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“Healthy”
When the pursuit of health turns into a mental disorder: the case of orthorexia nervosa

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CHAPTER 10. "When are we going to hold orthorexia to the same standard as anorexia and bulimia?" Exploring the Conversation about Orthorexia Nervosa on Twitter.

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This study contributes to understanding medicalization on social media, by exploring the conversation about orthorexia nervosa (ON) on Twitter, using Conrad's concept of *medicalization* as a theoretical frame. This study adopts mixed methods: analysis of quantitative metrics of tweets provides an overview of the online context in which discourses around ON take place (e.g. number of tweets, type of users, networks); qualitative thematic analysis of original tweets enables the identification of main themes characterizing the conversation about ON on Twitter. Findings demonstrate that professionals are prominent actors engaging in the ON-related conversation on Twitter, yet the discourse used is more commonly associated with popular culture than with scientific culture. That is, rather than relying on scientific evidence, the most shared external sources are popular reports and arguments in favor of medicalizing ON, which rely on experiential knowledge and personal experience. Uncertainties characterizing the understanding of ON emerged, mainly concerning its association with non-traditional diets (e.g. veganism, clean eating) or weight loss, its inclusion into the DSM, and its etiology. Notably, these uncertainties are deployed by those who resist medicalization as counter-arguments. These findings are important for health communication researchers and practitioners, as they show the contributors to framing new and emerging disorders on Twitter. Results provide an overview of tensions between medical vs. public discourses around normality and pathology, thus enriching the literature on health communication and medicalization.

Key words: orthorexia nervosa, twitter analysis, medicalization, social media

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10.1 Introduction

Over the past decades, scholars have increasingly turned their attention to orthorexia nervosa (ON), an emergent disordered eating pattern. ON can be described as a pathological eating practice deriving from an intensification of the pursuit of health, which results in an obsession with healthy eating [1]. People suffering from ON can harm themselves physiologically, psychologically, and socially by prioritizing the consumption of food believed to be healthy over other important areas of their lives [1] – e.g. people spend excessive time obsessively thinking about, buying, and preparing healthy foods, which causes social isolation and, in turn, psychological distress.

In 1997 Steven Bratman described ON in the Yoga Journal [2]. Although Bratman did not intend to propose a new eating disorder [2], the term attracted the attention of a number of scholars who have since acknowledged the danger of the phenomenon and conducted scientific studies on it. Despite an increase in scientific publications since the beginning of the 2000s [3], the scope of the studies published seems to be limited [4], [5].

There are a number of gaps in the knowledge about ON. First, scholars describe ON in different ways. As such, a shared understanding of the phenomenon is missing [6]. Second, a set of formally-recognized diagnostic criteria for ON has yet to be developed [6], [7]. Third, different diagnostic tools, based on slightly different interpretations of ON, are used to estimate ON prevalence, which impedes reliance on accurate prevalence estimates [8]. These gaps hamper the formalization of ON as a diagnosis and raise skepticism among scholars and diagnostic institutions.

While scholars and diagnostic institutions are skeptical with considering ON a formal diagnosis, ON has entered popular culture [5], [9], [10]. By the early 2010s, popular reports claiming the existence of a ‘new eating disorder’ spread both in paper and online media [5], [9], and today there is a plethora of books, documentaries, and informative articles about ON (see e.g., [11]–[13]). The popularity of ON on social media is particularly noticeable; to date, over 150.000 pictures have been shared on Instagram using the hashtag #orthorexia, and on Twitter conversations about ON have also been identified [9]. It thereby seems that social media platforms have mediated the uptake of the concept from the scientific community to society [9], and also set in motion a process of medicalization of ON – a discursive process which can be defined as a “journey” through wich non-medical conditions become medical [14].

10.1.1 Medicalization as a Discursive Process

Medicalization describes the process through which non-medical conditions (e.g. social phenomena) become defined and treated as medical problems. Although the term has been often used with negative connotations (i.e. over-medicalization), medicalization *per se* is neither positive nor negative [14]–[16]. While in the past

the term ‘medicalization’ was often used to highlight the increasing jurisdiction of the medical profession, today it is recognized that lay people and patients are active players too [15], [17]. This shift is due to an increasing buyer-driven system that empowers lay people and patients to bring about (or resist) medicalization [17].

Medicalization is a discursive process that exists and develops through communicative interaction. This idea has its roots in the social construction theory, which postulates that phenomena do not derive their meaning from these phenomena themselves, but rather meaning develops through social interaction between individuals - i.e. people’s interactive definition-making [18], [19]. Via symbolic convergence, communication allows individuals to converge their meaning into a shared symbolic system, which may promote or resist medicalization [20]. Analyzing discourses that guide medicalization of certain phenomena allows displaying of interacting forces and discursive struggles between different types of actors (e.g. medical knowledge vs. popular knowledge). This ultimately allows for conceptualizing those with power in socially constructed phenomena as medical entities [21].

10.1.2 Medicalization on Social Media: The Case of Orthorexia Nervosa on Twitter

Social media has entered health communication research as platforms, allowing for the analysis of health-related conversations and therefore the development of insights into health communication mechanisms, approaches, and strategies. Some studies have focused on the differences between social media platforms in the way users engage in conversations (e.g. [22]). Other studies have explored the role of hashtags in bringing together and coordinating communities with a shared interest in a specific event or topic [23]. Social media has also been used to track health communication strategies concerning health promotion and disease prevention [24]. Yet, the concept of medicalization on social media has been scarcely addressed. Predominant attention has been paid to how medicalization is carried out, or resisted, by traditional media, such as newspaper articles [25]. In a time of increased “self-medicalization” [16], however, the role of social media as platforms where medical phenomena are socially constructed has become crucial.

Social media platforms are spaces where one can observe interactions and controversies between different types of knowledge, e.g. medical vs. popular, which influence the social construction of ON as a medical problem. Which type of knowledge has supremacy over the other may reflect inherent power relationships and structures [21]. Sometimes, it happens that medical knowledge gains legitimacy over public knowledge, steering the process of medicalization. Other times, it happens that even though scientists are the first to bring out the medical concept, this is then absorbed by the public to the point where technical and public understandings merge together and it is no longer possible to distinguish the two [21].

Although they have never been investigated through a medicalization perspective, conversations about ON have been identified both on Instagram and Twitter [9], [10], but only Instagram has been explored in this

regard [10]. A quantitative content analysis into the #orthorexia conversation on Instagram suggests that Instagram is used as a supportive platform, where people who self-identify as suffering from ON like to share personal stories and supportive content [10]. Studies on Twitter regarding ON seem to be missing. Twitter is a microblogging social media platform that counts up to 330 million monthly active users [26]. Twitter allows users to interact through messages containing 280 characters called "tweets." Registered users can post, repost and 'like' other tweets, or mention other users. In past years, Twitter has increasingly attracted researchers' attention as a source of data to be used in social science research [27]. As Twitter is increasingly used by scholars to share their knowledge and create networks [27], the platform has the potential to be a great example of how medical and popular cultures interact with each other.

10.1.3 Study Aim and Research Question

The aim of this study is to explore how medicalization of ON is taking place through the social media interface, by specifically exploring the conversation about ON on Twitter using a mixed methods approach. The research question of this study is: "How do Twitter conversations about ON reveal the discursive processes of medicalization?" Answering this question is important for health communication researchers and practitioners because it shows what type of individuals contribute to framing new and emerging disorders on Twitter, and how this can be interpreted in light of medicalization. It also allows for creating an overview of tensions between medical vs. public discourses around normality and pathology, enriching the literature on health communication and medicalization.

10.2 Methods

This study adopted mixed methods. Quantitative data were obtained about the Twitter metrics, e.g. the number of tweets and types of messages and users engaging in the conversation about ON on Twitter. This facilitated conducting a quantitative network analysis and creating an overview of the online context in which discourses around ON take place. Qualitative inductive thematic analysis [28] of original tweets was performed to identify main themes characterizing the conversation about ON on Twitter. Themes were identified with the study frame – i.e. medicalization - in mind, thus providing an overview of discursive tensions concerning understanding and conceptualization of ON as a medical problem.

10.2.1 Data Extraction

Tweets containing the keyword "orthorexia" (both in hashtag-form and as a word) shared in 2019, from August 7th at 07:10h, to August 16th at 01:46h, were downloaded from Twitter through the open source tool *TAGS*. *TAGS* works as a Google Sheet template that facilitates setup and automated collection of search results from Twitter. It uses Twitter's Application Programming Interface (API) to ingest all tweets that match the tracking criteria. A choice was made for a timeframe of one week because an initial search on Twitter performed by the

authors led to the conclusion that there would have been a high number of tweets in this timeframe that suit the purpose of this study, even considering the relative novelty of the topic. The search was executed on August 16th, 2019 and Twitter's API collected tweets shared during the previous seven days. Information extracted by *TAGS* included: user name, text of the tweet, date and time of the tweet, type of tweet, number of user's followers, and their connections.

10.2.2 Data Analysis

10.2.2.1 Quantitative analysis

Data extracted through *TAGS* were converted in excel-form and analyzed through the data analysis and visualization software package *Tableau Desktop,* version 2019.2. A framework for quantitative data analysis was derived from the metrics proposed by Bruns and Stieglitz (Bruns & Stieglitz, 2013). The framework consists of different metrics that were used to collect and analyze twitter data: (I) content metrics (i.e. types of tweets shared on Twitter, such as original tweets, retweets or @mentions), (II) user metrics (i.e. contributions made by specific users to the conversation around the topic considered) and (III) network analysis (visualization of the structure of the entire network and the nodes) [29]. Network analysis was performed using the software *Gephi* 0.9.2 and the *ForceAtlas2* layout was used to visualize the network structure. Number of nodes and edges, and average and weighted degrees (wd) were calculated.

10.2.2.2 Qualitative analysis

Inductive thematic analysis was performed on the original tweets[1]. From the excel extraction sheet, original tweets were imported into a word document. The majority of tweets were in English; tweets in languages other than English (Japanese n = 2, Greek n = 1, Swedish n = 1, Korean n = 1, Indonesian n = 1) were translated through *Google Translate*. The six phases proposed by Braun, Clarke & Weate (2016) [28] were followed for thematic analysis. First, tweets were analytically read and notes were taken during the process (*familiarization phase*). Second, tweets were imported into *Atlas.ti* and were coded, meaning a label was assigned to specific parts of text (*coding phase*). Third, codes were clustered into higher level patterns linked to the medicalization framework (*theme development phase*). Fourth, it was checked whether the analysis fit with the data, and whether the storyline was coherent with the research question (*refinement phase*). Fifth, themes were defined and named, thus building depth into the analysis (*naming phase*). Lastly, analysis was reported into the final manuscript (*writing up phase*) [28]. Codes and analyses were discussed throughout with the research team to enhance validity.

[1] Thematic analysis was performed on those tweets that made it possible to identify a theme and meaning behind words. This means that it was not possible to carry out the analysis on very short tweets, with no perceivable meaning, such as for example: "*I just encountered the word orthorexia*".

10.2.3 Ethical Considerations

To comply with ethical standards, this study relied upon the recommendations enacted by the AoIR Ethics Working Committee on Ethical Decision-Making and Internet Research (Version 2.0) (Markham et al., 2011). These recommendations, which have been extensively consulted by research ethics and institutional review boards, propose six guiding principles for Internet research, which were considered in the present study (Markham et al., 2011). Regarding the issue of the involvement, or otherwise, of human participants, the report specifies: "*If the connection between the object of research and the person who produced it is indistinct, there may be a tendency to define the research scenario as one that does not involve any persons*" [30]. Data collected in this study were anonymized; however, to provide context for the tweets, gender and profession were reported, when possible. Furthermore, tweets reported are rephrased to ensure anonymity. For this reason, no ethical review was needed from an external institution in order to conduct this research.

10.3 Results

Below, first the quantitative findings are discussed, divided by content metrics, user metrics, and the results from the network analysis. Then, the qualitative results displaying the main themes that emerged from the tweets are reported: Definitions of ON, Attitudes towards ON, and Etiological aspects. Finally, a more in-depth investigation of results in light of the medicalization framework is reported in the discussion.

10.3.1 Quantitative findings

10.3.1.1 Content Metrics

A total of 522 tweets regarding ON shared from August 7th to August 16th 2019 were extracted from Twitter. Among those were 234 original tweets, 175 retweets, and 113 @mentions. All tweets contained the keyword "orthorexia" in hashtag-form or as a word. To acquire a preliminary understanding of the nature of the content posted about ON, secondary hashtags beyond the hashtag "#orthorexia" were identified. The most popular hashtag associated to ON was #rdchat, with "rd" meaning "registered dietitian". Others were: #healthyfood, #psychology, #doctors, and #eatingdisorders. An overview of the most frequent secondary hashtags is reported in Table 10.1.

Table 10.1. Secondary hashtags used in association with ON

Secondary Hashtags	Frequency
#rdchat (1)	16
#healthyfood	6
#breaking	4
#darksideofminoracademicframe	2
#psychology	2
#doctors	2
#eatingdisorders	2
#healthyeating	2
#reinventhealthy	2

(1)Registered dietitians chat

Many retweets concerned one specific article published online by the Canadian news portal National Post: "*Orthorexia vying for classification as mental disorder as more people become obsessed with 'clean eating*'" [31]. A considerable number of users shared, or commented on, this article, sparking a peak of tweets over time, as shown in Figure 10.1.

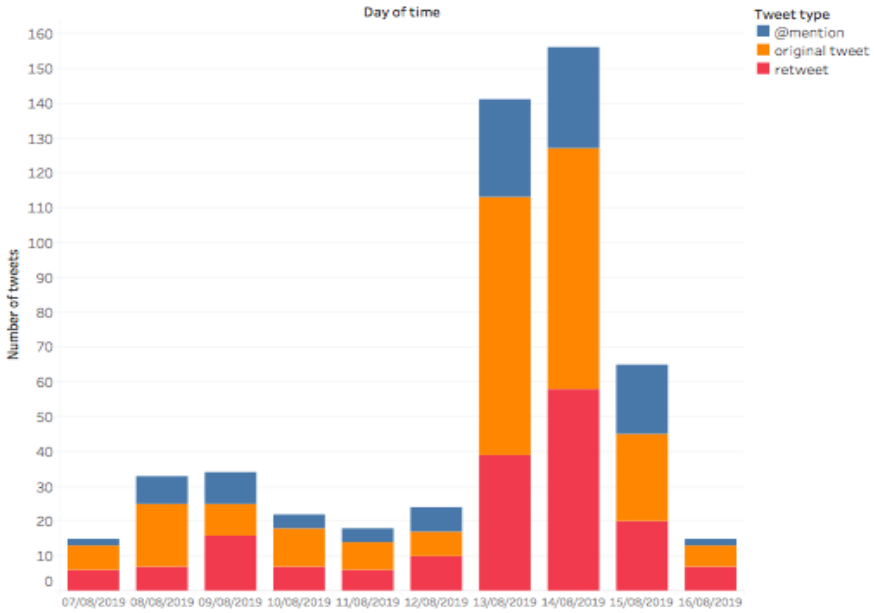

Figure 10.1. Tweets type along the days

10.3.1.2 User Metrics

The five most active, prominent, and visible users who engaged in the conversation about ON on Twitter were identified. Most *active* users are those who tweeted about ON the most, most *prominent* users are those with the larger number of followers who tweeted about ON, and most *visible* users are the most mentioned/retweeted users who tweeted about ON. An anonymous overview of Twitter users involved in the conversation about ON is reported in Table 10.2.

The five most prominent users were Twitter accounts of online news portals, while these were much less present in the list of most active and visible users. This means that news agencies do post about ON occasionally, but do not contribute much to the discussion about the phenomenon. Instead, personal accounts get more attention in the form of retweets and mentions. The most active account was shown to be a registered dietitian and, among the most visible accounts, were a professor, a researcher, and an editor, suggesting a predominance of the technical sphere in the conversation about ON on Twitter.

Table 10.2. Overview of the five most active, prominent and visible users

	Type of account	Profession	Gender	N. of tweets	Type of tweets	N. of followers	N. of retweets	N. of mentions
5 most **active** users	Personal	Registered dietitian	Female	14	@mentions	1.464	/	/
	News	/	/	11	Original tweets	8.352	/	/
	Personal	Office worker	Male	7	Original tweets	28	/	/
	Personal	/	Female	6	Original tweets	792	/	/
	EDs informative	/	/	5	Original tweets	10.421	/	/
5 most **prominent** users	News	/	/	2	Original tweets	2.4Mln	/	/
	News	/	/	1	Original tweets	814.644	/	/
	News	/	/	1	Original tweets	243.812	/	/
	News	/	/	1	Original tweets	204.522	/	/
	News	/	/	1	Original tweets	189.365	/	/
5 most **visible** users	News	/	/	/	/	/	1	25
	Personal	Professor	Male	/	/	/	23	1
	Personal	Researcher	Male	/	/	/	20	1
	Personal	Editor	Male	/	/	/	15	/
	News	/	/	/	/	/	/	15

10.3.1.3 Network Analysis

The network structure of the conversation about ON in one week on Twitter is reported in Figure 10.2. Users seem to be rather isolated from each other, indicating that the conversation is not dynamic. However, some agglomerations are visible. The accounts representing the four main nodes of the network structure and their respective weighted degree are: (i) personal account (registered dietitian, wd = 15), (ii) account of online news portal (wd = 14), (iii) personal account (communication and pharma professional, wd = 5), and (iv) account of online news portal (wd = 4).

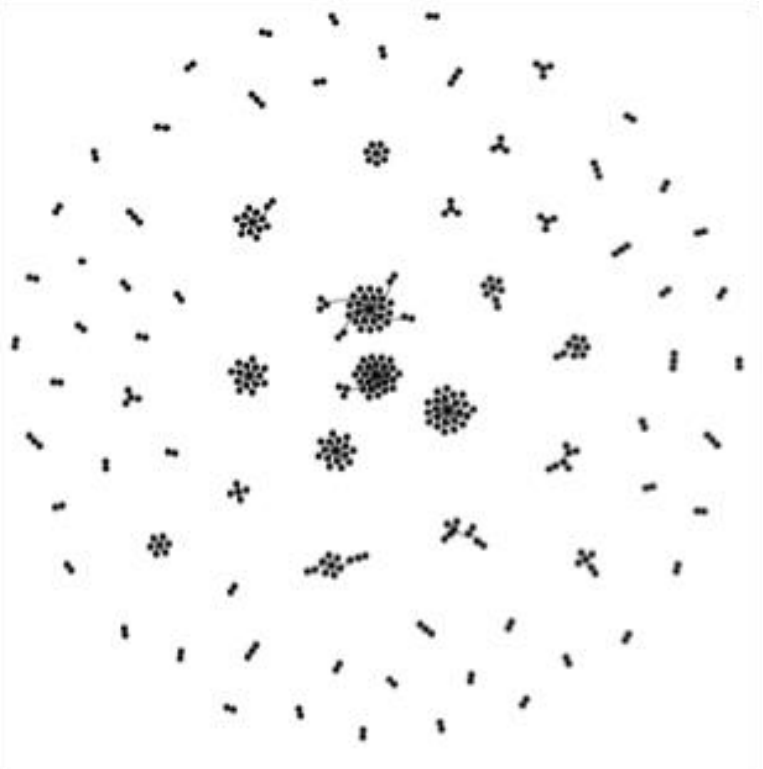

Figure 10.2. Network structure of the conversation about ON in one week in August 2019 [Nodes: 338, Edges: 272, Average degree: 0.805, Average weighted degree: 0.852]

10.3.2 Qualitative findings

Thematic analysis was performed on original tweets (n = 234). A qualitative classification of tweets is reported in Table 10.3. Although a majority of tweets were without an apparent meaning, too short to allow extrapolation of a theme, or solely sharing a link to an external source, a minority of tweets allowed the identification of themes. Three main themes were identified: (I) *definitions of ON*, (II) *attitudes towards ON*, and (III) *etiological aspects*. These themes shed light on people's understanding of ON. Additionally, some discursive tensions have been identified that reveal insights into the medicalization process that ON is undergoing.

Table 10.3. Classification of original tweets about ON

Category	N of tweets	%
Tweets sharing a link to an external source	183 (out of 234)	78.2%
Link to an online informative article	152 (out of 183)	83.1%
Link to content tweeted by other users	12 (out of 183)	6.6%
Link to a photo	9 (out of 183)	4.9%
Link to a YouTube video	3 (out of 183)	1.6%
Link to a scientific publication	3 (out of 183)	1.6%
Link to a blog	1 (out of 183)	0.6%
Link to a podcast	1 (out of 183)	0.6%
Link to an Instagram post	1 (out of 183)	0.6%
Tweets solely informative, not expressing personal opinions	119 (out of 234)	50.9%
Tweets expressing personal opinions	115 (out of 234)	49.1%
The user believes to have (had) ON	13 (out of 115)	11.3%
The user suffered from ON and recovered	8 (out of 13)	61.5%
The user suffered from ON and is recovering	3 (out of 13)	23.1%
The user is currently suffering from ON	2 (out of 13)	15.4%
The user believes ON exist, is important or is a disorder	61 (out of 115)	53.0%
The user believes ON is not important, shouldn't be a diagnosis or is not negative for health	17 (out of 115)	14.8%
Because ON is equated to clean/healthy eating	8 (out of 17)	47.1%
Because recognizing ON implies labeling people and medicalizing a normal behavior	6 (out of 17)	35.3%
Because recognizing ON implies going against veganism/vegetarianism	2 (out of 17)	11.8%
Because ON should not be a priority	1 (out of 17)	5.9%
The user shares personal opinions, but not about ON	24 (out of 115)	20.9%

10.3.2.1 Definitions of ON

Within this theme, it was possible to identify three sub-topics, which shed light on some tensions regarding the way ON is understood; tensions that may be a result of a collision between technical and public understanding of ON: (i) overlap between ON and clean eating, (ii) overlap between ON and veganism, and (iii) weight loss and ON.

10.3.2.1.1 Overlap between ON and Clean Eating.

Tweets (n = 10) were identified that talk about an association between ON and clean eating. Discourses dealing with this specific association may have arisen as a result of the publication of the article "*Orthorexia vying for classification as mental disorder as more people become obsessed with 'clean eating*'" [31]. According to some tweets, clean eating would be a "masked" ON or a dietary practice that "perpetuates" it. Other tweets describe ON as the extreme version of clean eating or as an obsession with such a dietary practice: "*She said 'it's not a weight loss diet, it's clean eating!', and I replied, 'the line distinguishing the two can be very thin and I know that because I had orthorexia, an obsession with clean eating* […]" (dietitian, female). It is noteworthy that some tweets show confusion with regard to the difference between the two: "*Is clean eating considered a mental condition now? Evidence suggests that eating clean/healthy foods helps with mental health issues, such as depression and anxiety* [link]" (mental health advocate, male).

10.3.2.1.2 Overlap between ON and Veganism.

Linked to the confusion between ON and clean eating, the second group of tweets (n = 5) discuss veganism in relation to ON. Some tweets show that people tend to associate ON with veganism: "*Orthorexia nervosa is the reason why I will never become vegan* [link]" (registered dietitian, female) or "*I consider extreme diets, both vegan and carnivore, as obsessions with health and excessive control over body and food intake* [link]" (background unknown, female). Also vegans and vegetarians themselves associate ON with veganism. They felt attacked for their dietary choices when they came across articles dealing with ON: "*It's 15 years I have been following a vegetarian diet, but coming across this (orthorexia) really disturbs me* [link]" (sustainability advocate, female).

10.3.2.1.3 Weight Loss and ON.

Often pointed to as a driver for eating disorders such as anorexia nervosa or bulimia nervosa, the topic of weight loss emerged in tweets (n = 5) about ON on Twitter. Opinions were mixed in this regard: some people believed ON not to be related to the desire to lose weight: "*There are not just eating disorders whose ultimate goal is thinness, like anorexia or bulimia. There are also binge eating disorders or orthorexia nervosa*" (background unknown, male); while other people seemed to be associating ON to body weight: "*I wanted to lose weight, therefore I started dieting and exercising when I was 15, then it snowballed into a 10 years struggle with anorexia, orthorexia, and exercise addiction* […]" (person with an eating disorder, female).

10.3.2.2 Attitudes towards ON

Within this category it was possible to identify sub-themes which reflect important arguments guiding medicalization of ON: (i) recognition by the DSM, (ii) opposition to ON recognition, and (iii) advocacy for ON recognition.

10.3.2.2.1 Recognition by the DSM.

Certain tweets (n = 23) adopted a language that made it possible to capture people's awareness (or lack thereof) that ON is not yet officially recognized by the DSM. While some tweets underline users' awareness of this non-recognition: "*It is important to keep in mind that orthorexia nervosa has not yet been recognized by the DSM!!*" (writer, female), others consider ON an official diagnostic category, precisely an eating disorder: "*I explained the class that more eating disorders exist in the DSM apart from anorexia and bulimia, for example orthorexia. I had to explain them what it was and nobody knew about that*" (background unknown, female).

10.3.2.2.2 Opposition to ON Recognition.

Tweets (n = 17) were identified that dealt with the opposition to the formal recognition of ON as a mental disorder. Going deeper into the reasons for such opposition, it was possible to identify: (i) a rebellion against the medicalization of a behavior that is not pathological per se, and to the top-down imposition of diagnostic labels on people (n = 6): "*I find profoundly bizarre that at a certain point every behavior will be pointed to as a mental condition* […]" (background and gender unknown), (ii) an aversion to the recognition of ON as a mental disorder because of the fear that all vegans will be then considered "orthorexic" (n = 2), and (iii) the belief that ON should not be given importance because it's not a (health) priority at this point in time (n = 1). Additionally, people (n = 8) who interpreted ON as a positive attribute for their healthy diet were identified, showing that the concept may be interpreted as a positive denomination to indicate something they are proud of.

10.3.2.2.3 Advocacy for ON Recognition.

Tweets (n = 6) were found that stressed the urgency to give ON the same importance as other eating disorders: "*When are we going to hold orthorexia and other EDNOS* (eating disorders not otherwise specified) *to the same standard as anorexia and bulimia? I am waiting for it!*" (background unknown, female). A main argument for this was the importance of considering that distress can manifest itself through means of food, which does not necessarily imply desire for thinness: "*Do not overgeneralize eating disorders. They can manifest in different ways, including binge eating or orthorexia. If you just talk about 'thinspo'* ('thin inspiration') *it implies everyone with an eating disorder wants to be skinny* […]" (background unknown, female) or "*Anorexia is the nr. 1 mental illness with most deaths, but just for educational purposes, it is NOT the only eating disorder. There are binge eating disorder, orthorexia and many others that go beyond being skinny*" (background unknown, female).

10.3.2.3 Etiological aspects

Apart from discussions on the phenomenon and its future as a diagnostic entity, users engaged in discussions about the potential root causes of ON. Two main themes emerged: (i) the influence of social media, and (ii) the influence of the sociocultural environment.

10.3.2.3.1 The Influence of Social Media.

N = 10 tweets talked about the link between ON and social media. The duality of such a relationship was clearly visible from the tweets. On the one hand, social media accounts focusing on wellness and clean eating were seen as potentially dangerous for ON. Instagram, in particular, was considered a trigger for ON: "*I don't like weight loss or clean eating accounts on Instagram, because they remind me of my anorexia period. However, people use now the hashtag #fitspo* ('fitness inspiration'), *which I think indicates that many of those have orthorexia instead*" (background unknown, female). On the other hand, users reported the potential role of social media as supportive networks for people who are suffering: "*If used properly, Twitter may serve as a supportive platform for people recovering from orthorexia* [link]" (background and gender unknown).

10.3.2.3.2 The Influence of the Sociocultural Environment.

The second theme raised by users regarding the potential root causes of the emergence of ON is the link between ON and broader societal trends. Tweets (n = 7) stressed the need to consider the influence of today's "toxic" diet culture on ON: "*I grew up in the 80s and 90s and it was different at that time. Nowadays, millennials have been harmed by their mums' weight loss trends and orthorexia*" (writer, male) or "*Do you also agree that diet culture is getting worse? I mean, I know that we have been living in a 'orthorexia culture' for some time, but the advent of intermittent fasting and all these other trends …*" (background unknown, female). Additionally, another reason for the spread of ON is the growing lack of religious faith: "*Being obsessed with clean and pure food may be due to the fact that people have lost religious faith and started being devoted to food instead* [link]" (background unknown, male).

10.4 Discussion

With the aim of exploring the discursive process of medicalization of ON, this study used mixed methods to dive into the conversation about ON on Twitter. Findings demonstrate that professionals are prominent actors engaging in the ON-related conversation on Twitter, yet the discourse used is more commonly associated with popular culture than with scientific culture. That is, rather than relying on scientific evidence, the most shared external sources are popular reports and arguments in favor of medicalizing ON, which rely on experiential knowledge and personal experience. Comparing ON to other eating disorders in order to advocate for its recognition is a discursive strategy adopted by some users. Uncertainties characterizing the understanding of ON emerged, and these mainly concern its association with non-traditional diets (e.g. veganism, clean eating) or weight loss, its inclusion into the DSM, and its etiology. Notably, these uncertainties are deployed by those who resist medicalization as counter-arguments – e.g., popular framing of ON leads this to be associated with veganism; consequently, some individuals warn against medicalizing ON since then 'all vegans would be considered crazy.'

This study responds to the request for more social constructivist studies that could unravel the profound complexity of eating disorders [32]. Eating disorders are a product of social exchange and reflect wider sociocultural conditions; studying conversations around eating disorders is therefore particularly important, because these show how individuals reproduce, negotiate or resist broader cultural norms [32], [33].

While some individuals advocated for the clinical recognition of ON and others resisted medicalization of ON with counter-arguments, again others considered ON to be an existing eating disorder category already. This demonstrates that there is confusion surrounding the medicalization of ON, and this can be due to the adoption of the term 'orthorexia nervosa' to indicate the condition, which recalls other existing eating disorders and can therefore be misleading. The crucial role of the language is also exemplified by the fact that ON is associated with clean eating by several users as a consequence of the publication of a popular article claiming that ON would be an 'obsession with clean eating' [31].

Some arguments are raised against medicalizing ON, namely over-medicalization, fear that alternative diets would be considered pathological, ON's disputed priority at this point in time, and lack of consideration of ON as something negative. Also, the discourse about the etiological aspects of ON tends not to medicalize ON; users bring back the phenomenon to a societal level and deploy experiential knowledge to raise awareness on societal issues more broadly (e.g. diet culture, role of social media). This is in agreement with previous scholarly reflections hypothesizing that ON could be a social phenomenon, rather than a new clinical category [34].

A discussion on how Twitter conversations about ON extend the theoretical understanding of medicalization is provided, together with some suggestions for future research directions. The history of medicalization has

seen shifts in the actors steering medicalization: first the medical profession, then the pharmaceutical industry, and lastly patients and lay people [14]–[17]. Today, the Internet and social media offer a platform where patients are able to carry on, or resist, medicalization through communicative processes [16], [35]. When looking at the findings of the present study through this historical lens, it comes out that the boundary between the medical sphere and popular sphere is somewhat blurred. It is difficult to discern whether it is professionals or the public who prevail in medicalizing ON, as professionals are prominent in the conversation about ON on Twitter, yet the argumentation and sources of knowledge belong predominantly to the popular sphere. Therefore, it may be that medical and popular spheres melt together in jointly framing ON as a medical concept. We encourage future research to explore whether various social media platforms differ in their medical vs. popular interactions with regard to medicalization of emerging disorders.

Another interesting reflection concerns the identification of a shared underlying force guiding medicalization and onset of ON, this force being an increased health accountability. This increased health accountability would lead individuals to feel responsible for their health to the point of becoming obsessed (i.e. healthism [36]); and, at the same time, would be responsible for inducing to find a medical explanation for the obsession that follows (i.e. medicalization [14]). It may be therefore possible that, more than ever for the specific case of ON, healthism and medicalization would be interconnected with each other and driven by the same underlying forces. Future research should explore how healthism and medicalization interact in the specific case of ON, and how considering an integration of these two theories could help understanding the nature of ON.

In conclusion, some limitations of this study should be pointed out. A methodological limitation concerns the collection of data, as a small margin of error should be accepted, since there is no guarantee that all tweets matching the tracking criteria were captured by the API - a temporary interruption may have caused gaps in transmission. Another limitation concerns the relatively small number of tweets gathered in the present study, which also challenged visualizing the network structure. The number of tweets that allowed performing thematic analysis was also relatively small, since many tweets were simply sharing external links, or did not allow the researchers to grasp the user's perspective due to the shortness of text. However, this is also a noteworthy finding, which highlights Twitter's informative, rather than personal or supportive, nature. Lastly, the search was performed by selecting tweets that included the English keyword "orthorexia". It is possible that tweets were shared about ON in that same period, yet in other languages.

10.4.1 Conclusion

In a time of increased "self-medicalization," the role of social media as platforms where individuals are both creators and consumers of information has become crucial. This study consists of the first investigation into the ON-related conversation on Twitter. The findings of this study, which have been interpreted to highlight contrapositions and integration of medical vs. public spheres of knowledge, enrich the literature on health

communication and medicalization. Ultimately, this study serves the purpose of providing insights into how an emerging disorder develops within society in a time of social media.

Declaration of Interest

No conflict of interest to declare.

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