI).

**Comparison of Cluster 1, 3 and 4 (“young” clusters with different levels of suicidality).** Interestingly, these three clusters (1, 3, and 4), while comprised of young people with different levels of depression and suicide risk, did not present significant differences in marital status, presence of children, or the number of people in their household. Cluster 2 was the only group in which the respondents differed significantly from the rest of the sample across these parameters — obviously due to a difference in age. This supports the prior notion that engagement in family life (being married and having children) does not serve as a protective factor among youth the way it does for older people (Pleshkova, 2003). At the same time, the subjective assessment among young people that their social circle was poor seems to be a reliable indicator of higher levels of depression and suicide risk. The three “young” clusters were significantly different in their respondents' levels of education, suggesting that higher education serves as a strong protective factor against suicide among youth. Our study's results did not reveal significant differences in hetero-aggression in relation to different levels of suicidality. Not

surprisingly, auto-aggression appears to be a much more reliable indicator of suicide risk (auto-aggression scores increased with the rise in suicidality in all three “young” clusters). Although NSSI may be performed in the absence of suicidal ideation, an increased proportion of respondents with prior self-harm behavior was associated with higher levels of depression and suicidality. Therefore, our results confirmed previous findings that NSSI is a strong predisposing factor for suicide attempts (Duarte et al., 2020). Having a family history of mental illness and suicidal behavior may also be considered risk factors for suicide.

#### **Comparison of Clusters 3 and 4 (respondents with high suicide risk).**

Since the respondents of Clusters 3 and 4 revealed high levels of vulnerability in terms of suicide risk, it is important to analyze the core difference between them. First, the following quantitative differences were obtained: compared to Cluster 3, Cluster 4 respondents had higher levels of education, a wider social circle, lower frequency of prior self-harm behavior and suicide attempts, and lower mean scores for auto-aggression and suicidal ideation. But most importantly, the two clusters exhibited several differences that allow us to draw conclusions about their qualitative specifics. Cluster 3 was almost completely comprised of respondents with extreme levels of depressive symptoms (90,43%), while Cluster 4 was characterized as having depression levels ranging from mild to severe (none of the respondents revealed extreme depressive symptoms). As for their attitudes towards suicide, the respondents from Cluster 3 reported a more positive individual attitude and a more negative perceived social attitude towards suicide, compared to Cluster 4. These results seem to present the most crucial differences, which is why they are analyzed separately below.

**Individual representation of suicide.** The current study confirms the aforementioned correlation between suicidality and pro-suicide attitudes: with an increase in the severity of depression and suicide risk, one’s individual representation of suicide becomes more positive. The results of this study demonstrate that young respondents with low risk of suicide and low levels of depression mostly hold negative opinions of suicide. A moderately high risk of suicide is accompanied by slightly positive, slightly negative, or neutral attitudes (we suggest that these types of attitudes may be best defined as permissive). Respondents with the highest level of suicide risk and extreme depressive symptoms predominantly exhibited a moderately positive individual representation of suicide. Interestingly, the results indi-



cate that age does not seem to influence one's individual representation of suicide in the same way that suicidality does (younger people from Cluster 1 and people in their 30s and 40s from Cluster 2 with similar suicide risk levels did not demonstrate significant differences in their individual perceptions of suicide). Presumably, individuals who do not have personal experience with severe suicidal ideation are more prone to make judgments based on common beliefs and cultural scripts (regardless of age), while suicidal individuals tend to question these beliefs and form their own attitudes that conform to their suicidal ideation. And the more positive these developing attitudes towards suicide are, the higher their level of suicidality.

**Perceived social representation of suicide.** As for respondents' perceptions of social attitudes towards suicide, Clusters 1, 2, and 4 assessed them as strongly negative. The group of respondents with extreme levels of depressive symptoms and the highest risk of suicide (Cluster 3) was the only group with significant differences from the other clusters: their perception of the social representation of suicide was extremely negative. These results confirm previous findings that the prevalence of suicide stigma is a strong predictor of the severity of an individual's depression (Frey, Hans, Cerel, 2016).

When it comes to respondents with low levels of suicide risk (Clusters 1 and 2), there was no evidence of an inner conflict: for these respondents, both their individual representations of suicide and their perceptions about society's representations of suicide were negative. Presumably, these reinforcing negative attitudes may even strengthen their internal taboo around suicide. The results of this study did not indicate that permissive attitudes were associated with an increase in susceptibility to stigma (perceptions of society's representation of suicide among Cluster 4 respondents were not significantly different from those in Clusters 1 and 2). However, individuals with extreme levels of depression and suicidality (Cluster 3) seem to be caught in a fatal trap. Their own opinions about suicide are positive, which may indicate that they have already reached a point where suicide is considered a way to end their suffering. At the same time, they feel rejected by those around them because of these thoughts. Thus, there is evidence of an acute conflict with society in their inner world.

Most importantly, while most of the observed risk factors for suicide gradually increased with the rise in suicidality, perceived social representation was the single parameter that started to change significantly for respon-

dents with the highest level of suicide risk (those with low and moderately high levels of suicide risk received similar scores). These results indicate that susceptibility to suicide stigma may indeed serve as a strong indicator of an acute suicidal crisis.

## Conclusions

Based on the results of the present study, the following conclusions have been drawn:

1. Higher levels of education, a high number of individuals considered close, and a subjective assessment of one's social circle as wide may be considered protective factors for suicidal behavior;
2. Self-harm behavior, auto-aggression, and a family history of suicide may serve as predictors of suicidal behavior;
3. Hetero-aggression or engagement in family life among youth (marriage and presence of children) are not interrelated with suicidality;
4. Susceptibility to suicide stigma and inner conflict with society — defined by an increasing “gap” between individual attitudes towards suicide and perceptions about society's attitude towards suicide — may be considered strong indicators of an acute suicide crisis.

The current research provides evidence that a negative attitude towards suicide seems to be a «two-edged sword». Relative to the general population, such an attitude might serve as a protective factor against suicide but also has a very strong detrimental effect on those with the greatest need for compassion — those with the highest levels of suicide risk. This may result in their reluctance to self-disclose and seek help.

## Limitations and suggestions for future studies

The present study has several limitations that should be taken into account:

1. The total sample demonstrates an uneven distribution of suicide risk factors by age: the majority of respondents with relatively high levels of suicidality and depression were young people in their 20s. This is probably due to the fact that the link to the survey was mostly spread through Internet

communities related to mental disorders, depression, and/or suicide. According to our unverified observations, the audience of such communities is generally comprised of teenagers and people in their 20s. Therefore, an assessment of older people's attitudes towards suicide in relation to their suicidality should be performed in future studies;

2. The total sample is characterized by an overrepresentation of female respondents, which is typical for psychological studies. An assessment of gender differences in individual and perceived social attitudes towards suicide should be performed in future studies;

The present study did not include a clinical assessment of depression or suicidality. Replication of the obtained results through clinical research is highly recommended.

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### **Contribution of the authors**

Stanislav A. Govorov — conceptualization of the study; planning of the research; data collection; interpretation of the results; annotation, writing and design of the manuscript.

Vladimir K. Solondaev — application of statistical methods for data analysis; interpretation of the results.

Mikhail I. Oleychik — interpretation of the results; writing and design of the manuscript.

Elena M. Ivanova — conceptualization of the study; planning of the research; control of all stages of the research and manuscript preparation.

All authors participated in the discussion of the results and approved the final text of the manuscript.

### ***Вклад авторов***

Говоров С.А. — концептуализация исследования; планирование исследования; сбор данных; интерпретация результатов исследования; аннотирование, написание и оформление рукописи.

Солондаев В.К. — статистическая обработка данных; интерпретация результатов исследования.

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Иванова Е.М. — концептуализация исследования; планирование исследования; контроль всех этапов исследования и подготовки рукописи.

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### ***Conflict of interest***

The authors declare no conflict of interest.

### ***Конфликт интересов***

Авторы заявляют об отсутствии конфликта интересов.

### ***Ethics statement***

The study was reviewed and approved by the Ethics Committee of Mental Health Research Center (protocol № 918, 02.11.2023).

### ***Декларация об этике***

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