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Analysing the Twitter accounts of licensed Sports gambling operators in Spain: a space for responsible gambling?

Abstract

Apart from the economic impact of the online gambling industry, the social, public order and health-related consequences of the industry merit analysis to inform appropriate action, regulatory or otherwise. The omnipresence of ICTs, the inability to use technologies properly, along with the growth of online gambling channels, have acted simultaneously as a catalyst for the spread of pathological and problematic gambling. In this context, social networks have become a highly effective platform to instil positive attitudes towards the products of gambling operators. This work uses the Natural Language Processing based web application "GPLSI Social Analytics" to track, in real time, the conversations generated on Twitter about the Spanish domain accounts of the main online sports gambling operators. The findings indicate that most of the messages about these operators are positive and *surprise* is the predominant emotion associated with them. The notion of responsible online gambling barely receives a mention in the conversations analysed. Given the role of new technologies as access facilitators and potential enhancers of addictive behaviours, it is necessary to adopt measures directed at social networks that guarantee the coexistence of the right to freedom of expression with the protection of the most vulnerable populations.

Keywords
Online gambling, sports betting, Twitter, responsible gambling, sentiment analysis.

1. Introduction and state of the art

In Spain, the growth of the online gambling industry shows an upward trend since the online market regulations came into force in June 2012, with the state-owned online gambling market generating a net income of 699 million euros in 2018. This reports a 25.5% growth on the previous year's net income, with the betting segment of the market representing 365.1 million euros (52.20% of the total gambling market) (Directorate General for the Regulation of Gambling [DGRG] 2019).

The marketing costs associated with the online gambling market deserve special attention given that in 2018 these expenses rose by 48% against the previous year. Of the 328 million euros spent in marketing activities in 2018, 168 million euros were spent on

advertising. A further 116.1 million euros were spent on released bonuses or welcome bonuses (Directorate General for the Regulation of Gambling [DGRG] 2019).

As noted by Hernández-Ruiz (2020), along with the economic impact, it is necessary to take into account the social, public order, and health aspects associated with this recreational activity. As confirmed by Lamas *et al.* (2018), since the regulation of online gambling in Spain there has been an increase in the prevalence of pathological gambling at all ages, with some evidence of it going viral among young people. At the same time, a spike in the sports betting sector, and the emotional connection with sport, provides a compelling attraction for the young and adolescent target market.

In this sense, the online channel is presented as an accelerating factor for problem gambling and pathological gambling (Canale *et al*., 2016; Effertz *et al*., 2018) considering the omnipresence of ICTs and the inappropriate use of technologies (Lamas *et al*., 2018). This context invites reflection from the ethical perspective in terms of the shared responsibilities among the industry, parents, and youngsters for creating a safe online space (O'Neill, 2013).

Given the risk that gambling poses to health and patrimony (Cuesta-Cambra *et al*., 2019), legislation 13/2011, of May 27, on the regulation of gambling (LRG) considers, in Article 8, the importance of addressing the practice of online gambling from a corporate social responsibility perspective. This law views gambling as a complex phenomenon where prevention, awareness-raising, intervention, and control measures must be combined, as well as provision for resulting damages. Specifically, preventive actions will be aimed at raising awareness, information and dissemination of good gambling practices and highlighting the possible negative effects of inappropriate gambling practices.

Regarding the marketing of online gambling, in the regulatory development of Royal Decree 958/2020, of November 3, on the marketing of gambling activities included in Section I, different mandatory ethical principles must be adhered to in advertising including: user identification; truthfulness; social responsibility; safe gambling; and protection of minors.

In particular, in relation to marketing via social networks, Section III of previously mentioned Royal Decree establishes in Article 26.3 that gambling operators may only advertise on their social media accounts if their main activity consists of offering information or content about gambling and, if, in addition, they can prove compliance with two requirements: (1) use of mechanisms to prevent minors from accessing these contents; and, (2) periodically disseminate messages on responsible gambling. In this context, the study of the impact on young people and vulnerable populations of the marketing carried out by online gambling operators on social networks is an area of special interest (Gainsbury, King *et al*., 2016). Social networks are a suitable platform to instil positive attitudes towards the products and brands of gambling operators, as well as allowing users to share and recommend gambling products, which carries the danger of exposing risk populations i.e., minors and other vulnerable groups (Delfabbro, King & Derevensky, 2016). Thus, from an ethical perspective, guaranteeing their protection is a challenging task, because there are no effective control mechanisms over age verifications or other more advanced ones based on personal attributes, other than the geolocation of social users (Hörnle *et al*., 2019).

The literature on the use of social networks in the online gambling sector is scarce, even though the significance of its social consequences is clear. It is important to highlight the work of Gainsbury, Delfabbro *et al.* (2016) who perform an analysis of the use of social networks in the gambling industry in Australia. Among other issues, it was observed that Facebook and Twitter are the platforms most used by online gambling operators. In line with previous studies (Derevensky *et al*., 2010; McMullan & Miller, 2010; Sklar & Derevensky, 2010), the promotional messages disseminated on social networks have a positive meaning and encourage the development of gambling, emphasizing its powerful winning potential. In particular, the works of Bradley and James (2019), Houghton *et al*. (2019) and Killick and Griffiths (2020) focus their attention on the type of content and the marketing strategies that

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the major British gambling operators use on Twitter. Some studies show that the accounts of social gambling operators pay little attention to issues related to responsible or problematic gambling (Gainsbury *et al*., 2015; Gainsbury, Delfabbro *et al*., 2016).

In Spain, this field of research is also incipient. The work of Cervera (2018) focuses on analyzing how two of the most recognized companies in the private gambling sector (Sportium and Bet365) manage their presence on Facebook and Twitter. When examining the social media accounts of both operators, different purposes are observed. While Sportium uses social networks to advertise its services, Bet365 focuses on generating a community with its customers through the formulation of questions and the dissemination of sports information.

Along with the scarcity of conduct-for-responsible-gambling studies, there is also an absence of research that analyzes the opinions that different online gambling operators elicit from their followers. In studies related to the affective dimension of users in the digital environment from computational linguistics, attention has been increasingly paid to the type of positive, negative, or neutral feeling that users express in social networks (Serrano-Puche, 2016).

Studies on the analysis of sentiments in social networks have focused their interest, among other issues, on the following areas: politics (Agarwal, Singh & Toshniwal, 2018; Arcila-Calderón *et al*., 2017; Georgiadou, Angelopoulos & Drake, 2020; Paul & Sui, 2019); health (García-Rudolph *et al*., 2019; Salas-Zarate *et al*., 2017; Wang *et al*., 2019); and the university digital environment (Iskender & Bati, 2015). However, to date, only the work of Bradley and James (2019) analyzes the sentiment issue in the online gambling sector and, specifically, in the United Kingdom. In their study, the companies analyzed use, in a preferential way, words associated with positive emotions such as trust and happiness.

In this context and given the penetration of social networks in Spain, according to IAB (2019a) 85% of Internet users aged 16 to 65 use social media, this work monitors in real-time the Twitter conversations around the main Spanish-based online gambling operators.

According to the VII Observatory of brands in social networks (IAB 2019b), Twitter is the social network with the highest number of publications. Specifically, the "Games and Betting" category occupies the first place in the ranking of publications. In addition, this category is characterized by presenting an active community, since it is in third position in terms of number of interactions, virality and engagement.

Specifically, this study aims to answer the following research questions by examining the frequency and scope of the postings, as well as the content of the messages: hashtags; polarity; emotions; and responsible gaming:

RQ1. Which gambling operators generate the highest number of conversations on Twitter?

RQ2. What is the potential audience for the monitored conversations on Twitter?

RQ3. What are the recurring topics, determined by hashtags in conversations?

RQ4. What is the predominant emotion associated to the operators under study?

RQ5. Are messages about responsible gambling frequent?

2. Material and methods

The methodology used in this work benefits from the application of advances in digital technology to research in the Social Sciences field. Thus, to carry out the study, the web application "GPLSI Social Analytics"[1] is used. The main objective of this application is to visualize the current situation of a certain entity, what is said about it, how it is valued and, even in certain cases, to establish predictions about the future reputation of said entity (Fernández, Llopis, Gutiérrez *et al*., 2017).

[1] https://socialanalytics.gplsi.es/.

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In Social Sciences, sentiment analysis is one of the main techniques for studying large-scale textual data (Arcila-Calderón *et al*., 2017). The web application "GPLSI Social Analytics" monitors, in real time, entities in social networks and obtains reputation measurements of certain parameterizable concepts from the number of positive and negative opinions received (Fernández, Llopis, Martínez-Barco *et al*., 2017). The assessment is determined from a series of formulas that consider the positivity and negativity aspects of the mentions, as well as the influence of the groups that make them (Fernández, Llopis, Martínez-Barco *et al*., 2017).

To compute the sentiment analysis metrics, GPLSI Social Analytics applies the following procedural steps:

1. Terms extraction: This task begins by normalising single terms to lowercase, removing user nicks and URLs, and deleting repeated characters that deform words. Next, these single terms are used to generate skip-gram[2] terms as context representation for each text line.
2. Scoring skipgram terms with polarity scores: Skipgram terms are scored according to the frequency with which they appear in phrases annotated as Positive, Negative, or Neutral. As a result, a sentiment polarity dictionary is created. More details and scoring equations can be found at Fernández, Llopis, Martínez-Barco *et al*. (2017).
3. Language Modeling: The following step involves training a machine learning model, by employing LibSVM[3], with features (i.e., skipgrams' polarity scores) extracted from many corpora examples. This step is performed by identifying skipgram terms on the examples and computing the scores associated to their respective polarities. As a result, a language model is obtained that is able to predict the polarity classification from a given text.
4. Text classification: To predict the polarity classification of new texts, each input text is pre-processed by extracting features, as previously mentioned. Then, based on these features, the model predicts probability scores to each polarity category, for example: Positive: 0.8; Negative: 0.05; Neutral: 0.15.

More details about the overall procedure can be found at Fernández, Llopis, Martínez-Barco *et al*. (2017).

The identification of feelings in written texts has been addressed by adopting two approaches: (1) computational learning and (2) semantic approaches (Arcila-Calderón *et al*., 2017; Fernández, Llopis, Gutiérrez *et al*., 2017). To guarantee speed and precision in the detection of feelings, the "GPLSI Social Analytics" application uses a hybrid approach (Fernández, Llopis, Gutiérrez *et al*., 2017) that creates a lexicon from a labelled corpus, and builds a classifier using machine learning techniques. The monitoring is carried out on Twitter due to the ease of use of its APIs, as well as the availability of tools for its manipulation (Fernández *et al.*, 2015).

The application downloads messages and comments from Twitter, extracts useful information (text, author, polarity, etc.) and stores it to generate a report in real time. The system is divided into three main modules: (1) in the "listening" module[2], messages from the social network are periodically downloaded and stored in the "Entities" database. The Twitter API allows this download in streaming; (2) in "processing"[3], data extraction, detection and sentiment analysis of the messages retrieved through the "listening" module are performed. In this module, the polarity of the texts is also extracted from the hybrid approach described in the previous paragraph; and (3) the "presentation"[4] allows access to all the system data: number of mentions of each entity; potential audience of messages; reputation; polarity; etc. (Fernández, Llopis, Martínez-Barco *et al*., 2017).

[2] https://notsobigdatablog.com/2019/01/02/what-is-a-skipgram/.
[3] https://www.csie.ntu.edu.tw/~cjlin/libsvm/.

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Subsequently, the information is stored in three databases as part of a fourth module, only intended for data persistence[5]: (1) in "Entities" the key terms necessary to retrieve the conversations around the entities are stored as the objects to study (that is, the gambling operators). In this work, as will be seen, the names of the official accounts of the main online sports betting operators in our country are selected as keywords; (2) in "Repository" messages and comments obtained on Twitter are temporarily stored. Once processed, this information is eliminated and only the metadata obtained persists; (3) in "Index," the metadata and fragments of messages and Twitter comments are indexed in a way that allows analysis and statistics to be carried out efficiently (Fernández, Llopis, Martínez-Barco *et al*., 2017).

Differences between gambling operators were analyzed with the statistical package IBM SPSS Statistics 25. Specifically, the one-way ANOVA test and the Tamhane T2 post hoc test were used. The null hypothesis was rejected with a significance level of $p < 0.05$.

2.1. *Sample*

As a sample under study, the eight online gambling advertisers (private) with the highest advertising investment in Spain were selected according to the Infoadex ranking (2019) for the category "Games and Betting" (see Table 1). This analysis of Twitter activity about the main online gambling operators adopted the criteria used by Bradley & James (2019) to search for the official Twitter accounts associated with the operators under study. Thus, verified accounts of online gambling operators were obtained that matched the following criteria: Spanish domain; over 1000 tweets; and over 1000 followers; and, registered activity in the month prior to the completion of the study. It was also verified that promotional content was included in the selected accounts.

In the cases of 888 Spain, Plc and TSG Interactive, Plc, two linked accounts were registered (one for sports betting and the other dedicated to poker) that met the selection criteria. However, given that the betting segment represents the largest market share, it was decided to select the accounts dedicated to sports betting. Furthermore, the rest of the operators in this study, despite having unique licenses for the development of other games, focus their activity on sports betting on Twitter. Table 1 shows the accounts under study.

Table 1: Advertising investment and Twitter accounts of the operators under study.

Operator	Advertising investment (€)	Twitter account
Hillside New Media Malta, Plc	8,985,029	@bet365_es
Whg Spain, Plc	8,577,715	@WilliamHillES
888 Spain, Plc	7,836,718	@888sport_es
TSG Interactive, Plc	4,651,005	@BetStarsES
Codere Online, S.A.U.	4,104,704	@CodereApuestas
Betfair International, Plc	4,083,458	@Betfair_ES
Electraworks Malta, Plc	3,768,670	@bwin_es
Sportium Apuestas Digital, S.A.	3,212,847	@sportium

Source: Own elaboration.

A total of 60,259 publications (tweets + retweets) were obtained corresponding to the monitoring period of this social network: from July 8, 2019 to September 30, 2019. The same period of activity was recorded for all the selected entities (85 days). At the beginning of the real-time exploration of the Twitter conversations about the accounts, Bwin was the gambling operator with the highest number of followers (176,000) while, at the opposite extreme, Betstar registered 1,773.

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2.2. *Measures*

To reach the stated objectives, a coding protocol was designed consisting of variables from the study by Bradley and James (2019) and other measures developed ad hoc from the functionalities offered by the "GPLSI Social Analytics" web application.

Specifically, to analyze the frequency and scope of the publications, attention was paid to the following parameters:

1. Number of publications (tweets + retweets) in which the operators are mentioned. The tweets and retweets can be disseminated by the selected accounts or by other authors.
2. Daily average of messages (tweets + retweets) referring to the selected sports betting operator.
3. Number of authors who chat on Twitter about the operators.
4. Audience or total number of followers of the authors who broadcast at least one tweet or retweet in which the selected operator accounts are mentioned.

Regarding the content, the following aspects were examined:

1. The hashtags most used by the authors that generate conversation around the operators under study.
2. The positive, negative or neutral feelings that the selected entities elicit in the conversations on Twitter.
3. The emotions (fear, surprise, anger, sadness, displeasure and happiness) in the messages around the selected accounts.
4. The number of messages about responsible gambling that appear in conversations.
5. The positive, negative or neutral feelings associated with mentions about responsible gambling.

3. Analysis and Results

3.1. *Frequency and scope of social posts*

As can be seen in Table 2, the sports betting operators that are part of the conversations on Twitter most frequently are William Hill (15,637 tweets + retweets) and Bet365 (14,327 tweets + retweets). In contrast, the entities with the least presence are Sportium (2,790 tweets + retweets) and BetStar (612 tweets + retweets).

William Hill and Bet365 also stand out for the number of authors who talk about these brands on Twitter. Specifically, 8,322 authors speak of William Hill and 7,395 authors do the same with Bet365. However, and despite the similarity in the positions held by both entities, the differences in the audience obtained are high. Thus, Bet365, which, as has been seen, occupies one of the first positions in terms of the number of messages generated around this entity, presents one of the lowest audiences in the sample with 11,764,160 users. For its part, the conversations around William Hill have one of the largest audiences in the study with 103,897,615 users.

In relation to the audience, it is also necessary to mention the outstanding position of Codere, which, with 5,812 authors, generates the widest audience for this study (499,337,528 users). In this sense, the case of Sportium is striking, which despite registering a small number of authors (1,470) and a meagre daily presence (33 tweets + retweets), obtains a wide audience (50,074,372 users). Along the same lines, Bwin obtains an audience very close (98,219,155 users) to that shown by William Hill (103,897,615 users) despite the fifth position registered in terms of the number of mentions about this operator (6,487 tweets + retweets) and the number of authors (4,109).

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Table 2: Frequency and scope of social posts.

Account	Tweets + Retweets	Median	Authors	Audience
@bet365_es	14,327	169	7,395	11,764,160
@WilliamHillES	15,637	184	8,322	103,897,615
@888sport_es	7,765	91	5,352	6,706,371
@BetStarsES	612	7	330	382,675
@CodereApuestas	9,407	111	5,812	499,337,528
@Betfair_ES	3,234	38	2,495	54,820,487
@bwin_es	6,487	76	4,109	98,219,155
@sportium	2,790	33	1,470	50,074,372

Source: Own elaboration.

3.2. *Content*

In the conversations about the online gambling operators under study, the most frequent hashtags are linked to the promotional activity of said entities. Thus, when it comes to Bet365, with 4,289 mentions, the hashtag that is mentioned most frequently is #ResultadoAEA ("Result / Both teams will score") which consists of predicting the result of the chosen match of the day and if both teams will score. The winners enter a draw to win 50 euros in bet credits.

In the same vein, in the conversations on Twitter about Codere, the hashtag #botecodere obtained the highest number of mentions (512). To participate in the freebets draw, users must answer the question posed by the operator, for example: "We are looking for the total number of passes for Atlético vs. Real Madrid FC.!" For its part, on Betstar, the hashtag #betstarslaliga, with 18 mentions, is the most frequent. Steve Enríquez, former professional soccer player and brand ambassador, offers the possibility of entering the draw for 5 "freebets" of 10 euros among all those who answer the question: who will win the league?, for which the use of the mentioned hashtag is required. Similarly, Sportium challenges users to cheer with the prediction of the outcome of certain matches. Specifically, the hashtag #PorraSportium is mentioned 168 times.

Betfair offers promotions called "*supercuotas*" through MisterChip, a sports journalist who acts as a brand ambassador. For example, users have the possibility to choose, from a survey, which of the three proposed players (Diego Costa, Karim Benzema, Gareth Bale) has the most options to score the first goal in the next derby. The chosen option will be rewarded with a superquota. The hashtag #supercuotas got 61 mentions.

In posts about William Hill, #miapuesta is the hashtag that receives the highest number of mentions (3,420). This operator allows users to create a personalized bet (simple, combined, short or long term) related to goals, corners, cards, rebounds, etc. The operator studies it, offers a quota and a link to place said bet.

In 2019, in its 48th edition, Bwin sponsors the Orange Trophy, a pre-season friendly match that takes place at the Mestalla stadium and which in 2020 pitted Valencia FC against Inter Milan. This sponsorship gets visibility on Twitter, since #mestalla, with 408 mentions, is the most used hashtag.

The case of 888 deserves a separate mention. To encourage sports betting by its users, this operator used the hashtag #maschuloqueun888. This hashtag got 522 mentions. For example, the tweet "Goal in minute 11 #Porra888 #MásChuloQueUn888" allows you to participate in the Barcelona vs. Betis to choose to win a bonus of 10 euros on the gaming accounts. Along with the use of this hashtag, it is also necessary to mention #888estafa. Specifically, this hashtag is used 494 times and becomes a trending topic on August 27[4].

[4] https://twitter.com/search?q=%23888estafa&src=recent_search_click.

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3.2.1. Sentiment Polarity and Emotions

Regarding the polarity of the analyzed messages, of the total 60,259 tweets, as seen in Table 3, more than half are positive (54.3%), whereas, to a lesser extent, we can find negative messages (25%) or neutral ones (20%).

The distribution of the messages based on the polarity detected is similar for each of the selected accounts. However, it is necessary to mention the case of Codere with 67.8% of positive messages, as well as Betfair with 42.1% of negative tweets.

Table 3: Sentiment polarity in posts.

Operator	Positive	% Total	Negative	% Total	Neutral	% Total
Bet365	7,019	49.9%	3,682	25.7%	3,626	25.3%
William Hill	7,841	50.1%	3,787	24.2%	4,009	25.6%
888	4,159	53.6%	2,516	32.4%	1,090	14%
BetStars	310	50.7%	133	21.7%	169	27.6%
Codere	6,378	67.8%	1,885	20%	1,144	12.2%
Betfair	1,504	46.5%	1,362	42.1%	368	11.4%
Bwin	3,785	58.3%	1,386	21.3%	1,316	20.3%
Sportium	1,695	60.8%	766	27.5%	329	11.8%
Total	32,691	54.3%	15,517	25%	12,051	20%

Source: Own elaboration.

On the other hand, of the total 60,259 tweets that make up the conversations analyzed, 6,272 messages have been detected (10.4% of the total) in which some emotion is expressed.

The predominant emotion expressed in conversations about 888 is *anger*, while for the rest of the operators, apart from Betfair and BetStars, feelings of *surprise* are strongly aroused. At 888, with 349 posts, this emotion ranks second. In the case of Betfair, there is a greater number of tweets that express sadness (155 messages), followed closely by the 146 that show fear. At BetStars, *surprise* and *sadness* are the emotions that come first.

On Bet365 and William Hill, with 248 and 261 posts, respectively, *sadness* appears as the second most prominent emotion. For its part, in Codere, with 214 messages, *fear* is in second position, while in Sportium and Bwin with 140 and 95 tweets, respectively, dislike appears as the second predominant emotion.

The statistical analyses show that there are statistically significant differences between the operators for polarity and emotions (see Tables 4 and 5). In all cases, the average polarity is small with values ranging from .015 (*negative*) to .023 (*neutral*), and from .004 (*happiness*) to .078 (*anger*) for emotions.

Table 4: Averages of polarity and emotions recorded in messages and Anova test.

	Bet365	William Hill	888	BetStars	Codere	Betfair	Bwin	Sportium	one-way ANOVA
Positive	.49	.50	.54	.51	.68	.47	.58	.61	F= 165.3 p=.000 η2=.019
Negative	.26	.24	.32	.22	.20	.42	.21	.27	F= 128.6 p=.000 η2=.015
Neutral	.25	.26	.14	.28	.12	.11	.20	.12	F= 202.8 p=.000 η2=.023
Fear	.01	.00	.02	.00	.02	.05	.00	.01	F= 94.2 p=.000 η2=.011

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Surprise	.02	.02	.04	.01	.06	.03	.04	.13	*F*= 142.8 *p*=.000 η2=.016
Anger	.01	.01	.14	.01	.01	.01	.01	.01	*F*= 730.9 *p*=.000 η2=.078
Sadness	.02	.02	.03	.01	.01	.05	.01	.03	*F*= 44.53 *p*=.000 η2=.005
Disgust	.00	.00	0.00	0.00	0.00	.00	.01	.05	*F*= 267.3 *p*=.000 η2=.030
Happiness	.01	.00	.00	0.00	.01	.01	.00	.00	*F*= 36.5 *p*=.000 η2=.004

Source: Own elaboration.

Table 5: Post Hoc Tamhane Test.

		Multiple comparisons																	
		Positive		Negative		Neutral		Fear		Surprise		Anger		Sadness		Disgust		Happiness	
(i) Tw Account	(J) Tw Account	(I-J)	Sig.	(I-J)	Sig.	(I-J)	Sig.	(I-J)	Sig.	(I-J)	Sig.	(I-J)	Sig.	(I-J)	Sig.	(I-J)	Sig.	(I-J)	Sig.
@bet365_es	@WilliamHillES	-.012	.734	.015	.083	-.003	1.000	.002*	.044	-.002	.993	-.001	.999	.001	1.000	.000	1.000	.010*	0.000
	@888sport_es	-.046*	.000	-.067*	0.000	.113*	0.000	-.014*	0.000	-.025*	0.000	-.134*	0.000	-.012*	.000	.000	.728	.007*	.000
	@BetStarsES	-.017	1.000	.040	.440	-.023	.999	.004	.601	.012*	.049	.003	1.000	.009	.371	.000	.728	.010*	0.000
	@CodereApuestas	-.188*	0.000	.057*	0.000	.131*	0.000	-.017*	0.000	-.041*	0.000	.003	.097	.010*	.000	.000	.728	-.001	1.000
	@Betfair_ES	.025	.257	-.164*	0.000	.139*	0.000	-.040*	0.000	-.010	.082	-.005	.412	-.031*	.000	-.001	1.000	.001	1.000
	@bwin_es	-.094*	0.000	.043*	.000	.050*	.000	.001	1.000	-.021*	.000	.001	1.000	.007*	.002	-.014*	0.000	.010*	0.000
	@sportium	-.118*	0.000	-.018	.804	.135*	0.000	-.003	.967	-.105*	0.000	.003	.710	-.012*	.010	-.050*	0.000	.008*	.000
@WilliamHillES	@888sport_es	-.034*	.000	-.082*	0.000	.116*	0.000	-.016*	0.000	-.022*	0.000	-.132*	0.000	-.013*	.000	.000	.513	-.003*	.001
	@BetStarsES	-.005	1.000	.025	.987	-.020	1.000	.001	1.000	.014*	.005	.004	.998	.009	.502	.000	.513	.000	.205
	@CodereApuestas	-.177*	0.000	.042*	.000	.135*	0.000	-.020*	0.000	-.039*	0.000	.005*	.001	.009*	.000	.000	.513	-.011*	0.000
	@Betfair_ES	.036*	.005	-.179*	0.000	.143*	0.000	-.042*	0.000	-.007	.516	-.004	.909	-.031*	.000	-.001	1.000	-.009*	.000
	@bwin_es	-.082*	0.000	.029*	.000	.054*	0.000	-.002	.849	-.019*	.000	.003	.672	.006*	.006	-.014*	0.000	.000	1.000
	@sportium	-.106*	0.000	-.032*	.011	.138*	0.000	-.005	.082	-.103*	0.000	.005	.124	-.013*	.004	-.050*	0.000	-.002	.805
@888sport_es	@BetStarsES	.029	.994	.107*	.000	-.136*	.000	.018*	.000	.037*	0.000	.137*	0.000	.021*	.000	0.000		.003*	.000
	@CodereApuestas	-.142*	0.000	.124*	0.000	.019*	.008	-.003	.970	-.017*	.000	.137*	0.000	.021*	0.000	0.000		-.008*	.000
	@Betfair_ES	.071*	.000	-.097*	0.000	.027*	.003	-.026*	.000	.015*	.002	.128*	0.000	-.019*	.000	-.001	.912	-.006*	.011
	@bwin_es	-.048*	.000	.110*	0.000	-.062*	0.000	.015*	.000	.004	1.000	.135*	0.000	.019*	.000	-.015*	0.000	.002*	.034
	@sportium	-.072*	.000	.049*	.000	.022	.055	.011*	.000	-.080*	0.000	.137*	0.000	.000	1.000	-.050*	0.000	.001	1.000
@BetStarsES	@CodereApuestas	-.171*	.000	.017	1.000	.155*	.000	-.021*	0.000	-.053*	0.000	.000	1.000	.000	1.000	0.000		-.012*	0.000
	@Betfair_ES	.041	.825	-.204*	0.000	.162*	0.000	-.044*	0.000	-.022*	.000	-.008	.610	-.040*	.000	-.001	.912	-.010*	.000
	@bwin_es	-.077*	.008	.004	1.000	.073*	.003	-.003	.925	-.033*	.000	-.001	1.000	-.002	1.000	-.015*	0.000	-.001	.513
	@sportium	-.101*	.000	-.057	.062	.158*	.000	-.007	.138	-.117*	0.000	.000	1.000	-.021*	.000	-.050*	0.000	-.002	.331
@CodereApuestas	@Betfair_ES	.213*	0.000	-.221*	0.000	.008	.999	-.022*	.000	.032*	.000	-.009*	.004	-.040*	0.000	-.001	.912	.002	1.000
	@bwin_es	.095*	0.000	-.013	.706	-.081*	0.000	.018*	0.000	.020*	.000	-.002	.996	-.003	.851	-.015*	0.000	.011*	0.000
	@sportium	.070*	.000	-.074*	.000	.004	1.000	.015*	.000	-.064*	0.000	.000	1.000	-.022*	.000	-.050*	0.000	.009*	.000
@Betfair_ES	@bwin_es	-.118*	0.000	.207*	0.000	-.089*	0.000	.040*	0.000	-.012	.073	.007	.117	.037*	0.000	-.014*	0.000	.009*	.000
	@sportium	-.142*	0.000	.147*	0.000	-.004	1.000	.037*	0.000	-.095*	0.000	.009*	.020	.019*	.005	-.049*	0.000	.007*	.003
@bwin_es	@sportium	-.024	.575	-.061*	.000	.085*	0.000	-.003	.870	-.084*	0.000	.002	1.000	-.019*	.000	-.036*	.000	-.001	.987

*. The difference in means is significant at the 0.05 level.

Source: Own elaboration.

3.2.2. Responsible gambling

As for tweets on responsible gambling, with the exception of 888, the other gambling operators do not generate frequent conversations on Twitter about this issue. Specifically, in 639 tweets (which represents 8.2% of all conversations about this entity and 1.1% of the total

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sample under study) the term "responsible gambling" is associated with operator 888. More than half of these messages are positive (66%), although they elicit, to a greater extent, emotions of *fear* (47 tweets) and *anger* (46 tweets). Thus, for example, the tweets about operator 888's sponsorship of the ACB league with their promotion of responsible gaming delivered a positive polarity in the main; however, this happening also triggered some more critical sentiments (negative polarity), as indicated by the reactions from Twitter users in the following tweets:

- "…*Vergonzoso. La única actitud responsable ante el juego es no jugar*." - "…Shameful. The only responsible attitude towards gambling is not to gamble."
- "…*No hay juego responsable. Estáis abocando a la gente a la ludopatía*." – "…There is no responsible gambling. You are leading people to gambling."
- *"…¿Juego responsable? ¿Es una broma?*" – "…Responsible gambling? It's a joke?"

4. Discussion and conclusions

The present study focuses on conversations generated on Twitter around the main online gambling operators in Spain. Positive and negative comments about online gambling operators were detected by the tweets analysed during the set timeframe. The application of digital technologies to gathering knowledge of social phenomena, through the "GPLSI Social Analytics" tool, has provided some interesting data which sheds light on the nature of the online gambling community including: 1) the size of the online gambling community on social media; 2) the predominant topics identified via hashtags; 3) the emotions or sentiments associated with the gambling operators; and 4) responsible gambling messages.

In relation to gambling operator tweets, their frequency levels confirm that William Hill leads in the number of mentions, but although its audience is growing it is not the largest at the time the study was conducted. In contrast, Codere registers a low number of mentions and authors but, nevertheless, presents the widest potential audience of the study. All in all, the size of the community is rapidly increasing.

In line with the work of Bradley and James (2019), the hashtags analyzed in this work, in general, are related to promotional activities or sporting events. Specifically, the possibility of gathering released bonuses represents the largest number of related hashtags registered in the time frame examined. These bonuses are in essence "fictitious money", and they comprise the main strategy of the gambling advertising messages aimed at increasing audience reach (Pérez *et al*., 2018). In addition, the sponsorship of sporting events, the use of brand ambassadors, and the characteristic claims of online sports betting, are also represented in this work.

As for sentiment analysis and in line with the work of Bradley and James (2019), most of the tweet messages analyzed about the selected accounts during the time frame studied, were positive, a characteristic feature, in turn, of online gambling advertising (Derevensky *et al*., 2010; McMullan & Miller, 2010; Sklar & Derevensky, 2010). Regarding emotions, *surprise* is the predominant one among the five emotions monitored of the eight operators studied. In this sense, these results partially coincide with Dafonte-Gómez (2014) by pointing out *surprise* and *joy* as the key emotions for the viral dissemination of content.

On the other hand, a small number of messages on responsible gambling was observed, as pointed out by other studies (Bradley & James, 2019; Gainsbury, Delfabbro *et al*., 2016; Houghton *et al*., 2019; Killick & Griffiths, 2020). However, the social analysis related to operator 888 reveals that this operator has generated the largest number of responsible gambling mentions. Messages associated with operator 888 were mainly indicative of positive polarity suggesting brand loyalty; however, at the same time, a significant number of messages displayed emotions of *fear* and *anger*. This means that there is a segment of users that support the brand and others that do not. *Anger* is the main emotion related to users that commented about this operator during this study timeframe. And unlike the rest of the

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Twitter accounts studied the predominant hashtags were connected to the hashtag "#estafa"- swindle.

Despite the main purpose of Twitter being to serve public dialogue, the results suggest that the topics surrounding the conversations monitored on this social network are focused on amplifying the market reach of gambling operators. The findings related to positive sentiments and *surprise* emotions among some audiences could be interpreted as the result of the online advertising messages aimed at them. However, messages on the topic of responsible online gambling hardly get a mention in the conversations analyzed. Hence, given the scarcity of messages recorded on responsible gambling during the monitoring timeframe of this study, it is still difficult to reach a definitive conclusion as to whether the gambling operators are in compliance or not with the recent requirement of periodical messages related to responsible gambling, as set out under the article 26.3 of the Royal Decree 958/2020, of November 3, on the marketing of gambling activities.

The findings also suggest that some audiences manifested their disapproval of operators using "responsible gambling" as a promotional slogan when in fact their promotional tactics appear to be about capturing and increasing market share. In this sense, it would be necessary to reflect on whether responsible gambling messages such as "*Si juegas, juega con responsabilidad"* –if you play, play responsibly– or "*Jugar sin control puede tener consecuencias perjudiciales a nivel psicosocial*" –playing without control can have harmful consequences at a psychosocial level– would be adequate to prevent and sensitize the underage public on the harmful effects of online gambling.

According to the European Commission Recommendation of 14 July 2014 on the principles for the protection of consumers and players of online gambling services and for the prevention of minors from gambling online, the responsible gambling message should include information on the following: (1) the harmful nature of uncontrolled gambling; (2) user support measures such as online forums or personal contacts via chat or telephone; (3) self-assessment tests so that users can check their behaviour in relation to gambling or attitude to risk. Although these measures are expressly designed for use on web pages, it seems appropriate to address the underlying issues and develop socially responsible practices and widen their reach. Thus, Article 10 of Royal Decree 958/2020, of November 3, on the marketing of gambling activities provides for the establishment of an authority for regulating gambling, including specifications regarding the size, content and visibility of these types of messages.

Concerning the access of minors to content published by online gambling operators on Twitter, audience monitoring by age is difficult, if not impossible, to control in the online environment (Chóliz & Lamas, 2017). Therefore, compliance with article 26.3 of the Royal Decree 958/2020, of November 3, on the prevention of the marketing of gambling activities to minors is highly challenging to monitor effectively.

As indicated by Rubio-García (2018), it is necessary to insist on the need to adopt measures specifically directed at social networks, given the role of new technologies as access facilitators and enhancers of addictive behaviour related to online gambling among adolescents (Ministry of Health, Social Services and Equality, 2017). The problem is of concern given the massive and uncontrolled audience reach evidenced by the high volume of conversations on Twitter about the gambling operators studied –see Table 2–.

Online gambling operators should promote external communication strategies that address the two main components of any addiction prevention program (Chóliz, 2013): information on and awareness of their target audience to spread the need for practicing responsible gambling; and the promotion of specific addiction preventive measures for online gamblers. Regarding information and awareness measures, the Responsible Gambling Program 2019-2022 of the DGRG (2018) establishes one of the priority action lines as that of strengthening society's knowledge about the reality of gambling and its associated risks –"*Fortalecer el conocimiento por parte de la sociedad de la realidad del juego de azar y de sus*

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riesgos asociados" – by dealing with these through other public information measures apart from private sector advertising generated by the gambling operators.

Finally, one of the action initiatives of the 2019-2020 Responsible Gambling Work Program of the DGRG (2018) focused on the need to analyze the qualitative and quantitative impact of new forms of social relations through technology. Therefore, and in line with future research lines proposed by other authors (Bradley & James, 2019; Gainsbury, Delfabbro *et al*., 2016; Houghton *et al*., 2019; Killick & Griffiths, 2020), further studies should analyse the Twitter activity of online gambling operators, focussing on how it impacts the behaviour of vulnerable populations, specifically banned players and minors.

The findings underscore the importance of developing safer and more ethical online environments (Ullmann & Tomalin, 2020) that allow the coexistence of the right to freedom of expression with the protection of the most vulnerable segments of society.

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References

Agarwal, A., Singh, R. & Toshniwal, D. (2018). Geospatial sentiment analysis using twitter data for UK-EU referendum. *Journal of Information & Optimization Sciences*, *39*(1), 303-317. https://www.doi.org/10.1080/02522667.2017.1374735

Arcila-Calderón, C., Ortega-Mohedano, F., Jiménez-Amores, J. & Trullenque, S. (2017). Análisis supervisado de sentimientos políticos en español: clasificación en tiempo real de tuits basada en aprendizaje automático. *El profesional de la información*, *26*(5), 973-982. https://www.doi.org/10.3145/epi.2017.sep.18

Autocontrol, Dirección General de Ordenación del Juego & Secretaría de Estado de Telecomunicaciones y para la Sociedad de la Información (2012, last update 2019). *Código de Conducta sobre comunicaciones comerciales de las actividades de juego*. Retrieved from http://bit.ly/2G1v3qE

Bradley, A. & James, R. J. E. (2019). How are major gambling brands using Twitter? *International Gambling Studies*, *19*(3), 451-470. https://www.doi.org/10.1080/14459795.2019.1606927

Buil, P., Solé-Moratilla, M. J. & García-Ruiz, P. (2015). La regulación publicitaria de los juegos de azar *online* en España. Una reflexión sobre la protección del menor. *Adicciones*, *27*(3), 198-204. https://www.doi.org/10.20882/adicciones.706

Canale, N., Griffiths, M. D., Vieno, A., Siciliano, V. & Molinaro, S. (2016). Impact of Internet gambling on problem gambling among adolescents in Italy: Findings from a large-scale nationally representative survey. *Computers in Human Behavior*, *57*, 99-106. https://www.doi.org/10.1016/j.chb.2015.12.020

Cervera, J. L. (2018). ¿Promoción o conversación? Empleo de las redes sociales por parte de las empresas del sector del juego privado. In S. Mayorga-Escalada (Coord.), *Branding digital. Relato, contenidos y comunicación de marca a través de dispositivos móviles* (pp. 87-99). Sevilla: Egregius.

Cuesta-Cambra, U., Mañas-Viniegra, L., Niño-González, J. I. & Martínez-Martínez, L. (2019). El procesamiento cognitivo de la autorregulación publicitaria de los juegos de azar *online* en estudiantes universitarios. *Revista Mediterránea de Comunicación*, *10*(2), 147-162. https://www.doi.org/10.14198/MEDCOM2019.10.2.4

Chóliz, M. (2013). Una propuesta de juego responsable en la situación española actual. *Revista Infocop Online*. Retrieved from http://bit.ly/38UTkuY

Chóliz, M. & Lamas, J. (2017). ¡Hagan juego, menores! Frecuencia de juego en menores de edad y su relación con indicadores de adicción al juego. *Revista Española de Drogodependencias*, *42*, 34-47. Retrieved from http://bit.ly/2RbfZND

Dafonte-Gómez, A. (2014). Claves de la publicidad viral: de la motivación a la emoción en los vídeos más compartidos. *Comunicar*, *43*, 199-207. https://www.doi.org/10.3916/C43-2014-20

Delfabbro, P., King, D. L. & Derevensky, J. L. (2016). Adolescent Gambling and Problem Gambling: Prevalence, Current Issues, and Concerns. *Current Addiction Report*, *3*, 268-274. https://www.doi.org/10.1007/s40429-016-0105-z

Derevensky, J., Sklar, A., Gupta, R. & Messerlian, C. (2010). An Empirical Study Examining the Impact of Gambling Advertisements on Adolescent Gambling Attitudes and Behaviors. *International Journal of Mental Health and Addiction*, *8*(21), 21-34. https://www.doi.org/10.1007/s11469-009-9211-7

Directorate General for the Regulation of Gambling [DGRG] (2018). *Programa de Juego Responsable 2019-2022*. Retrieved from https://bit.ly/39X633d

Directorate General for the Regulation of Gambling [DGRG] (2018). *Programa de trabajo de Juego Responsable 2019-2020*. Retrieved from https://bit.ly/2RdsTwU

Directorate General for the Regulation of Gambling [DGRG] (2019). *Informe anual. Mercado de juego* online *estatal 2018*. Retrieved from http://bit.ly/332Y3It

Effertz, T., Bischof, A., Rumpf, H. J., Meyer, C. & John, U. (2018). The effect of online gambling on gambling problems and resulting economic health costs in Germany. *European Journal of Health Economics*, *19*, 967-978. https://www.doi.org/10.1007/s10198-017-0945-z

European Commission Recommendation of 14 July 2014 on principles for the protection of consumers and players of online gambling services and for the prevention of minors from gambling online (2014/478/UE) (OJEU L214, July 19, 2014). Retrieved from https://bit.ly/31YnNqm

Fernández, J., Gutiérrez, Y., Gómez, J. M. & Martínez-Barco, P. (2015). *Social Rankings*: análisis visual de sentimientos en redes sociales. *Procesamiento del Lenguaje Natural*, *55*, 199-202. http://bit.ly/2qgvclf

Fernández, J., Llopis, F., Gutiérrez, Y., Martínez-Barco, P. & Díez, A. (2017). *Opinion Mining in Social Networks versus Electoral Polls*. Proceedings of Recent Advances in Natural Language Processing (pp. 231–237). Varna, Bulgaria, Sept. 4–6 2017. https://www.doi.org/10.26615/978-954-452-049-6_032

Fernández, J., Llopis, F., Martínez-Barco, P., Gutiérrez, Y. & Díez, A. (2017). Analizando opiniones en las redes sociales. *Procesamiento del Lenguaje Natural*, *58*, 141-148. http://bit.ly/2Nv05KV

Gainsbury, S. M., King, D. L., Hing, N. & Delfabbro, P. (2015). Social media marketing and gambling: an interview study of gambling operators in Australia. *International Gambling Studies*, *15*(3), 377-393. https://www.doi.org/10.1080/14459795.2015.1058409

Gainsbury, S. M., Delfabbro, P., King, D. L. & Hing, N. (2016). An Exploratory Study of Gambling Operators' Use of Social Media and the Latent Messages Conveyed. *Journal of Gambling Studies*, *32*(1), 125-141. https://www.doi.org/10.1007/s10899-015-9525-2

Gainsbury, S. M., King, D. L., Russell, A. M. T., Delfabbro, P., Derevensky, J. & Hing, N. (2016). Exposure to and engagement with gambling marketing in social media: Reported impacts on moderate-risk and problem gamblers. *Psychology of Addictive Behaviors*, *30*(2), 270–276. https://www.doi.org/10.1037/adb0000156

García-Rudolph, A., Laxe, S., Sauri, J. & Bernabeu Guitat, M. (2019). Stroke Survivors on Twitter: Sentiment and Topic Analysis from a Gender Perspective. *Journal of Medical Internet Research*, *21*(8), e14077. https://www.doi.org/10.2196/14077

Georgiadou, E., Angelopoulos, E. & Drake, H. (2020). Big data analytics and international negotiations: Sentiment analysis of Brexit negotiating outcomes. *International Journal of Information Management*, *51*, Art. 102048. https://www.doi.org/10.1016/j.ijinfomgt.2019.102048

Hernández-Ruiz, A. (2020). Consumer protection on online gambling websites hosted by licensed operators in Spain. *Adicciones*, *32*(3), 216-224. https://www.doi.org/10.20882/adicciones.1262

Hörnle, J., Schmidt-Kessen, M., Littler, A. & Padumadasa, E. (2019). Regulating online advertising for gambling – once the genie is out of the bottle… *Information & Communications Technology Law*, *28*(3), 311-334. https://www.doi.org/10.1080/13600834.2019.1664001

Houghton, S., McNeil, A., Hogg, M. & Moss, M. (2019). Comparing the Twitter posting of British gambling operators and gambling affiliates: a summative content analysis. *International Gambling Studies, 19*(2), 312-326. https://www.doi.org/10.1080/14459795.2018.1561923

Infoadex (2019). *Estudio Infoadex de la inversión publicitaria en España 2019*. Madrid: Infoadex.

Interactive Advertising Bureau-IAB (2019a). *Estudio Anual de Redes Sociales 2019*. Retrieved from http://bit.ly/335cWtW

Interactive Advertising Bureau-IAB (2019b). *VII Observatorio de marcas en redes sociales*. Retrieved from https://bit.ly/2AufA2K

Iskender, E. & Bati, G. B. (2015). Comparing Turkish Universities Entrepreneurship and Innovativeness Index's Rankings with Sentiment Analysis Results on Social Media. In S. Sener, E. Saridogan & S. Staub (Eds.), *Procedia - Social and Behavioral Sciences: Vol. 195. World Conference on Technology, Innovation and Entrepreneurship* (pp. 1543-1552). https://www.doi.org/ 10.1016/j.sbspro.2015.06.457

Killick, E. A. & Griffiths, M. D. (2020). A Content Analysis of Gambling Operators' Twitter Accounts at the Start of the English Premier League Football Season. *Journal of Gambling Studies*, *36*, 319-341. https://www.doi.org/10.1007/s10899-019-09879-4

Lamas, J. J., Santolaria, R., Estévez, A. & Jáuregui, P. (2018). *Guía clínica específica. Jóvenes y juego* online. Retrieved from https://bit.ly/3bEEHwP

Law 13/2011, of 27 May, on the regulation of gambling (BOE nº 127 of May 28, 2011). Retrieved from http://bit.ly/2TNtTY5

López, D. (2013). La regulación y autorregulación en la publicidad, patrocinio y actividades asociadas al juego *online*. In A. Palomar-Olmeda (Dir.), *En torno al juego de azar. Actividad, regulación y actores* (pp. 153-267). Cizur Menor: Thomson Reuters-Aranzadi.

McMullan, J. L. & Miller, D. (2010). Advertising the 'New Fun-Tier': Selling Casinos to Consumers. *International Journal of Mental Health and Addiction*, *8*(1), 35-50. https://www.doi.org/10.1007/s11469-009-9201-9

Ministry of Health, Social Services and Equality (2017). *Estrategia Nacional sobre Adicciones 2017-2024*. Retrieved from http://bit.ly/2Ref9jg

O'Neill, B. (2013). Who cares? Practical ethics and the problem of underage users on social networking sites. *Ethics and Information Technology*, 15, 253-262. https://www.doi.org/10.1007/s10676-013-9331-4

Paul, N. & Sui, M. (2019). I Can Feel What You Feel: Emotion Exchanges in Twitter Conversations between Candidates and the Public. *Journal of Political Marketing*, *0*, 1-21. https://www.doi.org/10.1080/15377857.2019.1684419

Pérez, S., Alcaraz, B., Pérez, G. & Yahón, A. (2018). *Juventud y juegos de azar. Una visión general del juego en los jóvenes*. Madrid: Instituto de la Juventud. Retrieved from http://bit.ly/38pO6Hj

Royal Decree 958/2020, of November 3, on Commercial communications of gambling activities (*BOE* nº 291 of November 4, 2020). Retrieved from https://bit.ly/3piu2jm.

Rubio-García, L. (2018). Apuestas deportivas *online*: percepción adolescente y regulación publicitaria. *Methaodos, revista de ciencias sociales*, *6*(1), 139-148. https://www.doi.org/10.17502/m.rcs.v6i1.207

Salas-Zarate, M. D., Medina-Moreira, J., Lagos-Ortiz, K., Luna-Aveiga, H., Rodríguez-García, M. A. & Valencia-García, R. (2017). Sentiment Analysis on Tweets about Diabetes: An Aspect-Level Approach. *Computational and Mathematical Methods in Medicine*. https://www.doi.org/10.1155/2017/5140631

Serrano-Puche, J. (2016). Internet y emociones: nuevas tendencias en un campo de investigación emergente. *Comunicar*, *46*, 19-26. https://www.doi.org/10.3916/C46-2016-02

Sklar, A. & Derevensky, J. L. (2010). Way to Play: Analyzing Gambling Ads for Their Appeal to Underage Youth. *Canadian Journal of Communication*, *35*(4), 533-554. https://www.doi.org/10.22230/cjc.2010v35n4a2331

Ullmann, S. & Tomalin, M. (2020). Quarantining online hate speech: technical and ethical perspectives. *Ethics and Information Technology*, *22*, 69-80. https://www.doi.org/10.1007/s10676-019-09516-z

Wang, Y., Zhao, Y., Zhang, J., Bian, J. & Zhang, R. (2019). Detecting associations between dietary supplement intake and sentiments within mental disorder tweets. *Health Informatics Journal*, *26*(2), 803-815. https://www.doi.org/10.1177/1460458219867231