Disclosure of Anxiety Concerns on Social Media: Do Concerns Vary by Age and Forum?

Anietie Anietie Andy, Natasha Tonge, Praise-EL Michaels, Jesus Manuel Hernandez Ortiz, Oluwadara Kalejaiye, Oluwajuwon Fawole, Bishesh Adhikari, Morayooluwa Adeyemi, Deontae Smith, Ronald Doku, Legand Burge, Anietie Andy

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Abstract

Background: Anxiety complaints have been on the rise since COVID-19 but with little change in the number of providers available, it is difficult to conduct anxiety screening efficiently. To seek relief, advice, or community, people often turn to using social media. Because these social media posts often detail anxiety concerns, they may be a source of information to understand anxiety-related mental health needs.

Objective: On social media individuals experiencing health and wellbeing concerns, such as anxiety, publish support-seeking posts. Prior work determined that on social media individuals who express feeling lonely seek different types of support that further varies by age group and individuals who seek support on online loneliness forums also seek loneliness-related support (around the same time period) in general and depression forums. Anxiety concerns may or may not follow a similar pattern of cross-posting that varies by age.

Methods: The dataset used in this work consists of posts published on online anxiety and general (focused on asking general questions) forums, respectively by individuals belonging to different age groups. Using these datasets, we conduct analyses in which we use a large language model to extract the anxiety related concerns expressed in posts published on the online anxiety-related forum and the online general forum, respectively. We then conduct analyses to determine if the anxiety-related concerns expressed in posts published on the online anxiety forum and general forum varied significantly by age group.

Results: The findings from this work demonstrates that anxiety concerns – identified using a large language model, vary across types of forums and by age. Our results show that users between the ages of 18 and 24 years old express the following anxiety concerns more than chance: academic/work stress", "family issues", "financial problems ","health ","self image or physical appearance", and "social interaction. Users between the ages of 25 and 34 did not express the anxiety concern: "academic or work concerns" more frequently by chance, but were more likely to express all the other anxiety concerns that the 18 to 24 year old users expressed. While there were fewer users belonging to the age group 35 – 65, users in this age group tended to publish more posts in the general forum.

Conclusions: Using a large language model, the anxiety concerns expressed in posts published on an online anxiety and general forum, respectively and how these anxiety concerns may vary across age groups was studied. The results from this work can inform the development of novel screening measures for anxiety concerns.

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Abstract

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Anxiety complaints have been on the rise since COVID-19 but with little change in the number of providers available, it is difficult to conduct anxiety screening efficiently. To seek relief, advice, or community, people often turn to using social media. Because these social media posts often detail anxiety concerns, they may be a source of information to understand anxiety-related mental health needs.

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The dataset used in this work consists of posts published on online anxiety and general (focused on asking general questions) forums, respectively by individuals belonging to different age groups. Using these datasets, we conduct analyses in which we use a large language model to extract the anxiety related concerns expressed in posts published on the online anxiety-related forum and the online general forum, respectively. We then conduct analyses to determine if the anxiety-related concerns expressed in posts published on the online anxiety forum and general forum varied significantly by age group.

Results

The findings from this work demonstrates that anxiety concerns – identified using a large language model, vary across types of forums and by age. Our results show that users between the ages of 18 and 24 years old express the following anxiety concerns more than chance: *academic/ work stress", "family issues", "financial problems ","health ","self image or physical appearance", and "social interaction*. Users between the ages of 25 and 34 did not express the anxiety concern: *"academic or work concerns"* more frequently by chance, but were more likely to express all the other anxiety concerns that the 18 to 24 year old users expressed. While there were fewer users belonging to the age group 35 – 65, users in this age group tended to publish more posts in the general forum.

Conclusions

Using a large language model, the anxiety concerns expressed in posts published on an online anxiety and general forum, respectively and how these anxiety concerns may vary across age groups was studied. The results from this work can inform the development of novel screening measures for anxiety concerns.

Introduction

Anxiety disorders are among the most common and debilitating mental health conditions. An estimated 28.8% of individuals will suffer from an anxiety condition in their lifetime [12]. 22.8% and 33.7% will endure severe and moderate debilitating symptoms in a given year, respectively [22], making anxiety the sixth leading cause of disability worldwide [6]. In 2022, a panel of health experts in the United States recommended that all adults below the age of 65 be screened for anxiety – in part of the stress levels individuals in the United States experienced due to the COVID-19 pandemic [23]. Unfortunately, there are too few providers of mental health and pharmacological treatment to meet the increased need resulting in a critical mental health services shortage [13]. These shortages make it even more difficult to establish a universal screening protocol as desired and thus alternative ways of identifying and accessing populations with potentially detrimental anxiety must be developed.

 Anxiety symptoms are traditionally assessed using either self-report or clinician administered instruments. These are useful for practitioners because these measures are standardized and ensure that the same information is collected from everyone. Some of the most commonly used measures of anxiety conditions include the Generalized Anxiety Disorder 7-item (GAD-7), Anxiety and Related Disorders Interview for the DSM-5 (ADIS-5), Structured Clinical Interview for the DSM-5 Disorders (SCID-5), Hospital Anxiety and Depression Scale (HADS), and Patient-Reported Outcomes Measurement Information System- Anxiety (PROMIS-ANXIETY). The general measures of anxiety conditions that are used as screeners (GAD-7 and PROMIS-ANXIETY) determine severity of anxiety but are less comprehensive in terms of identifying the situations that give rise to anxiety symptoms. The ADIS, SCID, HADS are more comprehensive, but are time-consuming and usually administered by a trained clinician. As [5] point out in their review of assessment measures for anxiety, useful ways of assessing anxiety should consider factors such as reliability, validity, utility across populations or sub-populations, consumer acceptability, and ease of dissemination, among other factors. If the purpose of screening is to connect people to the services they need faster, traditional screening instruments present several disadvantages. For example, many traditional screening tools focus on detecting a specific diagnosis, not addressing

the immediate need of an individual or detecting another disorder that may manifest as anxiety [18].

Social media may provide an alternative to reaching people that suffer from anxiety. To seek relief, advice, or community, people often turn to using social media, including for mental health problems [3, 4, 14, 16] . On social media platforms such as Reddit, individuals experiencing health and well-being concerns regularly publish support-seeking posts, sometimes in multiple forums. Understanding the symptom profile of users with anxiety as a substitute or augment to traditional screenings by mental health professionals requires understanding posting behavior across forums. Prior work determined that posters on the social media platform Reddit who seek support on the online loneliness-specific forum */r/Lonely* also seek support on */r/AskReddit,* which is a general forum for users to ask questions on various topics [4] . It was found that a subset of users who cross-posted in the loneliness, general, and depression forums used more words related to negative emotions and affection in relationships. Unlike depression, which could be represented by 52 symptoms [11], anxiety conditions actually represent 7 different primary disorders with distinct sets of concerns (e.g., social interaction for social anxiety, places escape might be difficult for agoraphobia) [24]. Thus, it is unclear if users with anxiety symptoms who cross-post on */r/AskReddit,* express those concerns in a way that is similar to users of the loneliness forums. Similarity of expressed concerns across forums would indicate that there might be consistency of problems expressed and it might be easier to identify the help that these users are seeking support for their anxiety concerns. If the problems expressed differ across forums, however, understanding the types of concerns a user is experiencing might require compiling information across multiple types of forums to get a complete understanding of their problems with anxiety. In other words, does the type of forum matter to understanding the type of anxiety concerns users are experiencing? Knowing that communication of information or help seeking could vary by type of forum users are posting in and knowing that the age of onset of certain anxiety conditions can vary by age, we considered both age and forum type in the formulation of our research question. We used a large language model (i.e. GPT4), to uncover how these anxiety concerns were expressed. We aimed to address the following research question in this paper: **Are anxiety concerns identified using GPT4 consistent across forums and age groups?**

Related Work

Previous work has shown that social media posts can be used to distinguish different mental health concerns.

[8] used LIWC to analyze data from Twitter users expressing mental health concerns. The study used a novel approach to data collection by employing search terms, manual validation, and user data collection. A control group was added to compare the language of identified users with different disorders. Analysis techniques were Linguistic Inquiry Word Count, Language Models, and Pattern of Life Analytics. They showed that they were able to distinguish PTSD, Seasonal Affective Disorder, bipolar disorder, and depression. The study demonstrates that social media is a common place to express mental health concerns and that language models can be reasonably expected to help classify individuals based on the types of mental health problems people are concerned with. However, this study did use self-declared diagnoses and provides less insight into the types of anxiety concerns users were experiencing.

[9] presented a large-scale analysis of depression identification using social media posts. The authors found that the posters used words and phrases that made their condition identifiable and the authors were able to create a social media severity index. The study demonstrates that larger populations can be assessed in a fast, cost effective, and scalable way compared to traditional self-report measures.

Although patterns of word usage are helpful to understand, it is also important to know what symptoms people are presenting with specifically. Previous work related to language usage in mental health during COVID-19 revealed the ability of supervised and unsupervised models to uncover patterns in mental health complaints [15]. Supervised learning was used to classify mental health subreddits, and unsupervised learning was used to identify themes across Reddit. Specifically, the data source was from select subreddit support groups. They used LIWC, sentiment analysis, and custom-built lexicons as linguistic features. They longitudinally tracked how anxiety expression fluctuated pre- and during the pandemic. The findings showed that the pandemic led to early spikes in health anxiety discourse on Reddit and negative mental health language across support groups. From this study, it is clear that distinctive patterns of concerns can emerge from social media data.

Underserved communities have also been subject to studies about social media use and anxiety. For example, [19] addressed vulnerable populations, specifically LGBTQ+ youth. This work focused on a dedicated subreddit (*/r/LGBTeens*) highlighting the value of pinpointing specific social media communities where support is sought. The study employed sentiment analysis to measure shifts in emotions like anxiety and used topic modeling (LDA) to pinpoint specific discussion topics linked to anxiety. Importantly, they analyzed changes in emotional language over time, allowing them to link anxiety increases to the pandemic. While this study only looked at one age group, it showed that specific group usage of social media can be studied.

In summary, previous research using mental health-related posts on social media have demonstrated that expressions of mental health concerns are common, that language used for specific conditions can be unique to that condition, and that mental health concerns expressed in social media can vary by age. We are unaware of any studies that specifically identify anxiety concerns expressed over social media. Thus the current study focuses on whether anxiety concerns are 1) identifiable using topic modeling and GPT4; and 2) whether expressed concerns vary by forum topic and age group.

Age Group	Number of Users	No. of Posts
18 – 24	2,169	6,683
25 – 34	1,061	2,413
35 – 65	231	672

Table 1: Number of users in each age group and the number of posts they published on */r/Anxiety*

Age Group	Number of Users	No. of Posts
18–24	900	3,625
25 – 34	513	1,446
35 –65	231	3,652

Table 2: Number of /r/Anxiety users in each age group and the number of posts they published on */r/AskReddit*

Dataset

In this work, posts published during a 1–year time period i.e. 2022 on */r/Anxiety* – which is a forum on Reddit focused on discussions around anxiety, were collected and analyzed. */r/Anxiety* is self-

described as a forum that conducts "discussions and provides support to sufferers and loved ones with anxiety conditions". While there are other forums on Reddit such as *r/socialanxiety,* which are focused on anxiety- related discussions, in all the analyses in this work, we only use posts published on */r/Anxiety* – this is because */r/Anxiety* is the Reddit anxiety-related forum with the most number of members i.e. 678,000 members as of May 2024. From the collected posts published in 2022 on */r/Anxiety,* we identify users who self-declare their age by doing the following: (a) First we identifying posts in which users self-declare their age, for example: *Hi Reddit, I'm a 21-year-old female struggling with being overly critical of myself. I tend to push myself too hard, leading to constant overwhelm and edginess. Lately, I've started experiencing physical symptoms like headaches, which has made me realize how much this behavior contributes to my anxiety. I'm looking for advice on what steps to take next.* In this post, the user self-declared age is 21 years old (b) Given a post in which a user self-declares their age, we collect and store the self-declared age of the user and the users username. Here, we check if a given user self-declared more than one age in separate posts; if this is the case, we remove the user from our dataset (c) For each of these users who self-declared their age in a post, we collect all of their posts published in the same year (i.e. 2022) in which they self-declared their age in a post.

After these steps, we end up with the following: (a) the **usernames** of the users who self-declared their age in at least one post published in the Reddit */r/Anxiety* forum in 2022 (b) the self-declared **age** of these users, and (c) **all the posts** published by these users in the */r/Anxiety* forum in 2022.

Based on a meta-analysis of age of onset of seven anxiety disorders, post-traumatic stress disorder and obsessive compulsive disorder [10], we stratified users by the following age groups: 18 – 24, 25 – 34, and 35 – 65. Table 1 shows the number of users and posts in these categories.

Prior work showed that users who seek support on Reddit online health forums e.g. */r/Lonely,* also seek health and well-being support on */r/AskReddit* – which is a Reddit forum focused on asking general questions [4]. Hence, in this work, we aim to gain insights about the anxiety related support that is expressed on */r/AskReddit* posts (at the same time period) by users who seek support on the Reddit online anxiety forum */r/Anxiety.* To do this, we collect the usernames from Table 1 and select all the posts published (in the same year) by these users in */r/AskReddit.* We stratify these users and posts based on the users age group i.e. 18 – 24, 25 – 34, and 35 – 65; Table 2 shows the number of users and posts from /r/AskReddit associated with each age group.

This rest of the paper is formatted as follows: (a) in section **Analysis : Anxiety Concerns**, the anxiety concerns expressed in posts published in */r/Anxiety* and */r/AskReddit* forums, respectively, by users belonging to the age groups: 18 – 24, 25 – 34, and 35 – 65 are studied (b) in the Discussions, limitations, and Future Work section, we discuss the findings of this work, the limitations, and future work (c) in the Ethics Statement and Broader Impact section, we discuss the ethical concerns and broader impact of this work.

Analysis: Anxiety Concerns

Individuals who experience anxiety may have one or more anxiety related concerns such as financial problems. Some of these individuals publish posts on the Reddit online anxiety forum */r/Anxiety* and the Reddit online general forum */r/AskReddit,* respectively, in which they express/state their anxiety concerns. Table 3 shows examples of posts published in the */r/Anxiety* forum and the anxiety concerns expressed in these posts. In this section, we aim to determine if there are differences in the anxiety concerns expressed in posts published by individuals belonging to different age groups on (a) the Reddit online anxiety forum, */r/Anxiety* and (b) the Reddit online general forum, */r/AskReddit.*

Anxiety Concerns: Online Anxiety Forum

In this section, given each of the posts from Table 1 – which are the posts published in the online anxiety forum by individuals belonging to different age groups, using the OpenAI python API, we used a large language model, specifically GPT4 to extract the anxiety concerns expressed in these posts.

#	Post	concern(s) Expressed
1	"Although meeting someone for the first time can be nerve-wracking, it's not as anxiety-inducing as meeting them again, say, for the fifth time. Initially, people tend to be polite; they're still getting to know you and both parties are often concerned about making a good impression and avoiding judgment. However, as interactions continue and they begin to notice your anxious or awkward tendencies, and perhaps see that you struggle with standing up for yourself, the dynamic shifts. This is when it becomes truly daunting. The change in tone and energy as it becomes harder to keep the mask up"	Social Interactions
2	"Even the smallest error replays endlessly in my mind, making it impossible to unwind after work due to my habit of overthinking every slip-up. Despite reassurances from my manager that these mistakes aren't serious, I harshly criticize myself, fearing each one brings me closer to losing my job. This fear is magnified by the responsibility I feel to support my family, a pressure that has been with me since childhood due to our financial struggles. At 23, I already feel burnt out, dreading the decades of work ahead and seeing little hope for happiness. I long for the ease of a carefree attitude, as the stress I've endured seems more	(1)Work pressure, (2)Personal relationships, (3)Future uncertainties, (4)Performance and expectations

> than enough for a lifetime. I wish I
> had a don't give a fuck attitude, as
> the stress I've endured seems more
> than enough for a lifetime."

Table 3: Example of posts published in the Reddit */r/Anxiety* forum and the anxiety concern(s) expressed in the posts

We gave GPT4 the following prompt: *"Given the following posts from an online anxiety forum, what is/are the anxiety trigger(s) expressed in each of the posts?"*.

We note here that we did not tune any of the large language models parameters. This prompt identified anxiety concerns (triggers) expressed in posts. We used the word "triggers" to better prompt the model to examine situations prompting the expression of anxiety concerns. For some of these posts, more than one anxiety trigger was identified by GPT4; also in some cases, no anxiety trigger was expressed and so GPT4 stated that no anxiety trigger was identified. To determine that the anxiety triggers identified by GPT4 were accurate, 200 posts and their corresponding GPT4 predicted anxiety triggers were randomly selected and a health and well-being expert who has a graduate degree and is familiar with expressions of anxiety reviewed the predicted anxiety concerns obtained from GPT4 and determined that they were accurate.

Some of the extracted concerns focused on subcategories to broader categories; for example, below is an example of anxiety concerns with the broader category of family issues and subcategories on husband, parents, and wife.

•   Family Issues: husband

•   Family Issues: parents

•   Family Issues: wife

For our analysis in this section, we merged all the sub- categories of a broader category to the broader category e.g. given the following triggers: "Family Issues: husband", "Family Issues: parents", and "Family Issues: wife", we merged them to one category called "Family Issues". We end up with 7 anxiety concerns: *"academic/work stress", "family issues", "financial problems", "health", "self image or physical appearance",* and *"social interactions"*. We considered *"unclear"* to be a 7th category for the purpose of our analyses – where "unclear" indicates that GPT4 is not certain if an anxiety concern was expressed in a post.

We conducted a 2 (Forum) x 3 (Age group) x 7 (Concern) Cochran-Mantel-Haenszel (CMH) chi-square test of the null hypothesis that age group and concerns are conditionally independent when stratified by forum. The CMH test follows a chi-square test distribution but uses the test statistic M^2. It serves as an omnibus test for nominal or count data, similar to an analysis of variance, and would be followed up with post-hoc tests if significant, to determine where the reason the null was rejected. For post-hoc tests, we planned to use residual analyses in each of three marginal tables derived from the omnibus 2 x 3 x 7 table: one comparing the anxiety forum to the general forum by age group (2 x 2); one comparing the concerns by age group (7 x 3) and one comparing forum by concerns (2 x 7). Calculating the residuals for each cell allowed us to examine whether that cell's frequency occurred by chance and in what direction (i.e., more frequent or less frequent than chance). We used a cut-off of 3 for the residuals to denote significance [1].

Anxiety Concerns: Online General Forum

In this section, given the posts from Table 2 – which are the posts published in the online general forum by individu- als belonging to different age groups, we conduct the same analysis conducted in the previous section i.e. **Anxiety Concerns: Online Anxiety Forum**; however, here we replace the *anxiety forum posts with posts (by the same users) in the online general forum and we replace "online anxiety forum"* in the prompt given to GPT4 with *"online general forum".*

Results

The 2 x 3 x 7 CMH test was significant, M^2 = 305.25, *df* = 12, p < .001, indicating that there were significant differences between the number of times specific concerns were endorsed across the three age groups and stratified by forum. Comparing the anxiety forum to the general forum by age group, we found that all cells were significant indicating that there were more posts in the anxiety forums for 18–24 and 25–34 year olds but more posts in the general forum for 35–65 year olds than would be expected by chance. Comparing concerns by age group, the majority of cells were significantly different from chance with the exception of Academic/Work concerns in the 25–34 year old group. In Table 4 we show the results of comparing concerns by forum. The standardized residuals were used to determine the significance of each cell (i.e., concerns within the forum). All were more likely than chance, in the anxiety-specific forum except for unclear concerns, which were significantly more likely to be found in the general forum */r/AskReddit.* In Table 5, we show the results of the residuals by forum and age. The anxiety forum was significantly more likely to be posted in than chance for the 18–24 and 25–34 year olds; however, the 35–65 years olds were more likely to post in the general forum */r/AskReddit.* Finally, in Table 6, we show the results of the residuals by concerns and age. For 18–24 years olds, all six identified concerns were frequently identified, but they were statistically unlikely to have unclear concerns. For 25–34 year olds, there was a similar pattern except that academic or work concerns were not likely concerns. For the 35–65 year olds, all concerns were identified less likely than chance, but this group was most likely to have unclear concerns.

Discussion, Limitations, and Future Work

In this paper we demonstrated that anxiety concerns, identified through GPT4, vary across types of forums and by age.

We used GPT4 to uncover anxiety concerns or concerns by giving GPT4 a prompt to determine anxiety concerns in each post. We identified six concerns in this way and considered "unclear" to be a seventh category. Overall, there were significant differences across age groups, forum type, and frequency of concern identified, indicating that patterns of expressing concerns was not random. All of the clear/identifiable concerns were expressed in the anxiety forum more frequently than in the */r/AskReddit,* suggesting that overall, the anxiety-specific forum is better for understanding anxiety concerns and needs. Taking a closer look at the breakdown of concerns by age, we found that the youngest age group of 18–24 year olds expressed all six concerns more often than chance. The 25–34 year olds did not express academic or work concerns more frequently than chance, but were more likely to express all other concerns. By contrast, the 35–65 year olds were most likely to have unclear concerns. This could be a limitation of GPT4, but more likely it reflects the posting behavior and anxiety experience of this age group. This age group was the least likely to express any anxiety topic across either forum. The finding aligns with the literature that suggests older adults are less likely to have new onset of anxiety disorders and are less likely to express anxiety concerns than younger adults [21] . Complicating matters, older adults may have more anxiety

concerns that are difficult to assess. They may not express as much worry as younger adults and may express anxiety in terms of physical complaints [7]. It may be that to understand the experiences of anxiety concerns in older adults, different forums focusing on physical health must be used instead. Although there were fewer posters overall in the 35–65 age group, they were as active posters in */r/AskReddit* as the 18–24 year olds and per user posts were almost 4 times higher. This suggests that this age group utilizes Reddit to seek answers to problems, but does express concerns about anxiety in the same way.

This study has some limitations. One limitation is that anxiety conditions could not be confirmed with a clinical interview. It may be that some users did not have anxiety disorders, or just one specific anxiety disorder, or even that some had multiple intersecting disorders. Our analysis approach also did not uncover the treatment needs of these individuals. In other words, what types of support are people with anxiety concerns seeking? Mental health services? Information about their condition? Social support and empathy? Understanding the exact anxiety presentations and how they may or may not match language features is a critical next step to advancing knowledge in this area and connecting those with anxiety concerns to appropriate resources. Another limitation of our study is around our use of age groupings. Although we aligned these groups with a meta-analysis describing typical age ranges for anxiety disorder onset, our grouping approach means that we have middle-aged users grouped with older adults (typically defined as adults 55–60 and older), and the older adult population may have unique anxiety needs and concerns that should not be ignored.

The interests and posting behaviors of members of various online forums focusing on the same topics may vary [20];

Forum	Value	Academic or_work	Family issues	Financial problems	Health	Self image	Social situations	Unclear
anxiety	Residuals	24.37018	22.90889	18.21432	34.80402	30.10043	28.11776	-114.7241
anxiety	p values	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.0000
askReddit	Residuals	-24.37018	-22.90889	-18.21432	-34.80402	-30.10043	-28.11776	114.7241
askReddit	p values	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.0000

Table 4: Residuals from chi-square test of anxiety concerns by Reddit forum

Forum	Value	18–24	25–34	35–65
Anxiety	Residuals	43.665	15.813	-75.657
Anxiety	p values	0.000	0.000	0.000
AskReddit	Residuals	-43.665	-15.813	75.657
AskReddit	p values	0.000	0.000	0.000

Table 5: Residuals from chi-square test of Reddit forum by age

therefore, an additional limitation of this study is that the language used in posts in */r/Anxiety* may vary from the language used in other online anxiety forums. In the future, we will analyze posts from several other online anxiety forums.

 In this work, we collected posts published during a one year time period, in the future, we will analyze posts published over several years on these forums. More work needs to be done to understand anxiety concerns expressed in online forums. Universal screening is an admirable goal; however, mental health services are critically difficult to access due to a shortage of providers and addressing concerns as they appear on social media sites is a promising avenue for scalable intervention.

Table 6: square test of acad or work work, fin financial soc_situations

Trigger	Value	18–24	25–34	35–65
acad_or_work	Residuals	8.904	1.903	-13.924
acad_or_work	p values	0.000	1.000	0.000
family_issues	Residuals	6.801	3.833	-13.341
family_issues	p values	0.000	0.0030	0.000
fin_problems	Residuals	5.513	3.394	-11.140
fin_problems	p values	0.000	0.0140	0.000
health	Residuals	6.575	4.799	-14.141
health	p values	0.000	0.000	0.000
self_image	Residuals	7.347	3.292	-13.447
self_image	p values	0.000	0.0210	0.000
soc_situations	Residuals	11.632	3.321	-19.141
soc_situations	p values	0.000	0.0190	0.000
Unclear	Residuals	-34.414	-14.698	62.169
Unclear	p values	0.000	0.000	0.000

Residuals from chi- anxiety concerns by age. stands for academic or problems indicates problems, and indicates social situations

Conclusion

In this work, a used to concerns published in an general forum, the expressions concerns may The findings inform the screening concerns that unstructured language use.

large language model is understand the anxiety expressed in posts online anxiety and respectively and how of these anxiety vary across age groups. from this work can development of novel measures for anxiety could be based on text and natural

Ethics Broader used for this available. after this study or moderator in /r/Anxiety forum was was deemed Institutional guidelines of institution. The can aid in the users in these and express

Statement and Impact The dataset work is publicly Before, during, and was conducted, no user the Reddit forums forum and */r/AskReddit* contacted. This study exempt by the Review Board the senior author's findings from this work understanding of how forums communicate their anxiety concerns.

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