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Perception of depressive and suicide memes with different types of punchlines by persons with low or high suicide risk

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Abstract

Background: To date, there is no consensus among mental health professionals about the impact of depressive and suicide humour on the wellbeing of Internet users. While some researchers point to its beneficial effects (lifting one's mood and creating a sense of community), others state that it may carry the risk of reinforcing stigma. In both cases scholars discuss depressive humour as a homogenous phenomenon, which is hardly the case. The study aimed at investigating the diversity of depressive and suicide humour and individuals' perceptions of it depending on their level of suicide risk. Methods: We selected humorous Internet memes related to depression and suicide with 3 different types of punchlines: 1) "the idea of depression/suicide", 2) "negative attitudes towards a depressed/suicidal person", 3) "alternative to depression/suicide". In an online survey 520 participants rated the memes using three scales: "funniness", "comprehensibility", "aversiveness". Psychometric measures and sociodemographic information were used for assessing participants' suicide risk levels. Results: Participants with higher suicide risk assessed the memes with "the idea of depression/suicide" punchline as the funniest in the set and those with "negative attitudes towards a depressed/suicidal person" punchline – as the most aversive. While people with lower suicide risk seem to enjoy both types of humour equally, suicidal individuals are more sensitive in noticing these differences. In turn, the memes depicting alternatives to depression/suicide were perceived as the least funny and comprehensible by the participants regardless of their suicide risk level. Conclusions: Depressive/suicide humour is not a homogenous phenomenon;

perceptions of a depressive/suicide meme depend on the specifics of its punchline; an individual's level of suicide risk affects their preferences regarding specific punchlines.

Keywords: depressive humour, suicide humour, suicide behaviour, depression, dark humour, internet memes.

1. Introduction

Due to the active development of digital communication, mental health practitioners and researchers have become more concerned about its impact on the wellbeing of Internet users. One important issue in this area of research is depressive humour – various jokes and humorous memes that circulate online and relate to the symptoms of depression such as low mood, hopelessness, suicidal thoughts, etc. The popularity of such humour, especially suicide-related, causes substantial concern among mental health professionals: sarcastic comments such as "kill me now" and "kill myself," which express disgust, sadness or anger, have become so widespread that they are often used in the form of the shortened acronyms "kmn", "kms" (Hart & Richman, 2020). Nevertheless, there is still a significant lack of research on depressive and suicide humour, and most importantly, its association with depressive symptoms and the suicidal ideation of Internet users.

Although the term "meme" was introduced by R. Dawkins (1976) long before the modern Internet age, it certainly owes its immense popularity to Internet users. L. Shifman (2014) defines the Internet meme as a gradually evolving digital piece of information that is spread from person to person. Hereinafter, depressive memes (previously termed as such: Akram et al., 2020; 2021) are to be understood as media objects comprised of humorous images and short text messages related to depressive symptoms and/or a lived experience of a depressed person. Since suicidal ideation is one symptom of depression, suicide memes are to be understood as a subcategory of depressive memes related to suicidal ideation and behaviour.

A recent study (Nicomedes et al., 2024) revealed a divided view among Internet users regarding suicide memes. While suicidal ideation is interrelated with finding these memes amusing and relatable, people who do not wish to be dead mainly share negative opinions about them ("offensive", "triggering", "inappropriate"). Other scholars point to the fact that this type of humour is preferred among Internet users with depressive symptoms (Akram et al., 2020; Akram et al., 2021; Faintukh & Kholmogorova, 2021). E. Kostyukhina, A. Kholmogorova (2019) revealed that about 70% of young people with high suicidal tendencies prefer suicidal memes the most among all other forms of humour; moreover, about 6% actively search for them. This may be explained by the specifics of humorous narratives among depressed individuals: they tend to construct jokes based on a comparative approach ("it could have been worse") and maintain a fixation on negative events, while people without depressive symptoms pay more attention to positive situational factors (Perchtold, 2019).

Those with depressive symptoms tend to rate such memes as funnier, more relatable and more likely to brighten the mood of someone suffering from depression (Akram et al., 2020; Gardner et al., 2021). The observed relationships are mediated by a decrease in the ability to use adaptive emotional regulation strategies, which may indicate that depressive memes begin to function as a coping mechanism at a time when alternative modes of regulation "fail" (Akram et al., 2020). Other researchers (Faintukh & Kholmogorova, 2021) also point out that viewing such memes may have coping potential but emphasize its short-term nature and inefficiency. Depressive memes provide a humorous take on negative experiences, that may help ease at least some of the psychiatric symptoms (Kariko & Anasih, 2019) and create emotional bonds and a sense of community among peers with similar life experience (Akram et al., 2020). The coping

potential of these memes becomes especially important in light of the fact that depressed individuals demonstrate a reduced ability to use humour as a coping strategy in general (Falkenberg et al., 2011; Lau et al., 2022).

When it comes to categorizing depressive humour within the humour styles framework, it appears to be evasive (Govorov & Ivanova, 2024). Martin et al. (2003) differentiated 4 styles of humour: affiliative (intended to facilitate relationships and amuse others); self-enhancing (intended to support oneself and find amusement in the hardships of life); aggressive (used to disparage others); self-defeating (self-disparaging, targeting oneself). Among them, affiliative and self-enhancing styles are commonly regarded as positive and adaptive, while aggressive and self-defeating are considered to be negative and maladaptive (Dozois et al., 2009). Despite the aforementioned evidence that depressive humour may be beneficial for depressed individuals and may help in creating social bonds, a survey among college students (Hart & Richman, 2020) failed to confirm that suicide jokes may function within positive humour styles. Nevertheless, this study did not involve clinical samples. Although depressive memes continue to be referred to as a negative form of humour (Gardner et al., 2021), many scholars highlight that people feeling overwhelmed, suffering from chronic stress and depression may gain benefits from negative types of humour (Garrick, 2006; Francis et al., 1999), redirecting and expressing their autoaggressive impulses outwards (Braniecka et al., 2019).

Despite evidence of the benefits of depressive humour, it has its dark side: not all jokes about suicide or mental illness are perceived as supportive by people suffering from mental disorders. Instead, they may carry the risk of reinforcing stigma around these topics (Coe, 2018). The issue of ridiculing people with mental disorders becomes especially acute since they are characterized by an increased level of gelotophobia (the fear of being laughed at) (Forabosco et al., 2009; Havranek et al., 2017; Brück et al., 2018; Samson et al., 2011; Lubavskaya et al., 2018, Shunenkov, 2021). Therefore, people with mental disorders represent a particularly vulnerable social group in terms of disparagement humour: even a well-intentioned joke may be easily perceived as offensive and humiliating, especially when it comes to humour targeting their psychiatric symptoms, including depression and suicidal ideation.

It is well known that jokes are often used to express one's prejudice towards a particular social group (Ferguson & Ford, 2008). They are considered a safer instrument for communicating negative opinions than serious statements since there is always a possibility to say "it is just a joke". However, humour about the exact same social group may also be used with the intention to challenge social norms and subvert traditional stereotypes (subversive humour). Research indicates that jokes about such social phenomena as racism (Saucier et al., 2018), rape culture (Strain et al., 2016), sexism (Riquelme et al., 2023), or the Holocaust (Steir-Livny, 2017) may convey very different messages ranging from disparagement to support. Saucier et al. (2018) illustrated this with the humorous riddle, "What do you call a Black guy who flies a plane?" Depending on the punchline, this joke may be considered either disparaging, reinforcing racism ("<N-word>") or subversive ("A pilot, you f*%#@ racist!"). The researchers argue that not all racial humour (i.e., referring to race) is racist and that different punchlines may either reinforce or weaken negative opinions about racial minorities.

This leads to the question of whether depressive and suicide humour may be considered to be a homogenous phenomenon or whether it actually includes diverse jokes and memes that may convey different messages depending on their punchlines. While there have been several attempts to classify depressive and suicide humour into smaller subcategories (e.g., Usmanova, 2020; Perez, 2019), they were mainly theoretical. E. Kostyukhina, A. Kholmogorova (2019) distinguished five categories of depressive and suicide memes, which were confirmed by expert assessments: "descriptive" (no positive or negative evaluation of the described situation), "calling" ("advantages" of depression/suicide, a call to commit suicide), "feelings" (feelings and thoughts of people with depression and suicidal ideation without judgment), "dark humour"

(inappropriate jokes about death and other tabooed topics), and "memes romanticizing suicide". In an online study of 461 respondents who use internet/memes in their everyday communication (with about 26% self-reporting a psychiatric diagnosis), the authors confirmed that individuals with suicidal tendencies tended to prefer memes about depression and suicide. At the same time, they failed to provide empirical evidence that the distinguished subcategories are indeed perceived differently.

Thus, to date there has been no classification of depressive and suicide memes that has been empirically confirmed by the individual differences in their perception. The current study aimed to bridge this gap, investigating the diversity of depressive and suicide humour and users' perception of these memes depending on their level of suicide risk. The first hypothesis was that the perception of a depressive meme depends on the specifics of its punchline. The second hypothesis was that the level of suicide risk affects an individual's preferences for depressive memes with specific punchlines.

2. Materials and methods

2.1. Procedure

The research was conducted online in an anonymous format using Google Forms. The link to the survey was advertised through various chats and communities on Facebook, Instagram, VK, and Telegram with an emphasis on communities where Internet users were engaged in humorous communication on topics such as mental disorders and suicide. Individuals aged 15 years and older were invited to participate in the survey. All participants provided their informed consent online. Exclusion criteria: aged under 15 y.o., failure to provide informed consent. Individuals were also advised not to participate in the survey if they considered dark humour strongly offensive.

The research was approved by the Ethics Committee of Mental Health Research Centre (protocol № 918, 2/11/2023) and conducted in accordance with the Declaration of Helsinki.

2.2. Description of the sample

The final sample obtained included 520 participants (after excluding 2 participants who withdrew from the study on the consent form webpage), 409 females and 111 males, between the ages of 15-61 y.o. (M=30,22 SD=9.80). As for marital status, 40% were single, 14% indicated having romantic relationships but living apart, 15% - living together with a partner, and 31% - officially married. Regarding education, 3% stated incomplete secondary education, 7% - secondary education, 9% - secondary specialized education, 23% - incomplete higher education, 56% - higher education, 2% - scientific degree. About half of the sample (44%) self-reported they had been diagnosed with a mental disorder.

2.3. Selection of memes

For purposes of the study, cartoon memes related to depression and suicide were obtained using various social media platforms and Yandex image search (keywords: "suicide meme", "depression meme"). We used a systematic visuo-textual analysis framework (Brown & Collins, 2021) in order to search for the key themes that could capture the visual and/or textual content of the Internet memes' punchlines. This included the following stages: 1) "wandering" through large datasets (in our research the initial dataset included more than 400 depressive memes collected online); 2) noticing key elements, patterns and topics and focusing on them; and 3) final conceptualization.

As a result, the following three themes were distinguished as the most common, constituting the following corresponding types of punchlines:

1) “the idea of depression/suicide”;

2) “negative attitudes towards a depressed/suicidal person” (e.g., disapproval, aggression, indifference);

3) “alternative to depression/suicide” (e.g., seeking help, reasons to live, decision not to commit suicide).

Our next step was the selection of a set of 28 depressive memes, divided into the three aforementioned categories: 1. Punchline “the idea of depression/suicide” - 9 memes; 2. Punchline “negative attitudes towards a depressed/suicidal person” - 10 memes; 3. Punchline “alternative to depression/suicide” – 9 memes (*Picture 1*). Additionally, 10 control memes were obtained using social media platforms: these were not depression- or suicide-related and depicted general topics such as family, Christmas, pets, etc.

The correspondence of the selected memes to the stated categories was confirmed by 4 experts (clinical psychologists, two of whom had additional degree in linguistics) who assessed them independently: Kendall's coefficient of concordance $W = .79$, $p < .001$.

Punchline 1 “the idea of depression/suicide”.

Translation: “Everybody: suicide is not an option.

Old Disney cartoons:”

Punchline 2 “negative attitudes towards a depressed/suicidal person”.

Translation: “Son, wait! Take the trash with you”

Punchline 3 “alternative to depression/suicide”.

Translation: “Reasons for depression and suicide. It’s empty”

Figure 1. Examples of suicide memes with different types of punchlines

Responses to humour consist not only of positive feelings, such as enjoyment and funniness, but often include negative emotions referring to personal attitudes towards a topic covered in a humorous stimulus or the qualities of the stimuli itself (Ruch & Hehl, 1998). This diverse affective experience of humour is socially regulated (Goel & Dolan, 2007), i.e. jokes that are considered inappropriate and offensive are generally assessed as less funny and more aversive (Aillaud & Piolat, 2013), leading to reduced enjoyment from the humour or so-called “forced” laughter. At the same time, there is noteworthy evidence that a joke may be perceived as funny despite the annoying or unpleasant details of its content (Ruch & Hehl, 1998; Aillaud & Piolat, 2013).

In order to measure this diverse affective experience of humour and the comprehensibility of the selected memes, the respondents were asked to rate each of them separately using three 7-point Likert scales: “funny”, “comprehensible”, “aversive feelings”.

2.4. Measures

The online survey included:

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

Participants’ engagement in social communication: number of people they considered close ones; social circle (very wide; rather wide; rather narrow; very narrow; almost no one);

Mental health and suicide attempts (“yes” or “no” questions): participants were asked whether they had been diagnosed with any mental disorder in the past, had suicide attempts and/or prior self-harm behaviour; they were also asked whether anyone close to them suffered from a mental disorder and/or committed suicide. It should be noted that the survey didn’t suggest any official confirmation of a diagnosis. The information about mental disorder may best be interpreted in terms of identification as mentally ill (whether in the past or ongoing);

Individual and perceived social representation of suicide (authors’ own development based on a literature review of prevailing attitudes towards suicide (e.g., Lyubov, 2019; Talanov & Kiseleva, 2018): a series of questions about personal attitudes towards suicide (“In your opinion, suicide is a manifestation of cowardice - courage”, “…weakness - strength”, “…a stupid decision - a deliberate, carefully considered decision”) and about perceived social attitudes towards suicide (“In society’s opinion, suicide is <same options>”). 7-point Likert scales were used for registering participants’ responses, where “-3” corresponded to strong negative opinions about suicide (“cowardice”, “weakness”, “stupid decision”), “+3” reflected respective positive opinions and “0” – an emotionally neutral opinion. Individual representations of suicide and perceived social representations were calculated by adding up the scores that corresponded to the questions about personal attitudes towards suicide for the former and perceived social attitudes towards suicide for the latter. Thus, final scores for both representations ranged from “-9” (strong negative opinion about suicide) to “+9” (strong positive opinion). Internal consistency: Cronbach's $\alpha = .82$ for individual representation of suicide and $\alpha = .85$ for perceived social representation of suicide.

Internet memes: rating of the selected 38 Internet memes (28 depressive memes and 10 control memes) using three 8-point Likert scales: “funny”, “comprehensible”, “aversive feelings”, where “0” meant that they didn’t find a meme funny at all; didn’t understand it; didn’t have any aversive, unpleasant feelings about it and “7” reflected the opposite opinions: very funny; very easy to understand; strongly aversive. The memes from different categories were organized randomly before being presented to the participants. The Cronbach's α: Punchline 1 “the idea of depression/suicide”: funniness $\alpha = .90$, comprehensibility $\alpha = .94$, aversiveness $\alpha = .87$; Punchline 2 “negative attitudes towards a depressed/suicidal person”: funniness $\alpha = .90$, comprehensibility $\alpha = .90$, aversiveness $\alpha = .90$; Punchline 3 “alternative to depression/suicide” funniness $\alpha = .91$, comprehensibility $\alpha = .94$, aversiveness $\alpha = .89$; control memes: funniness $\alpha = .90$, comprehensibility $\alpha = .95$, aversiveness $\alpha = .88$.

Beck Depression Inventory (Beck et al., 1961) in Russian adaptation (Tarabrina, 2001), which includes 21 groups of statements corresponding to different symptoms/manifestations of depression. These statements are ranked according to their increasing specific contribution to the overall severity of depression (for example, (0) I do not feel sad; (1) I feel sad; (2) I am sad all the time and I can't snap out of it; (3) I am so sad or unhappy that I can't stand it). Internal consistency (obtained in this study): Cronbach's $\alpha = .94$.

"Auto- and Hetero-Aggression" Questionnaire (Ilyin, 2001), which is designed to determine whether aggression is directed at oneself or others and consists of 20 questions. 10 of them correspond to the auto-aggression scale (e.g., "Whenever I have a conflict with other people, I most often blame myself"), the other 10 - to the hetero-aggression scale (e.g., "I can't help but use harsh words if someone disagrees with me"). Internal consistency: Cronbach's α = .76 for auto-aggression and α = .69 for hetero-aggression scale.

Coping Humour Scale (Martin & Lefcourt, 1983) in Russian adaptation (Artemyeva, 2011), which consists of 7 statements reflecting the use of humour in coping with stressful situations (e.g., "I can usually find something to laugh or joke about even in trying situations"). Each of the statements is rated from "1" ("strongly disagree") to "4" ("strongly agree"). Internal consistency: Cronbach's α = .74.

After completing the survey, the respondents were asked to think about their most pleasant memory and describe it in a few sentences. The main purpose of this part of the questionnaire was to provide an opportunity for psychological debriefing since much of the survey consisted of questions and pictorial stimuli, which could possibly cause unpleasant feelings. Afterwards, the answers were analysed in order to determine whether respondents actually described their pleasant memory or not (1/0), leaving the text box blank or explaining that they didn't have or couldn't remember any such memories. On the final page, participants were provided with information about the Russian suicide prevention hotline, where they could receive professional help and support in case they found themselves or someone close in a period of emotional crisis.

The measures were administered in the same order, without any modifications. We decided to place the assessment of Internet memes closer to beginning of the survey so that respondents wouldn't be too tired when assessing them. At the same time, we didn't want individual and perceived social representations of suicide to be influenced by the memes (the latter effect has been confirmed to take place, e.g., Maio et al., 1997), so these questions were placed before the memes' assessment. The questionnaires were presented afterwards as the simplest part of the study, with the Coping Humor Scale at the end, being the most positive among the survey sections. Finally, we provided a small debriefing in regard to ethical considerations.

The authors hereby confirm that the present manuscript provides an exhaustive report on all the administered measures, conditions and data exclusions. In terms of determining the sample size, no stopping rule has been applied.

2.5. Statistical analysis

According to the biopsychosocial model of suicide behaviour, suicide risk represents a multicomponent phenomenon, involving various biological, psychological, clinical, social and environmental factors (Turecki et al., 2019). Since each subject is characterized by more than 20 parameters of suicide risk and all the parameters interact with one another, we conducted a fuzzy clustering analysis of the obtained data. The purpose of clustering was to identify generalized groups of subjects with different levels of suicide risk. Clusterization was performed using R Statistical Package (R Core Team, 2024), function "fanny" in the cluster package (Maechler et al., 2023), with the use of squared Euclidean distances.

Next, we compared the two groups separately according to each of the measured parameters. The Fisher's exact test and the Chi-square test were used for categorical data. The results of the comparison between the two groups' quantitative parameters were computed using two-samples Wilcoxon test. Intergroup and intragroup differences in meme assessments were calculated with the use of the two-sample and one-sample Wilcoxon–Mann–Whitney test, respectively. The p-values for all of the above stated statistical procedures were adjusted for multiple testing with the use of the Benjamini-Hochberg procedure.

3. Results

3.1. Results of the fuzzy clustering analysis

As a first step, we performed the fuzzy clustering analysis of all parameters of the subjects. The number of allocated clusters (groups of subjects) was determined by: 1) conceptual considerations (dividing the subjects into 2 groups with clear and meaningful interpretations: relatively lower and higher suicide risk); 2) a silhouette plot (cluster average silhouette widths: 0.5649447; 0.5272483). Each subject received two values of the membership coefficient characterizing the degree of similarity with each of the identified groups. The sum of the two values of the membership function was 1. If the value of the function exceeded .5, the subject was appointed to the corresponding group.

The two groups did not show statistically significant differences in sex (Fisher's exact test for count data, hereinafter Fisher test: OR = 1.1, p = .66). Compared to the second group the first group demonstrated higher levels of education by the Chi-square test ($\chi2 = 69$, df = 5, p < .001), more engagement in family life ($\chi2 = 7$, df = 3, p < .001) and more often reported having children (Fisher test: OR = 8, p < .001). As for respondents of the second group, they more frequently reported prior suicide attempts (Fisher test: OR = 5, p < .001), mental disorders (Fisher test: OR = 6, p < .001), self-harm behaviour (Fisher test: OR = 11, p < .001), suicides/suicide attempts among close ones (Fisher test: OR = 1.8, p = .003) and mental disorders among close ones (Fisher test: OR = 2, p < .001). They also shared pleasant memories less often than respondents from the first group (Fisher test: OR = 0.64, p = .036).

The results of the comparison of quantitative parameters between the two groups are presented in Table 1.

Table 1. Intergroup differences in the quantitative parameters

Parameter	Group 1 (N=332)		Group 2 (N=188)		P
	M	SD	M	SD	
Age	33.24	10.17	24.87	6.20	**< .001**
Number of people in a household	3.73	1.18	3.47	1.25	**.005**
Social circle	2.30	0.82	1.53	1.07	**< .001**
Number of people considered close ones	5.00	3.83	3.02	2.21	**< .001**
Suicidal thoughts (BDI scale for suicide ideation)	0.19	0.43	1.29	0.96	**< .001**
BDI score	8.93	5.50	30.21	9.86	**< .001**
Severity of depression	0.58	0.78	3.32	0.71	**< .001**
Individual representation of suicide	-2.95	3.81	1.41	4.03	**< .001**
Perceived social representation of suicide	-5.90	3.35	-6.89	3.06	**< .001**
Auto-aggression scale	3.38	2.15	6.20	2.51	**< .001**
Hetero-aggression scale	3.75	2.19	3.85	2.62	.88
Coping humour	5.46	1.69	4.48	2.14	**.036**

Respondents of the second group were mostly younger individuals, they had poorer social communication (living in smaller families or alone, having a narrower social circle and smaller

number of people they considered to be close ones). These participants revealed higher severity of depression, higher levels of auto-aggression and suicidal thoughts. Hetero-aggression did not reveal intergroup differences. Regarding suicide representations, respondents of the second group reported more positive individual representations and more negative social representations of suicide when compared to the first group. In addition, respondents of the second group revealed lower abilities in using coping humour.

3.2. Intergroup differences in the Internet memes' assessments

In the next stage, we compared the assessment of Internet memes between the two groups of respondents for each of the three scales (funniness, comprehensibility, aversiveness) separately with the use of the two-sample Wilcoxon–Mann–Whitney test. The p-values were adjusted for multiple testing with the use of the Benjamini-Hochberg procedure. The results of the intergroup differences are presented in Table 2.

Table 2. Intergroup differences in the Internet memes' assessments

Internet memes' category	Group 1 (N=332)		Group 2 (N=188)		P
	M	SD	M	SD	
Punchline 1 [funniness]	2.82	1.70	2.87	1.82	.877
Punchline 1 [comprehensibility]	5.17	1.84	5.37	1.90	**.028**
Punchline 1 [aversiveness]	1.27	1.07	1.39	1.10	.474
Punchline 2 [funniness]	2.82	1.79	2.32	1.73	**.006**
Punchline 2 [comprehensibility]	5.56	1.90	5.38	1.98	.571
Punchline 2 [aversiveness]	1.29	1.41	1.75	1.62	**.003**
Punchline 3 [funniness]	2.34	1.75	1.96	1.65	**.028**
Punchline 3 [comprehensibility]	5.14	1.95	5.11	2.03	.877
Punchline 3 [aversiveness]	0.70	1.08	1.06	1.24	**< .001**
Control memes [funniness]	3.09	1.82	2.45	1.69	**.001**
Control memes [comprehensibility]	5.50	1.86	5.22	2.06	.540
Control memes [aversiveness]	0.68	1.04	0.94	1.08	**.001**

Note: Punchline 1 "the idea of depression/suicide"; Punchline 2 "disapproval/indifference towards a depressed/suicidal person"; Punchline 3 "alternative to depression/suicide, abandoning the idea of suicide"

As demonstrated, participants of the second group compared with the first one perceived the memes with Punchline 1 ("the idea of depression/suicide") as more comprehensible. The memes with Punchline 2 ("disapproval/indifference towards a depressed/suicidal person") and Punchline 3 ("alternative to depression/suicide"), as well as the control memes (unrelated to depression or suicide), were assessed by this group as less funny and more aversive.

3.3. Intragroup differences in the Internet memes' assessments

Finally, we analysed the differences between the assessments of Internet memes in each of the two groups separately using one-sample Wilcoxon–Mann–Whitney test (Table 3). The p-values were adjusted for multiple testing with the use of the Benjamini-Hochberg procedure. The results for intragroup differences between the assessments of Internet memes are presented in Table 3.

Table 3. Intragroup differences in the assessments of Internet memes

Internet memes' category	**Group 1 (N=332)**		**Group 2 (N=188)**	
	M 1 **M 2**	**p-value**	**M 1** **M 2**	**p**
Funniness				
Punchline 1 Punchline 2	2,82 2,82	.855	2,87 2,32	**< .001**
Punchline 1 Punchline 3	2,82 2,34	**< .001**	2,87 1,96	**< .001**
Punchline 2 Punchline 3	2,82 2,34	**< .001**	2,32 1,96	**< .001**
Punchline 1 Control memes	2,82 3,09	**< .001**	2,87 2,45	**< .001**
Punchline 2 Control memes	2,82 3,09	**< .001**	2,32 2,45	.058
Punchline 3 Control memes	2,34 3,09	**< .001**	1,96 2,45	**< .001**
Comprehensibility				
Punchline 1 Punchline 2	5,17 5,56	**< .001**	5,37 5,38	.39
Punchline 1 Punchline 3	5,17 5,14	.692	5,37 5,11	**< .001**
Punchline 2 Punchline 3	5,56 5,14	**< .001**	5,38 5,11	**< .001**
Punchline 1 Control memes	5,17 5,50	**< .001**	5,37 5,22	.238
Punchline 2 Control memes	5,56 5,50	.073	5,38 5,22	**.0025**
Punchline 3 Control memes	5,14 5,50	**< .001**	5,11 5,22	**.044**
Aversiveness				
Punchline 1 Punchline 2	1,27 1,29	.309	1,39 1,75	**< .001**
Punchline 1 Punchline 3	1,27 0,70	**< .001**	1,39 1,06	**< .001**
Punchline 2 Punchline 3	1,29 0,70	**< .001**	1,75 1,06	**< .001**
Punchline 1 Control memes	1,27 0,68	**< .001**	1,39 0,94	**< .001**
Punchline 2 Control memes	1,29 0,68	**< .001**	1,75 0,94	**< .001**
Punchline 3 Control memes	0,70 0,68	.804	1,06 0,94	.12

Note: Punchline 1 "the idea of depression/suicide"; Punchline 2 "disapproval/indifference towards a depressed/suicidal person"; Punchline 3 "alternative to depression/suicide, abandoning the idea of suicide"

As seen from the data, Punchline 1 ("the idea of depression/suicide") appeared to be the funniest meme category in the set for the second group of respondents. In turn, control memes were the funniest for the first group. Punchline 3 ("alternative to depression/suicide, abandoning the idea of suicide") memes were assessed as the least funny by both groups of respondents.

Among all the memes, Punchline 2 ("disapproval/indifference towards a depressed/suicidal person") and control memes appeared to be the most comprehensible for the first group. As for the second group, Punchline 1 memes didn't provide any statistically significant differences in comprehensibility in comparison to either Punchline 2 or control memes. Punchline 1 and 3 memes were the least comprehensible for the first group of respondents. The second group rated Punchline 3 memes as the least comprehensible. The comparison of Punchline 1 and 2 memes revealed that these memes didn't show any difference in funniness or aversiveness scores for the first group, while the second group rated Punchline 2 memes as less funny and more aversive than Punchline 1. Punchline 3 and control memes proved to be the least aversive for both groups of respondents. Punchline 2 memes appeared to be the most aversive for the second group of respondents. The first group rated Punchline 1 and 2 memes as the most aversive.

4. Discussion

4.1. Distinguishing of the two groups of respondents

In this study, we investigated the perception of various depressive and suicide memes depending on an individual's level of suicide risk. Although a large body of research has been dedicated to studying suicide risk factors, predicting suicide behavior remains a difficult task (Chistopolskaya et al., 2023). Suicide is now understood as a complex phenomenon, determined by a combination of psychological, clinical, biological and environmental/social risk factors (Turecki et al., 2019). For this reason, we collected data on various characteristics of the respondents related to suicide risk and then conducted a fuzzy clustering analysis of the obtained data. The fuzzy clustering analysis revealed two generalized groups of subjects.

The comparison of the two groups showed that the second group scored significantly higher regarding the severity of depression, auto-aggression and suicide ideation. Prior suicide attempts and diagnoses of mental disorders were reported more often by this group compared to the first group. The respondents from the second group were also more frequently exposed to suicide and/or suicide attempts of their close ones; demographic and social engagement data for this group pointed to lower levels of education, family and social life involvement. A recent meta-analysis (Jha et al., 2023) demonstrated that all of the above-mentioned factors are associated with increased levels of suicide risk. The second group also reported higher levels of self-harm behaviour, which constitutes one of the main risk factors for suicide (Duarte et al., 2020). The results of the study relating to the use of humour as a coping strategy correspond with the inverse relationship between the severity of depression and the use of coping humour, which has been identified in previous studies (Falkenberg et al., 2011; Lau et al., 2022). Not surprisingly, the second group demonstrated a more positive individual representation of suicide, which may be interpreted as their higher acceptance of it. At the same time, they perceive society's attitude towards suicide to be more negative when compared to the first group. This may indicate that the respondents from the second group were more susceptible to the social stigma associated with suicide. Finally, members of this group were less likely to share pleasant memories in the questionnaire; this could be explained either by their lower motivation to participate in the survey or the difficulty in accessing such memories (negative memory bias is considered to be one of the markers of increased severity in depression, see Durser et al., 2020). Summarizing the results of the fuzzy clustering analysis along with the observed differences between the two groups, it may be concluded that, according to the combination of suicide risk factors (depression, prior suicide attempts, mental disorder diagnosis, lower social engagement, etc.), respondents from the first group may best be described as those with low suicide risk (low SR); respondents from the second group – with high suicide risk (high SR).

It is important to note that the respondents with high SR were significantly younger than the low SR respondents (M=24.87 SD=6.20 and M=33.24 SD=10.17 respectively). This may be explained by the specific distribution strategy used for advertising the link to the survey. The survey was mostly distributed through social media chats and communities devoted to humorous communication on topics such as mental disorders and suicide. We assume that the Internet audience of such communities is generally younger. Presumably, people over 30 that are suffering from depression and suicidal thoughts are either less engaged in humorous Internet communication about their problems or use different platforms from those used for distributing the survey link. This might have led to the uneven distribution of suicide risk factors by age that was observed in the collected data. Another possible explanation could be related to the fact that, according to statistics (Aminov, 2016), suicide in Russia is more prevalent among younger individuals aged up to 30 y.o. and older individuals over the age of 60 y.o., meanwhile, the rate of suicide decreases for age groups in between.

4.2. Internet memes' assessments

As will be seen in the further discussion, the Punchline 1 memes may be best understood in the context of their comparison with other memes studied in the survey. Therefore, we will start our discussion around the perception of depressive memes with Punchline 2 and 3.

4.2.1. Punchline 2 ("negative attitudes towards a depressed/suicidal person")

The meme assessments by respondents from the two groups showed that Punchline 2 memes were rated as less funny and more aversive by the high SR group compared to the low SR group. Moreover, compared to all other selected memes, they were rated as the most aversive category by those with high SR. These results come as no surprise since this type of punchline is based on a negative/indifferent reaction towards a depressed/suicidal person. Since suicidal individuals and those bereaved by suicide report higher levels of perceived and internalized stigma (Carpiniello & Pinna, 2017), we suggest that the respondents with high SR considered this group of memes to be offensive and tendentious, created by and for people who are not personally acquainted with the suffering of a depressed/suicidal person and are more prone to laugh at them. Nonetheless, Punchline 2 wasn't rated as the least funny category by these respondents (its "funniness" scores were equal to those for the control memes and higher than those for Punchline 3). These results support the above-mentioned idea that a joke may be considered funny despite its disturbing content (Ruch & Hehl, 1998; Aillaud & Piolat, 2013). Moreover, we suppose that among suicidal individuals, those with higher levels of self-stigmatization may relate to this type of humour more easily and find it funny. This hypothesis requires verification in future studies. As for the low SR respondents, Punchline 2 appeared to be the most comprehensible among all the selected depressive memes, which may reflect the prevalence of stigmatizing attitudes towards suicide and depression among those who are not personally acquainted with these problems.

4.2.2. Punchline 3 ("alternative to depression/suicide")

L. Usmanova (2020) hypothesized that memes that depict reasons not to commit suicide (such as "mom will be sad" or the release of a long-awaited movie) may have an anti-suicidal effect, reducing suicidal ideation. The results of this survey do not support this assumption. Intragroup differences showed that these memes were the least funny and fell into the least comprehensible category for both groups. Moreover, individuals with high SR rated Punchline 3 memes as less funny and more aversive compared to those with low SR. The low scores given by this group for these memes' funniness and comprehensibility may be explained by the following: the texts

in these memes, isolated from the picture, may hardly be considered humorous. Instead, they reflect a general notion that there are many things in life worth living for and might be perceived as propaganda rather than humour. Nonetheless, we expect that the observed results may be explained by additional factors. Prior research on the effect of humour on the stigma around mental illness (Corrigan et al., 2014; Cuddington, 2009) points to the fact that the perception of a comic as mentally ill leads to the lessening of stigma, i.e. he/she is viewed as being "like me." Although this survey didn't present any such comic in relation to the memes, the source of the selected memes could have been identified by the high SR respondents as an abstract "clinician" ("not like me"), which in turn could have influenced their perceptions of the humorous material. In other words, when a peer that is suffering from suicidal ideation jokes about a long-awaited movie as a reason not to commit suicide, this may have much stronger humorous potential due to its incongruity with the identity of the joke-teller. Coming from an abstract "clinician," it may sound more like a serious statement. Presumably, depending on the identity of the joke-teller, the reaction to this type of memes will vary. This hypothesis requires verification in future studies.

4.2.3. Punchline 1 ("the idea of depression/suicide")

Among the selected memes, Punchline 1 was expected to be the most obvious choice of preference for suicidal individuals based on past literature on this topic (Nicomedes et al., 2024; Akram et al., 2020; Akram et al., 2021; Faintukh & Kholmogorova, 2021). Consistent with this supposition, this category of memes was rated as the funniest by the high SR group. Interestingly, Punchline 1 didn't appear to be the least aversive for the same respondents, which again supports the notion that a joke may be funny and aversive at the same time. Most importantly, the high SR respondents rated the control and Punchline 2 memes as equally funny, while Punchline 3 memes were considered even less funny than the control memes. These results serve as an important addition to the previous findings about the popularity of depressive humour among individuals with depressive symptoms (Akram et al., 2020; Akram et al., 2021; Faintukh & Kholmogorova, 2021). Internet users suffering from depression and suicidal ideation don't favor all depressive memes; rather, they favor specific ones that reflect the idea of depression and/or suicide.

The results of the intergroup comparison showed that Punchline 1 memes were rated as less comprehensible by the low SR group, however, the two groups didn't show significant differences in funniness or aversiveness scores of these memes. This doesn't support the previous findings (Akram et al., 2020) in which individuals experiencing depressive symptoms rated the depression-related memes as more humorous compared to the non-depressed group. This may be explained by the following: since a significant portion of the selected memes (Punchline 2) was considered to be offensive and tendentious by the high SR group, the general perception of all depressive humour presented in the survey could have shifted towards its stigmatizing potential and reduced the funniness of Punchline 1 for the suicidal respondents. Presumably, Punchline 1 would have been rated as much funnier by the high SR group if isolated from the other depressive memes' categories used in the current study. Nonetheless, the results of the present study support the notion that while depressed individuals generally appreciate humour less overall (Forabosco, 2007; Ivanova et al., 2008) and demonstrate a reduced ability to use humour as a coping strategy (Falkenberg et al., 2011; Lau et al., 2022), depressive humor reflecting the idea of suicide/depression may serve as a valuable exception to this rule.

Interestingly, Punchline 1 and 2 memes didn't show significant differences in terms of the funniness or aversiveness scores given by the low SR group. This may indicate that those who do not suffer from suicidal ideation are either less sensitive in noticing the differences or they are equally ready to laugh at and with suicidal/depressed individuals.

4.2.4. Control memes

Since the low SR respondents are understandably much less engaged in reflection about depression and suicide and may even avoid this taboo topic (Govorov & Ivanova, 2023), they rated the control memes as the funniest category. In terms of intergroup comparison, these memes were rated as less funny and more aversive by the high SR group. These results may be explained by the notion that people tend to identify themselves with one of the characters of a joke, which may influence their response to humour (Ivanova et al., 2005). In addition, depression is associated with the increased fear of being laughed at (Lyubavskaya et al., 2018), which in turn could increase how prone one is to identify with the character being mocked in a joke (e.g., Ruch et al., 2017). The selected control memes depicted various social interactions with family members, pets, teachers, etc. It may be understood that individuals with higher levels of suicide risk, compared to the low SR respondents, could have been more likely to interpret even these interactions as offensive, identifying themselves with the character being laughed at. Nonetheless, the control memes were not rated as the least funny category by the high SR group (their "funniness" scores were equal to those of the Punchline 2 memes and higher than the Punchline 3 memes). This indicates that suicidal individuals retain the ability to laugh at everyday social interactions, although this ability is reduced compared to the low SR individuals.

5. Conclusions

The obtained results confirm both hypotheses of the present study: 1) perceptions of a depressive/suicide meme depend on the specifics of its punchline; 2) an individual's level of suicide risk affects their preferences around depressive memes with specific punchlines. Thus, the present study provides an important addition to the previous research on this topic: depression and suicide-related humour is not a homogenous phenomenon. Certain types of memes ("the idea of depression/suicide" punchline) are indeed perceived as funny and are, presumably, more relatable for individuals with higher levels of suicide risk. Meanwhile, others ("negative attitudes towards a depressed/suicidal person" punchline) appear to be stigmatizing and disparaging towards suicidal people as a social group. While people with lower levels of suicide risk seem to enjoy both types of memes equally, suicidal individuals are more sensitive in noticing these differences. The memes that depict alternatives to depression/suicide are mostly perceived as unamusing and hard to understand. This casts doubt on the possibility that they could be used for psychotherapeutic purposes. Thus, joking about suicide and depression with suicidal individuals should be carried out with caution. Even a good-natured joke may be easily interpreted as unfunny or, in the worst-case scenario, as an attempt to disparage. Nonetheless, our research indirectly contributes to the growing evidence that depression- and suicide-related memes may indeed serve as a mood enhancer and source of support for suicidal individuals.

The therapeutic potential of such humour largely depends not only on the specifics of a joke's message but also on the identity of the joke-teller. Initiating humorous communications about depression and suicide with suicidal patients seems to be a risky task. Nonetheless, it may be a risk worth taking, provided that 1) there are high levels of trust in the patient-clinician relationship and the patient has a perception of the clinician as "being on my side"; and 2) the clinician's attentiveness to a joke's message being conveyed.

6. Limitations and suggestions for further studies

There are several limitations that warrant consideration in the present study. The first is the uneven distribution of suicide risk factors by age. This leads to a supposition that the differences between the Internet meme assessments could have been related not only to the levels of suicide risk, but also to the age difference among respondents. Future studies are needed to verify potential differences in the perception of depressive/suicide memes by age, which could in turn be influenced by current cultural trends. Second, the majority of the respondents were female (overrepresentation by women is typical for psychology research pools); therefore, an assessment of gender differences in the perceptions of depressive/suicide humour should be performed in future studies. Third, suicide risk levels were assessed with the use of psychometric measures and self-reported mental disorders were not confirmed by mental health professionals. The obtained results should be replicated by a clinical research study in order to be applied to suicidal patients with psychiatric disorders. Additionally, since no randomization of the administered measures took place, respondents' assessments of the depressive memes might have been influenced by the serious questions presented before them in the survey. Nonetheless, this procedure may simulate a "natural environment" of online communities, where humour is interspersed with serious discussions and comments. If encountered by accident (which is also quite possible when browsing through the Internet), depressive memes might be assessed differently. Finally, the study was performed in the form of psychological survey: the perception of memes might have been different if studied among peers in social media communities and chats.

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