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INSTAGRAM, EMOTION AND THE COVID-19 PANDEMIC – AN
ANALYSIS OF
(IN)FERTILITY POSTS

*INSTAGRAM, EMOÇÃO E A PANDEMLIA DO COVID-19 – UMA
ANÁLISE DE POSTS DE (IN)FERTILIDADE*

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ABSTRACT

The paper explores the linguistic realization of posters created to assist patients during fertility treatments amidst the Covid-19 pandemic. It analyzes data from a previous study on emotional content posts on an infertility clinic Instagram profile, using insights from Systemic Functional Linguistic (Halliday, 2004) and exploring stance and engagement in the interpersonal metafunction (Hyland, 2005; Luzón, 2023). The study also examines Instagram metrics data. Data comes from 347 posts publicly posted throughout the first two years of pandemics. The analysis of posts revealed that the author used various resources to express stance, including positive adjectives, nouns, emotional reactions, and expression of gratitude. Emojis were also used to convey a positive attitude. The language used in these posts was essentially positive, connecting with readers in a reassuring and confident way. Engagement was achieved through attention-getting resources like images, questions, inclusive we, and second person pronouns. Directives were also found in the captions and images, generating high frequency of views and interactions. These features may have contributed to

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the engagement of the posts. Instagram metrics showed that emotional content posts got significant more likes and shares when compared to educational ones.

KEYWORDS: Instagram posts; Emotional content; Covid-19 pandemics.

RESUMO

O artigo explora a construção linguística de postagens criadas para auxiliar pacientes durante tratamentos de fertilidade em meio à pandemia de Covid-19. Analisa dados de um estudo anterior sobre postagens de conteúdo emocional no perfil de uma clínica de reprodução humana do Instagram, utilizando insights da Linguística Sistêmico-Funcional (Halliday, 2004), investigando instâncias de postura e engajamento na metafunção interpessoal (Hyland, 2005; Luzón, 2023). O estudo também examina dados de métricas do Instagram. Os dados são provenientes de 347 postagens públicas no Instagram durante os dois primeiros anos de pandemia. A análise das postagens revelou que elas utilizavam diversos recursos para expressar postura, incluindo adjetivos positivos, substantivos, reações emocionais e expressão de gratidão. Emojis também foram usados para transmitir atitude positiva. A linguagem utilizada nestas postagens foi essencialmente positiva, conectando-se com os leitores de forma tranquilizadora e confiante. O envolvimento foi alcançado por meio de recursos que chamam a atenção, como imagens, perguntas, nós inclusivos e pronomes de segunda pessoa. Diretrizes também foram encontradas nas legendas e imagens, gerando alta frequência de visualizações e interações. Esses recursos podem ter contribuído para o engajamento das postagens. As métricas do Instagram mostraram que as postagens com conteúdo emocional obtiveram um número significativamente maior de curtidas e compartilhamentos quando comparadas às educacionais.

PALAVRAS-CHAVE: Posts no Instagram; Conteúdo emocional; Pandemia do covid-19.

Initial Considerations

The Covid-19 pandemic brought about several changes to people's lives. In addition to adopting measures to protect themselves against a deadly virus, people had to adapt their daily routines to a new reality, including healthcare. According to a WHO report (WHO, 2022), the pandemic profoundly affected people's well-being and mental

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health on a global scale. Several medical societies, including the American Society for Reproductive Medicine (ASRM) recommended that medical treatments, except for oncologic fertility preservation treatments, be suspended or delayed. In addition, access to mental health services was also impacted. The disruption of mental health treatments was mitigated thanks to digital technology, with consultations and therapy delivered through video conferencing or telephone. Online psychological support programs were also offered to both community and health care workers (WHO, 2022).

Social media also played a key role in the pandemic. A recent review has shown that social media has become a platform to voice public opinions, perceptions and attitudes towards Covid-19. By the same token, it was a venue for governments, organizations and universities to spread information to the general population. The review aimed at investigating public perceptions of Covid-19 on social media, including Twitter, Instagram, Sina Weibo and YouTube. One of the five main public health themes that emerged was the effects of Covid-19 on mental health. In this respect, the review has shown that sentiments shifted over time. Such findings could aid the planning of interventions to ease anxiety and negative attitudes. In addition, social media data were able to detect mental health issues. In places like China, there were reports of increasing mental health issues in the population, which could be true for other regions (Tsao et al, 2021).

People use social media for a variety of reasons when looking for health-related information, such as finding out about a specific disease or a doctor/hospital, getting advice or a second opinion, and even just interacting with those facing the same issue (Farsi et al., 2022). In the Brazilian context, Internet applications, including social media, is the place people turn to search for health-related information. A recent survey by Instituto Brasileiro de Geografia e Estatística (IBGE, 2023) has revealed that Brazilians use the Web mostly to make calls (94,4%), send and receive messages (92%), watch videos (88,3%) and use social networks (83,6%). Moreover, a survey conducted by a pharmaceutical brand in 2022 with 2,021 Brazilian participants showed that Google is the first choice when searching for health information online, followed by social networks (Folha de São Paulo, 2023). Instagram is one of the most used social networks in Brazil, reaching 81,4% of Brazilians (Forbes, 2023). Women account for 57,61% of Brazilian Instagram users while men are 42,39%; over 50% of its users are young, aging 18-35, as of January 2024 (Statista, 2024).

The Covid-19 pandemic had people turn to social media to search for information and support, especially those who had their treatments suspended, as was the case with fertility interventions. Peyser et al (2021) report a study investigating fertility-related information on Instagram. After assessing over 3 million posts, they report that 67% of the posts were authored by patients and were mostly about their own experience with fertility treatments. Similarly, Perone

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et al (2020) investigated Instagram posts related to patients' experience with IVF (In Vitro Fertilization). Several themes emerged, including education, social support, emotional spectrum and coping mechanisms. Blakemore et al (2020) have also showed that patients authored most of the posts regarding their infertility journey. These findings show that social media may be used to provide emotional support to a community with shared health-related interests.

In the Brazilian context, there is still little research on the impact of social media on the mental health and well-being of people undergoing fertility treatments. Given the unprecedented social isolation caused by Covid pandemic and the consequent search for health information and emotional support in social media, we decided to investigate how healthcare professionals catered for such growing need, and how this need was expressed in language. Even though posts in social media include several topics, including research and education, our focus was on how emotional content was delivered online. In a recent conference presentation, Carneiro et al (2023) investigated the topics of interest that appeared in the Instagram profile of a fertility clinic and its relation to Instagram metrics. The metrics included number of likes, comments, reach and other measures and the posts were those published right after the onset of the pandemic until December 31st, 2021. Results revealed that posts classified as containing emotional content had significant more likes, reach and interactions, when compared to educational content.

The aim of the present paper is to investigate how emotional posts published by a fertility clinic in Instagram were construed linguistically. In other words, we wanted to know how stance and engagement are expressed in such posts, or, to put it more simply, how the author used linguistic resources to express his/her views and engage with readers. In order to do so, we will adopt Hyland (2005) typology to describe stance and engagement, which addresses the interpersonal character of texts within the theoretical framework of Systemic Functional Linguistics (SFL), and also Luzon (2023) work on stance and engagement in the online medium.

Development Theoretical Background

Language and the social are fully interconnected for SFL (Halliday, 2004). Language evolves when it is used for meaning-making by a system and/or culture. According to Halliday, language, which is one semiotic system, may interact with other semiotic systems including forms of art (music and dance) and cultural manifestations (modes of dress) in order to produce meaning (Unsworth, 2008).

For SFL, all semiotic systems present three meaning-making functions or metafunctions: ideational, interpersonal and textual.

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According to Unsworth (2008), ideational metafunction constructs the event, including the participants and circumstances of time and place; interpersonal metafunction constructs the nature of relationship among participants; and textual metafunction constructs how information is distributed in terms of its value or relative emphasis within elements in the text.

The interpersonal metafunction can be further analyzed from the perspective of Appraisal theory, developed in Martin and White (2005) and based on SFL. Appraisal is one of the three major semantic resources involved in construing interpersonal meaning, in addition to involvement and negotiation. There are three domains included in appraisal: attitude, engagement and graduation. Attitude refers to our feelings, including evaluation of things and behaviors; engagement refers to opinions and attitudes, and graduation refers to grading feelings.

Evaluation, or the way writers and speakers express their points of view, is seen as a critical aspect for the interpersonal function. A related theoretical approach addressing the interpersonal character of evaluation in academic texts can be found in Hyland (2005) and still within SFL. While Martin and White (2005) called evaluative language appraisal, Hyland (2005) called it stance. In other words, stance describes the linguistic resources that writers use to express their views, or how writers position themselves intersubjectively.

Luzón (2023) further refined and adapted Hyland's model to the online medium since stance and engagement may be expressed by resources that were not described in Hyland's model given the new affordances that the online medium has provided. The role of visual semiotic resources needs to be taken into account when investigating interpersonal functions in digital discourse. Xia and Hafner (2022) also showed how other semiotic resources, including gestures, gaze and visuals contribute to create engagement in Ted Talk videos. Emojis may also contribute to create interpersonal meaning, as shown in Logi and Zappavigna (2023).

Luzón (2023) claims that Hyland's model has evolved over time, with some resources being eliminated, others combined and others added. She also based her list of features on Logi and Zappavigna (2023) description of engagement. Her final list includes the following features for stance: self-mentions, attitude markers, hedges and boosters. Since Luzón (2023) was investigating research group tweets, she included the following for self-mention: @mentions of the group/group members, name of the members, first person pronouns and possessive adjectives, hashtags referring to the group's studies, and images of the group/researchers in photos and videos. As for engagement, the following features were investigated: attention-getting resources, appeals to shared interest, reader mentions, directives and discipline related humor. We will adopt Luzon's list of features and resources to qualitatively describe how stance and

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engagement were instantiated in posts that aimed at addressing emotional issues (including themes such as special dates, good news about the pandemics and tips for dealing with the emotional burden of going through pandemic times) during the first two years of Covid-19 pandemic.

Methodology – data and procedures

Data used in this research came from a databank of Instagram posts published by Origen, a fertility clinic from Belo Horizonte in Brazil, between 03/16/2020 and 12/31/2021. Engagement metrics such as number of views, likes and interaction were also included. Instagram metrics were made available to the authors by the profile owner of @clinicaorigenreproducao. All data from post were publicly available. Since there is no direct human participation, there was no need to submit this research to the local ethics committee according to Ministério da Saúde (resolução nº 510 de 07 de abril de 2016 do Conselho de Ética em Pesquisa -COEP).

The posts were categorized into three groups: educational/scientific (subjects of interest to the target audience such as infertility, endometriosis, embryos), informative (about the clinic and staff) and emotional (including topics such as maternity/pregnancy and patient testimonials; tips and motivational message; special dates and good news). The majority of posts produced and published by the profile were considered educational (189 out of 347), and 155 were emotional, while only three were informative. Emotional posts comprised major themes such as special dates, good news about the pandemics and tips for dealing with the emotional burden of going through pandemic times. We excluded videos from our study, analyzing only posts with text and still image. After selecting the emotional posts from the databank, we proceeded to randomly select at least one post from each of the following themes (special dates, good news about the pandemics and tips for dealing with the emotional burden of going through pandemic times) so as to qualitatively analyze how stance and engagement was achieved. We took snapshots from the posts so as to preserve its original presentation, excluding patient identification if needed. We also looked at the metrics provided by Instagram to complement our analysis.

Data analysis

The features under analysis for stance were: self-mentions, attitude markers, boosters and hedges; and for engagement: attention-getting resources, appeals to shared interest, reader mentions, directives and discipline related humor, as described in Luzón (2023). We will start with stance, and then proceed to engagement.

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Stance features Self-mention

Self-mention refers to the explicit presence of the author in the text. Self-mentions in social media can be seen as @mentions, first person pronouns and possessive adjective, images of the author and @referring to the author activity. Such features can be seen in the posts in figures 1, 2 and 3, that aim at giving tips for quarantine time, celebrating special dates and inviting patients to talk about their wishes, respectively. All 3 posts contain # with the clinic name. In addition, all of them refer to themselves using first person plural verbal forms in the caption.

Figure 1- quarantine.



Source: Instagram.com

Figure 2 – Nurse day



Source: Instagram.com

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Figure 3 – single motherhood



Source: Instagram.com

Fig. 1 reads ‘Searching for what to do during quarantine time? We selected 5 can’t miss documentaries on Netflix’. Fig. 2 is a post celebrating nurse’s day. The caption reads ‘Today is international nurses’ day. We took advantage of this inspired piece of art by @banksy to pay homage to all health professionals that are acting front line against Covid-19’. Finally, fig. 3 caption can be translated as ‘searches for single motherhood have significantly increased in September and this could be a good moment for us to talk about it’.

Attitude markers

Emojis may be employed to express attitude (Escouffaire, 2021). According to Luzón (2023) linguistic markers of attitude include (i) positive adjectives or nouns which emphasize quality and excellence, (ii) expressions of positive feelings or emotional reactions (iii) expressions of congratulations and thanks. Also, Hyland (2005, p. 180) argues that attitude markers can be expressed linguistically through subordination, comparatives and punctuation. Attitude can be more explicitly expressed with verbs conveying attitude such as agree and prefer, sentence adverbs and adjectives.

Fig. 4 contains an instance of emoji expressing attitude. The caption reads ‘Today our #tbt is this sweet visit we were paid recently!’. The blue heart emoji conveys a positive feeling towards the picture, which shows a smiling doctor carrying a baby in his arms, as well as the textual element in the caption. Figure 5 also uses emojis to express positive feelings. The sparkles C+.denote positive feelings including happiness and love. In Fig. 5, sparkles come after the caption, which reads ‘positive thinking, always’.

Stance can be seen in modifier + nouns combinations as in

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'can't miss documentaries' (fig. 1); 'inspiring art', and 'heroic attitude' (fig. 2); 'significant increase', 'good moment' and 'great ally' (fig. 3); 'sweet visit' (fig. 4) and 'positive thinking' (fig. 5). Thanks were also expressed in fig. 2 – 'we thank you all'.

Figure 4 - #TBT



Source: Instagram.com

Figure 5 – positive thinking



Source: Instagram.com

Hedges and Boosters

Hyland (2005, p. 178) defines hedges as “devices like *possible*, *might* and *perhaps*, that indicate the writer’s decision to withhold complete commitment to a proposition, allowing information to be presented as an opinion rather than accredited fact.” Booster, on the other hand, allow writers to express certainty on a given topic.

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They are seen as a way to stress the information that is shared, marking “involvement with the topic and solidarity with their audience” (Hyland, 2005, p. 179).

There were very few instances of hedges. One can be seen in fig. 1. After telling the reader what the post is going to be about, the writer states ‘the theme you should already know’. The modal should is a hedge used to indicate a possible guess, yet not a certainty. The same can be seen in fig. 3. As previously mentioned, the significant increase in searches for single motherhood ‘could’ be the perfect timing to discuss about it. The use of the modal verb ‘could’ shows what the author believes to be appropriate given the circumstances. Instances of boosters were not found in our data.

As the data shows, stance was achieved mostly by posts contain # with the clinic name, use of first person plural verbal forms in the caption as well as emojis representing attitude and positive adjectives or nouns emphasizing quality and excellence, expressions of positive feelings or emotional reactions, and expressions of congratulations and thanks. There were very few instances of hedges and none of boosters. In essence the use of such linguistic resources may have contributed to create an inviting and emotionally positive stance in the posts that were considered emotional and were devised to help readers/patients cope with the emotional distress felt during quarantine/ pandemic years. What needs to be seen is whether emotional posts also used linguistic resources to engage readers. We turn to this issue next.

Engagement features **Attention getting**

According to Luzón (2023), attention-getting resources employed in her study were emojis and visuals, including infographics, slides, flyers and banners. Instagram favors visual communication; its system allows users to use visual modes, including photographs, illustrations, drawings and other visual forms as an initiating move. As a response to this move, readers may write a comment. In Instagram, dialogue may start when a user writes a response, in the comment area, right below the caption of an initial post. Within the comment area, there is room for further comments and exchanges (Jovanovic and van Leeuwen, 2018). We expect users to explore this feature to get their message read and meaning across. One of engagement measures is the number of comments a post generates.

In addition to images, Instagram writers have been resorting to texts lately (Schreiber, 2024), considered an emerging genre. According to Schreiber (2024), Instagram is moving from visual, aesthetic communication about ordinary life such as food and traveling to more argumentative communication about racism and mental health. Our data has shown that emotional content posts may contain both images and text as attention-getting. Figs. 1 to 5 use image to get readers

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attention, while fig. 6 makes use of both image and text. Figure 6 text reads: 'do not say: I can't', followed by the red symbol commonly used for error, and then 'Say: my time is coming', followed by the green tick, usually used to indicate correctness. No emojis were used to gather attention.

Appeals to shared interest

Resources involved in expressing shared interests and concerns include questions, thinking face emoji, hashtags and discipline related emoji (Luzón, 2023). Our data revealed the presence of hashtags in all posts. Questions were also used, as seen in fig. 1, which reads 'Searching for what to do during quarantine time?' addressing the reader directly and then suggesting interesting documentaries on maternity. Emojis were not found as expressing shared interest.

Reader mentions

Addressing and acknowledging readers is a strategy used to generate engagement. Its forms include naming and @mentioning other users, using personal pronouns (second person and inclusive we) and displaying images of other users. The use of inclusive we and second person pronoun you can be found in fig. 6. The caption reads 'Now, more than ever we need to take into account the importance of our most precious asset: our health. Life has still a lot in store for you, take good care to live life to the fullest!' The text in the picture slot also directly addresses the reader 'Be in tune with yourself'. Similarly, fig. 7 contains second person pronouns. The text in the image reads '#you are not alone'. The caption also contains inclusive we: "We at Origen believe mental health is an important issue and is taken seriously throughout the year. We are taking advantage of yellow September to reinforce the importance of psychological assistance during fertility treatment. Count on us'. Naming and at mentions were not found in our data.

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Figure 6 – Be in tune with yourself



Source: Instagram.com

Figure 7 – you are not alone



Source: Instagram.com

Directives

Luzón (2023) describes directives being used with various purposes. Those include encouraging the reader to check a new publication, directing to a hyperlink containing a publication, registering for a course, conference, workshop and participating in a study. Our data has showed that directives were used to advise the reader to take action regarding his/her personal life as in fig. 5 (do not say: I can't, 'Say: my time is coming'), fig. 6 (Be in tune with yourself; take good care to live life to the fullest) and fig. 7 ('count on us'). As for discipline-related humor, our data did not present any instance of it.

The data has revealed that the resources used to engage readers were the following: display of both images and text as

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attention-getting, use of hashtags and questions, inclusive we and second person pronoun, and directives in the form of advice. What seems to be the case here is that features of online communication such as images and hashtags were employed to get readers attention and engage with the content, as well as linguistic resources commonly used to create engagement, which is the case of inclusive we and directives. The latter resources directly address and invite the reader to engage with the content of post, while also offer advice on the emotional aspect of going through fertility treatments during pandemic times.

Instagram metrics

Carneiro et al (2023) reported that Origen Instagram profile aims at providing patients and the general public reliable information on assisted reproduction and infertility as well as provide patients with emotional support during their fertility journey. Since the beginning of Covid-19 pandemic, the profile started to inform patients on the changes imposed by the Brazilian Association of Assited Reproduction (SBRA) and the Red Latinoamericana de Reproducción Asistida (REDLARA) regarding fertility treatments. The profile saw a 13% increase in their number of followers, with the majority being women (46%) and 41,3% of men aging 35-44. Their analysis of posts in the period included frequency of likes, reach (amount of unique profiles that saw the post) and interaction (amount of comments, likes and saves).

The results showed that when the metrics of emotional and educational posts were compared, emotional content posts had significant more likes, reach and interactions, all at $p < 0.05$, even though there was a higher number of educational posts. Just for the sake of illustrating, the good news subtheme had reached over 71,000 people and received over 5,000 likes while cryopreservation with 13 posts reached over 51,000 people and received a little more than 2,000 likes. They concluded that people searched for emotional content in social media in times of hardship.

Final Considerations

The present paper aimed at investigating how posters that were created to help patients cope with the emotional burden of going through fertility treatments during the Covid-19 pandemics were construed linguistically when seen from an interpersonal perspective. In other words, we wanted to investigate the resources used to express stance and engagement, that is, how Origen Instagram profile positioned itself intersubjectively. In order to do so, we analyzed data from a previous study on emotional content posts created and shared in Origen profile during the pandemic years of 2020 and 2021. Our theoretical background included insights from Systemic Functional

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Linguistic and, more specifically, the interpersonal metafunction, as described in a typology by Hyland (2005) and further elaborated in Luzón (2023). In short, we investigated how stance and engagement were expressed linguistically, in addition to also looking at Instagram metrics data.

Our analysis revealed that the posts contained a variety of resources for expressing stance, including attitude markers in the form of positive adjectives and nouns, expressions of positive feelings and positive emotional reactions and expressions of gratitude. There were a few cases of hedges, but no boosters. Emojis were also used to convey positive attitude. Such findings tell us that the language found in the emotional posts is essentially positive and may have contributed to connect with the reader in a reassuring and confident way. In addition, the statistical data presented in Carneiro (2023) corroborates the fact that such posts were appreciated by its readers.

Engagement was achieved through the use of attention-getting resources including images, which appeared in almost all posts under analysis. Also, appeals to shared interest in form of questions were present. As for reader mentions, inclusive we and second person pronoun were a common feature. Directives, telling the reader what to do or how to feel were also found not only in the caption but also in the image itself. Taken together, all those features may have contributed to generate engagement, which was confirmed by the high frequency of views and interactions.

Social media, especially Instagram, which was originally used as a venue for selfies and food pictures, has changed to serve a variety of purposes. Not only can it be used to disseminate scientific knowledge (Luzón, 2023; Xia and Hafner, 2021; Carneiro et al, 2023, among others) but also be a place where users may find comfort and share their experiences (Blakemore et al, 2020). This study has showed that during covid-19 emotional posts may have played a role in providing comfort and emotional support to those who were isolated and had their treatments suspended.

One limitation of this study lies in the reduced number of posts for analysis. Further studies could investigate a larger dataset in order to confirm the trend observed here. Also, the topics that are discussed when users post a comment would be of interest to those investigating community support online.

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