Depression framings on Twitter: stigmas and attributes of responsibility

Encuadres de depresión en Twitter: estigmas y atributos de responsabilidad

Enquadramentos da depressão no Twitter: estigmas e atributos de responsabilidade

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ABSTRACT | Depression is a very important mental health issue in Chile, traditionally associated with stigmatization and viewed from an individual perspective. Messages disseminated through mass media and social media could contribute to shaping and perpetuating these biased views about the disease, hindering access to timely diagnosis and treatment for those affected. This study aims to characterize the conversation on Twitter about depression in Chile in 2021 from a framing perspective. A quantitative content analysis was conducted on a random sample of 1,063 tweets to determine the presence of stigma and anti-stigma frames, as well as the attribution of individual or social responsibility. An intercoder reliability test was carried out before coding the entire sample. It was found that the most prevalent frame was that of social factors associated with depression, and that the distribution of frames of stigma, anti-stigma, and individual factors was balanced. Examination of the coexistence of frames in the discussion revealed that posts referring to the suicidal stereotype associated with depression were more likely to emphasize individual causes. It is suggested that contextual factors in Chile in 2021, such as the social upheaval of 2019 and the COVID-19 pandemic, may explain the emphasis on social factors when discussing depression.

KEYWORDS: mental health, social media, framing, Twitter, Chile

RESUMEN | *La depresión es un problema de salud mental de gran relevancia en Chile, tradicionalmente asociada con estigma y vista desde una perspectiva individual. Los mensajes que se comunican a través de los medios masivos y de las redes sociales podrían contribuir a formar y perpetuar estas visiones parcializadas de la enfermedad y obstaculizar el acceso al diagnóstico oportuno y al tratamiento entre quienes la padecen. Este estudio busca caracterizar la conversación en Twitter (ahora X) acerca de la depresión durante 2021 en Chile desde la perspectiva del encuadre. Se realizó un análisis de contenido cuantitativo de una muestra aleatoria de 1063 tuits para identificar la presencia de encuadres de estigma y contraestigma, así como de atribución de responsabilidad individual o social. Previo a la codificación de la muestra completa se realizó una prueba de fiabilidad entre codificadores. Se encontró que el encuadre más prevalente en la discusión era el de factores sociales asociados con la depresión y que la distribución del encuadre de estigma, contraestigma y factores individuales estaba equilibrada. Al explorar la coexistencia de los encuadres en la discusión, se ve que los posteos que hacen referencia al estereotipo suicida asociado con la depresión tienden a enfatizar causas individuales. Se plantea que factores contextuales en el Chile de 2021, tales como el estallido social de 2019 y la pandemia de COVID-19, podrían explicar el énfasis en los factores sociales al momento de hablar de depresión.*

PALABRAS CLAVE: *salud mental, redes sociales, framing, Twitter, Chile.*

RESUMO | A depressão é um problema de saúde mental de grande relevância no Chile, que tradicionalmente é associado ao estigma e visualizado a partir de uma perspectiva individual. As mensagens comunicadas pela mídia e pelas redes sociais podem contribuir para moldar e perpetuar essas visões tendenciosas da doença, dificultando o acesso ao diagnóstico oportuno e ao tratamento para aqueles que a enfrentam. Este estudo busca caracterizar a conversa no Twitter ou "X" sobre a depressão durante 2021 no Chile a partir da perspectiva do enquadramento. Foi realizada uma análise de conteúdo quantitativa de uma amostra aleatória de 1.063 tweets para identificar a presença de enquadramentos de estigma e contraestigma, bem como a atribuição de responsabilidade individual ou social. Antes da codificação da amostra completa, foi realizada uma prova de confiabilidade entre os codificadores. Verificou-se que o enquadramento mais prevalente na discussão em redes sociais era o de fatores sociais associados à depressão e que a distribuição dos enquadramentos de estigma, contraestigma e fatores individuais estava equilibrada. Ao explorar a coexistência dos enquadramentos na discussão, observa-se que as postagens que fazem referência ao estereótipo suicida associado à depressão tendem a enfatizar causas individuais. Sugere-se que fatores contextuais no Chile em 2021, como o levante social de 2019 e a pandemia de COVID-19, poderiam explicar o destaque nos fatores sociais ao falar sobre depressão.

PALAVRAS-CHAVE: saúde mental, redes sociais, enquadramento, Twitter, Chile.

FRAMING OF DEPRESSION ON TWITTER: STIGMAS AND RESPONSIBILITY ATTRIBUTES

Mental illness is a pressing global health issue, especially after the COVID-19 pandemic, which has severely disrupted the rhythm of life and the responsibility of individuals (Penninx et al., 2022). According to the World Health Organization (Organización Mundial de la Salud, 2022), one in eight people will suffer from a mental illness at some point in their lives, and almost 970 million people live with an affective disorder. Globally, the two most common mental illnesses are depression and anxiety (Organización Mundial de la Salud, 2023). In Chile, depression accounts for 25% of consultations in primary care (Errázuriz et al., 2015). Data from the 2016-2017 National Health Survey show that the prevalence of depression in people over the age of 15 is 6.2%, with 15.8% thought to be living with the condition (Nazar et al., 2021). One of the biggest challenges in dealing with mental illness is the stigma associated with these illnesses, both from society and from the sufferers themselves (Brohan et al., 2010). In relation to depression, studies in Chile (Martínez et al., 2020) and other regions (Angermeyer et al., 2017; Boerema et al., 2016; Yang et al., 2020) have documented the stigmas associated with this condition and how these stigmas are detrimental to early detection and the timely initiation of treatment.

Considering that social media platforms are spaces in which people increasingly spend their daily lives, research has focused on understanding how the discourses circulating in these spaces can construct and maintain (Devendorf et al., 2020), or may counteract, these stigmas (Koteyko & Atanasova, 2018). Within this framework, this study looks at the social media platform X, known as Twitter until the first half of 2023, to describe the discourses about depression circulating there in the immediate aftermath of the COVID-19 crisis through a quantitative description guided by framing theory (Ardèvol-Abreu, 2015; Muñiz, 2020).

In Chile, 85% of the population uses social media, and although Facebook remains by far the predominant network (Orchard, 2023), Twitter continues to be an important space for public discussion (Miranda & Fernández, 2020). In terms of penetration, Twitter is also significant, although estimates vary; Kemp (2022) estimates that the platform captures 15.1% of users, while Orchard (2023) reports that 35.9% of over-18s say they use Twitter.

The platforms are reluctant to provide official data that would allow their users to be profiled, but press reports (Sepúlveda Garrido, 2018) suggest that Twitter users in Chile are predominantly male, young and highly educated. Although Twitter use is more limited than other social networks and the platform's participants are

elite, analyzing how mental health issues are discussed in this space offers specific insights into people's attitudes, perceptions and beliefs on the topic at a given time.

Finally, we would like to point out that the official name of the platform is currently X. As the study examines a period before the name change, we will refer to the network in this article as Twitter and the posts on this platform as tweets.

Depression in Chile and the world

Depression is classified as a mood disorder that affects both children and adults and is characterized by profound emotional and physical distress (Álvaro Estramiana et al., 2010). According to the DSM-5 manual (American Psychiatric Association, 2014), symptoms include a depressed mood for most of the day, a marked decrease in interest in activities, loss of energy, intense feelings of worthlessness or guilt and thoughts of death. In Chile, depression is the second most common cause of lost working years due to incapacity to work after hypertensive heart disease (Salvo, 2014).

For a long time, psychiatry held the view that depression was caused by individual factors such as genetic aspects or pathophysiological changes, which corresponds to the biomedical view of health (Baeta, 2015). Thus, depression was viewed as a personal problem in which patients were primarily responsible for both the causes and the measures for their recovery (Zhang et al., 2021). Consistent with the biomedical approach, the focus was also on curative rather than preventive or promotive interventions, emphasizing psychiatric interventions and the use of medication, while neglecting community interventions or public policy changes.

Recognizing the limitations of the biomedical approach (Álvaro Estramiana et al., 2010), more modern views argue that relational problems and structural factors in society, such as education, economy, socioeconomic status and the family environment, influence the mental health of individuals and populations (Zhang et al., 2021). This perspective is summarized in the so-called biopsychosocial model of health, which is a more integrative, comprehensive and systemic view that includes biological, psychological and social perspectives (Juárez, 2011).

The years 2019 and 2020 were characterized by an intensified debate on mental health issues in Chile. The social unrest of October 2019, a period of at least five months characterized by protests and high levels of police repression (Somma et al., 2021), sparked discussions about mental health, especially because of the consequences for mental wellbeing (Barrera-Herrera et al., 2022). From 2020, the COVID-19 pandemic led to increased public discussion about mental health due to the increase in depressive disorders caused by the disruption of daily life (Penninx et al., 2022). It is estimated that mood disorders, particularly depressive

episodes, increased by 27.6% worldwide during this period (Santomauro et al., 2021). In Chile, 23.6% of the population had suspected or confirmed mental health problems during this period (Bravo et al., 2022).

One of the challenges in mental health care is that people suffering from these disorders often do not seek health services or maintain treatment (Vicente et al., 2016). Reasons cited for not seeking help include a perceived lack of treatment effectiveness, financial difficulties, limited availability of providers and a general lack of knowledge about mental illness (Mascayano et al., 2015). However, one of the most common reasons for not seeking treatment is the stigma associated with the diagnosis (Campo-Arias et al., 2014; Mascayano et al., 2015; Vicente et al., 2016).

Stigma and the mass media

Goffman (2009) defined stigma as the characteristics of an individual that cause social devaluation and are discrediting in the eyes of society. The author assumes that the stigmatization process takes place during social interactions when there is a discrepancy between a person's actual identity and the social expectations determined by cultural norms (Miric et al., 2017). The result of stigmatization is the deterioration of the affected person's identity and the negative social reactions that affect their wellbeing, adaptation and integration (Muñoz et al., 2011; Suárez-Vergne et al., 2019).

The basis of stigmatization lies in stereotypes. The most common in the mental health field are those associated with dangerousness, violence and the perception that people with these illnesses are unpredictable, weak-willed, responsible for their condition and incompetent in their self-care (Muñoz et al., 2011).

Mass media play a role in the production and transmission of stereotypes as they create and reinforce preconceived notions about mental illness (Hidalgo-Padilla et al., 2022; Knifton & Quinn, 2008; Mascayano et al., 2015; Mena et al., 2010; Muñoz et al., 2011). Studies in Latin America have highlighted the limited coverage of mental health issues in the press and the pronounced stigmatizing discourse in the media (Hidalgo-Padilla et al., 2022; Muñoz et al., 2011).

In a study of radio, television and the press in Spain (Muñoz et al., 2011), it was found that in the few news items that dealt with the topic, false or derogatory terms were often used to describe mental illness and patients were frequently associated with violent and criminal acts. Patients were described as dangerous and unpredictable and, to a lesser extent, as weak and incompetent. A study of the press in Peru (Hidalgo-Padilla et al., 2022) found that coverage of mental illness was often superficial, used few sources and virtually ignored the people living with these illnesses. When they were described, aspects such as instability and

dangerousness were emphasized. These findings are consistent with research on media coverage of mental health in different parts of the world (Gwarjanski & Parrott, 2018; Kenez et al., 2015; Subramanian, 2019).

Framing theory and social media

The framing process involves the selection of elements of reality that are emphasized when addressing a topic (Ardèvol-Abreu, 2015; Muñiz, 2020). In this sense, frames are understood as principles that organize the social world, as well as common structures that give meaning to events (Valera, 2016). Studies that have attempted to understand how mental health issues are framed have primarily focused on traditional media. However, with the advent of the Internet and social media, these studies have shifted to these platforms. The role of social networks in setting the public agenda is undeniable, as discussions in these spaces offer an alternative perspective on reality compared to traditional media and are more accessible and horizontal spaces (Martínez-Fresneda et al., 2022; Rubio García, 2014).

In relation to the study of mental health on social media, research has explored how these platforms can be intentionally used as spaces to raise awareness and destigmatize (Koteyko & Atanasova, 2018). However, when examining organic content, stigmatizing and reductionist discourses are also observed (Suárez-Vergne et al., 2019), albeit to a lesser extent than in traditional media (Mittal & De Choudhury, 2023).

To apply the concept of framing to user-generated content on social media, it is important to consider the distinction made by Scheufele and Tewksbury (2007) between media frames and individual frames. The latter correspond to the frames that individuals use to interpret reality and create schemas about information, and unlike media frames, they do not have physical manifestations such as the use of images, a narrative structure, etc. More recent authors disagree with this view and consider that posts in social networks can express individual frames (Pavlova & Berkers, 2022). The present study is based on this latter perspective and suggests that tweets can be used to examine individual frames in relation to depression.

Research questions and hypotheses

This study aims to characterize the discussion about depression on Twitter in Chile in 2021. This research, which is pioneering in Latin America, is based on recent studies in other countries that have attempted to characterize how people discuss mental health on social media. For example, Pavlova and Berkers (2022) reconstructed the Twitter conversation over 10 years from a framing perspective and found that people's discourse was supportive and neutral. However,

they observed a view that was more in line with the definition of illness than a health-oriented view.

In this study, given the contrast between the biomedical and biopsychosocial approaches to mental health, we aim to compare the prevalence of frames related to individual factors and social factors associated with depression. In a study examining how depression is discussed on the Chinese social network Sina Weibo, Zhang and colleagues (2021) found that posts referring to individual responsibility for depression (i.e., the biomedical view) stood alongside posts mentioning the social factors influencing the illness (i.e., the biopsychosocial model), although the former view was more prevalent.

Following the findings on mass media coverage of depression, we also examine the prevalence of stigmatizing frames compared to enlightening or anti-stigma frames. In this area, we draw on the work of Wang (2019), who conducted a study on how depression was addressed in Spanish- and English-language front pages and concluded that the stigma frame was most prevalent in English-language media. In this context, the research question guiding this study in Chile is:

> *RQ1.* What are the most common frames in Twitter posts about depression?

To extend the literature on the framing of discussions of depression on Twitter, we propose to examine the relationship between the two levels of framing: those associated with the health model (biomedical versus biopsychosocial) and those reflecting stigmatization processes. Specifically, we propose that:

> *H1.* There is a relationship between the stigma frame and the frame of individual factors associated with depression.

> *H2.* There is a connection between the educational frames and the frames of social factors associated with depression.

METHODS

We conducted a quantitative content analysis of Twitter posts published in Chile in 2021. It is worth noting that this year was initially characterized by the COVID-19 pandemic and later by the Chilean presidential election campaign, in which seven candidates competed in the first round and José Antonio Kast (representing the Partido Republicano) and Gabriel Boric (representing the Partido Frente Amplio) in the second round. In this election, issues related to the mental health of candidate Boric were raised both in the press and in discussions on social media.

To collect the data, the Twitter API's Research Advanced tool was used, which allows the specification of search criteria to guide the collection of posts. The main search term was depression To reduce the likelihood of finding tweets from other countries, the terms Chile, Santiago, Valparaíso, Concepción, Temuco, Puerto Montt and La Serena were included in the Any of these words section, which corresponds to the capitals of the country's most populous regions according to the 2017 census. The search period was from January 1 to December 31, 2021.

The original corpus consisted of 3,397 tweets, from which a random sample of one-third (N=1132) was drawn. Each tweet was checked for relevance. 69 tweets were removed because they did not meet the criterion of mentioning depression as an illness, as they related to economic or geographical topics. In some excluded cases, the content belonged to accounts that had changed their privacy settings or the content had been deleted, preventing access. After this review, the final sample consisted of 1,063 tweets.

Codebook and analysis

A codebook was developed and tested for inter-coder reliability as described in the following section. The Krippendorff's Alpha statistic determined for each variable in the codebook is given in parentheses:

Type of user (α=.83): this variable distinguishes whether the user who posted the tweet is a natural person, an organization, an institution, a foundation or a media outlet (Zhang et al., 2021).

Stigma frame: this variable is used to determine whether the tweet associates depression with concepts such as aggressiveness (α=1), suicide (α=.95) or incompetence (α=.85), according to Wang's (2019) coding scheme.

Educational frame: following Wang's (2019) concept of counterstigma, this variable assesses whether the tweet mentions educational information about depression (α=.83) or contains personal or known testimonials about experiencing the illness (α=.86).

Individual factors frame: based on the work of Zhang and colleagues (2021), this variable assesses whether the tweet mentions individual factors related to the cause of depression, such as demographics (α=.87), genetic or biological factors (α=.80), pre-existing health conditions (α=1), individual actions (α=.89), or other personal solutions (α=.91).

Social factors frame: this variable assesses whether the tweet mentions the immediate environment (α=.84), macrosocial factors (α=.89), aspects related

to the healthcare system and public policies (α=.91), or other social factors not previously mentioned (α=1.00).

The complete coding of the sample was conducted by the first author. However, a series of codings were performed on subsamples in which two independent coders were involved to establish the instrument's reliability. The final version of the codebook is described in the preceding section. The reliability test involved 10.8% of the sample (N = 115). All analyses were performed using SPSS Statistics software.

RESULTS

Table 1 shows the frequencies of the individual variables in the study. The majority of the tweets analyzed were posted by individuals (82.9%), while 17.1% were from organizations or media outlets. In relation to the research question, the social factors frame is the most prevalent with 60.4% of the tweets analyzed. In second place is the stigma frame, which occurs in 26.2% of the sample. The education or counter-stigma frame is only slightly less prevalent at 25.8% of tweets, and the individual factors frame appears in 25% of the tweets analyzed. It is important to note that the frames are not mutually exclusive, so a tweet can be categorized into more than one frame.

Among the social factors frames, macrosocial factors were the most common (32.7%), followed by the immediate environment (20.1%). Much less frequently mentioned were aspects of the healthcare system and public policy (8.0%) and other social factors (3.9%). Regarding the stigma frame, the most frequent association was between depression and suicide (17.5%), followed by the stereotype of incompetence (7.9%) and, further down, the stereotype of aggressiveness. Within the education category, experience with the illness predominates (14.8%), closely followed by education about the illness (11.3%). Within the category of individual factors, the most common frames are demographic data (10.5%) and individual actions (9.8%). Less common in this category are aspects related to pre-existing health conditions (4.1%) and other personal solutions (4.0%). Tweets dealing with genetic or biological aspects were almost non-existent.

H1 expected a relationship between stigma frames and individual factor frames. A Chi-square test was conducted to examine the coexistence of these frames and revealed a significant relationship, $\chi2$(1)=22.06, p<.001. Examination of cross-tabulation frequencies revealed that of all tweets that addressed stigma elements (N=279), 35.5% also addressed individual factors associated with depression. In contrast, 64.5% of tweets with stigma elements did not address individual factors.

Category	Presence (N)	Presence percentage (%)	Alpha
Type of user			
Natural person	881	82.9	1
Organization, institution, foundation, or media outlet	182	17.1	
Other/cannot be determined	0		
Stigma framing*	**279**	**26.2**	
Aggressiveness stereotype	23		1
Suicidal stereotype	186		.948
Incompetence stereotype	84		.853
Absence of stigma	766		
Education framing*	**274**	**25.8**	
Education about the illness	120	11.3	.829
Experience with the illness	157	14.8	.863
Absence of education	789	74.2	
Individual factors framing*	**266**	**25.0**	
Demographic data	112	10.5	.866
Genetic and biological aspects	5	.5	.796
Aspects of pre-existing health conditions	44	4.1	1
Individual actions	104	9.8	.891
Other personal solutions	43	4.0	.905
Absence of individual factors	797	75	
Social factors framing*	**642**	**60.4**	
Immediate environment	214	20.1	.84
Macrosocial factors	348	32.7	.899
Aspects of the healthcare system and public policies	85	8.0	.919
Other social factors not previously mentioned	41	3.9	1
Absence of social factor	421	39.6	

Note. *The categories of stigmatization, education, individual factors and social factors are not mutually exclusive. The subcategories that make up the individual framings are also not mutually exclusive.

Table 1. Absolute and relative frequency and inter-coder reliability of the individual variables in the study (N=1,063)

Source: Own elaboration.

When looking at tweets without stigma elements (N=784), 21.3% referred to individual factors, while 78.7% did not. In summary, although references to individual factors were a minority in tweets with stigma frames in all categories, individual factors were slightly more common in tweets referring to stigma than in tweets without stigma elements (35.5% vs. 21.3%).

When examining the relationships between the indicators of the stigma frame and the individual factor frame, we find that only the suicide stereotype (from the stigma frame) interacts significantly with the individual factor demographic data, $\chi^2(1)=68.17$, $p<.001$, and with the individual factor preexisting health conditions, $\chi^2(1)=46.16$, $p<.0001$. In the first case, 7% of tweets without the suicidality stereotype referenced demographics, compared with 27.4% of tweets with the stereotype. In the second case, 2.2% of tweets without the stereotype referred to pre-existing health conditions, while 13.4% of tweets with the stereotype did. To summarize, H1, which proposes a relationship between stigma frames and individual factors associated with depression, is only confirmed for the suicide risk stereotype.

H2 suggested an association between educational or anti-stigma frames and social factors associated with depression. The Chi-square cross tabulation test shows a relationship between these frames, $\chi^2(1)=46.35$, $p<.0001$. Comparing tweets with and without the educational frame, we find that 66.4% of tweets without the educational frame refer to social factors, while 43.1% of tweets with the educational frame mention social factors. Thus, although there is a relationship between these frames, it is not in the direction expected based on the literature review, as references to social factors are not greater in tweets with the education frame.

When examining the relationships between the individual indicators of the education frame, a significant interaction is observed between macrosocial factors and the two individual education indicators: Education about the disease, $\chi^2(1)=27.27$, $p<.0001$, and experience with the disease, $\chi^2(1)=20.20$, $p<.0001$. In the first case, 35.4% of the tweets without the education frame refer to macrosocial factors, while 11.7% of the tweets with the education frame do. As for experience with the illness frame, 34.5% of the posts without the experience frame refer to macrosocial factors, while this percentage drops to 17.2% for the posts with the experience frame. A significant interaction was found between the experience with the disease frame and other social factors not previously mentioned. However, the frequency in some cells of this table is very low (experience frame and other social factors frame: 0.6%), so the interpretation of this result could lead to misinterpretation. Overall, it can be concluded that although there is a relationship between the education frame and the social factors related to depression, this relationship is primarily explained by the relationship between the macro-social factors and

the two indicators of the education frame (i.e., education about the illness and experience with the illness). However, the direction of this relationship is not as expected, as was found when analyzing the macro frameworks.

DISCUSSION

This study sought to characterize the conversation about depression that took place on Twitter during 2021 in Chile. We found that social factors were the most prevalent frame related to this disease, far ahead of others such as stigma, education and individual factors associated with depression. In addition, we found that certain frames tended to co-exist in posts shared on the social network, although not in the way that would be expected based on previous research in other regions.

First, it is striking that the discussion on Twitter in Chile is dominated by social factors, considering that studies in other countries have found a prevalence of stigmatizing approaches (Gwarjanski & Parrott, 2018; Hidalgo-Padilla et al., 2022; Muñoz et al., 2011; Zhang et al., 2021). The high importance of social factors may be due to public policy efforts in recent years to develop mental health programs and policies that are guided by the biopsychosocial model of health (Leiva-Peña et al., 2021), as well as the contextual conditions under which the study was conducted.

In terms of contextual factors, it is important to consider the context of Chile in 2021 and the fact that this study mainly examines organic conversations between individuals; in fact, over 80% of the tweets analyzed were of this type. It is likely that the realization that depression is strongly linked to structural social factors is a prevalent perspective among users. One possible explanation for the prevalence of this view of depression in Chile could be the political and social context of the time. The social unrest of 2019 strongly influenced the public discussion, with mental health being a central issue. The violence and uncertainty of this period affected the emotional state of the Chilean population, reinforcing the rhetoric of social crisis that linked the state's responsibility to people's health and wellbeing. This perspective may have influenced the way depression was discussed on Twitter.

In addition, the COVID-19 pandemic, which began in 2020 and lasted at least until 2022, became the dominant contextual phenomenon that impacted people's mental health. Indeed, longitudinal data show that there was an increase in mental health problems, particularly depression, in the first half of 2021 (Bravo et al., 2022). It is very likely that the disruption of daily life during the COVID-19 crisis, which was accompanied by mobility restrictions to contain virus transmission, and the uncertainty surrounding the pandemic influenced these outcomes during this period.

The influence of social and contextual factors on mental health has recently been confirmed by opinion polls. For example, the sixth round of the ACHS – UC Mental Health Thermometer in Chile (Bravo et al., 2022) shows that people consider concerns about crime, economic forecasts and socio-political changes in the country to be the most important stressors. Slightly further down the list, according to the same study, are worries about losing one's job and COVID-19 infection, also two contextual factors.

Another important finding is the strong presence of the educational/informational frame about depression in the Twitter discussion, as this approach is central to motivating people facing the illness to seek and maintain treatment. A study in the United States, based on a survey of news coverage of the suicide of actor and comedian Robin Williams (Hoffner & Cohen, 2018), found that exposure to informative news was the only factor associated with intention to seek help in the event of symptoms of depression.

The prevalence of the suicide stereotype within the category of stigma frames indicates that the perception of a close relationship between the two disorders persists in public opinion. However, the psychiatric literature shows that suicide is multifactorial, and that while depression appears to be a risk factor for suicide, it is not the only one.

Regarding the interactions between the different factors, the results differ somewhat from expectations. However, this study provides evidence that conversation on Twitter links suicide to attributions of individual responsibility. It shows that depression, when associated with suicide, tends to be linked to specific causes of the illness without reflecting on how contextual factors influence it.

Tweets with educational frames are almost as common as those with stigmatizing frames. When examining the relationship between the frames, it can be seen that tweets that take an educational perspective on depression are more likely to leave room for reflections on how social structures influence the development of the illness, particularly macrosocial factors. An educational view of depression helps to understand that its causes and consequences go beyond the purely individual and include a broader perspective that is consistent with the biopsychosocial model.

Limitations and future directions

While this work is a contribution to the literature on Hispanic American communication, as it is the first to address the discussion of a fundamental mental health issue such as depression on Twitter, there are some limitations that are worth discussing. First, the fact that the study is limited to Twitter is a significant limitation, as this social network is not the most widely used in Chile (Kemp, 2022).

In fact, the users of this platform are mainly men, young people and people with a high level of education. Future studies could investigate everyday conversations on Instagram, which is more popular among the younger population, or on Facebook, which is losing popularity but is still heavily used by older groups and people with lower socioeconomic levels (Orchard, 2023).

Considering that this study aimed to limit the discussion on Twitter to the conversation in Chile, another major weakness is that it is not possible to clearly determine the geographical location of the content and its source. This is because the platform does not require users to specify their geographic location and few accounts do so, making it difficult to determine where a tweet was posted from. In this study, alternative methods were used to collect tweets that reflected the conversation in Chile, for example, filters such as the name of the country or major cities. However, this strategy was not without problems, as some words used as filters occasionally resulted in messages not related to geographic location entering the sample. One particular case was the use of the filter "Santiago"," which was chosen because it is the capital of Chile. During the study period, a Uruguayan soccer player, Santiago Morro, committed suicide, which resulted in tweets from Uruguay and Argentina related to this case being included in the sample when this term associated with depression was used. A review of the corpus prior to analysis allowed posts in this situation to be identified and removed from the sample.

A third limitation is that the content analysis of the discussion on Twitter is limited to only one year. A longitudinal view would allow for a more comprehensive characterization of the conversation about depression on the social network and provide room for assessing changes in the framings or associations between them over the years. In this sense, a future direction for this research agenda would be the replication of the study by Pavlova and Berkers (2022), which included a ten-year analysis. A study of this type would be of great value in Chile, since the treatment of depression in the public debate is strongly characterized by cultural and idiosyncratic aspects. Fourthly, it should be noted that the quantitative approach presented in this paper is limited and it would be advisable to consider qualitative studies to complement or triangulate these findings.

Despite these limitations, this study contributes to understanding communication about a highly relevant mental health problem such as depression. Mapping how people in Chile communicate about depression on their social media helps to determine how the problem is conceptualized by target audiences. This in turn can feed into public communication campaigns aimed at raising awareness of the issue or promoting preventative behaviors, such as early consultation in the event of depressive symptoms.

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