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Note of Editor-in-Chief

This is the first Special issue of the journal *Culture e Studi del Sociale-CuSSoc*. The idea behind the special issue comes from this consideration: around the world, individuals are facing a critical moment, the COVID-19 pandemic and its consequences require some reflections on many topics, often forgotten by scholars. This is the reason why many Italian and foreign scholars have been invited to give their contribution. Furthermore, now more than ever, it is crucial to share knowledge coming from multiple disciplines and that's why it was decided to write an entire issue in English.

For scientific and intellectual correctness, the contents of single articles refer to the situation as in mid-May 2020. It is necessary to clarify that because this Special issue was published when many countries were starting to reduce their emergency measures to cope with the pandemic.

The Topics-scape of the Pandemic Crisis: The Italian Sentiment on Political Leaders¹

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Abstract

The aim of the article is to identify themes, actors and mood of the tweets shared by users in the period from March 25 to April 3, 2020 in Italy. It seems an extremely delicate and complex period, because it corresponds to the first phase of the lockdown, introduced following the Covid-19 pandemic. It was a period characterized by emergency and crisis, with nuances related to fear and uncertainty. We assumed that this situation could have influenced and produced effects on the ideologically oriented digital language practice. Taking this background into consideration, we have scraped the messages containing the surnames of the Italian Premier and the one of the opposition leader from Twitter, in order to identify the debate connected to them and to the crisis. To achieve this goal, we performed a computational linguistic technique, Emotional Text Mining. The first result reconstructs the landscape of the debate. Arising topics-scape drawn by: the leader, the players, the economy, the entertainment, the politic, the skill, and the guilt. Then, representations were identified and sentiments measured.

Keywords: Emotional Text Mining, Pandemic, Political Debate, Twitter.

Introduction

In times of crisis, the language of political leaders and citizens may change, following rules dictated by emergency and fear. We could therefore modify what has been defined as “language ideological debate” (Blommaert, 1999), and which represents a key concept for sociolinguistic investigations, which explore the ways in which what often seem to be only linguistic disputes are, instead, expression of different concerns, such as: economic, political, social (Stroud, 2004; Blackledge, 2005; Johnson, 2005a, 2005b; Milani, 2007; Milani and Johnson, 2008). Political communication scholars and political scientists have worked extensively on these issues, underlining how concepts such as “hegemony” and “normalization” are fundamental. They did so because their interest is represented by understanding how the visions of language – which are of particular origin – in the end they are perceived as common sense (Milani and Johanson, 2008, p. 2), thus reaching a state of normalization (Blommaert, 1999; Bourdieu, 2000).

In truth, the ideological language of the political debate is not the fulcrum of the work that is undertaken here, instead, the object of our interest could be defined as an ideologically oriented digital language practice in times of crisis, with the aim of drawing and then interpreting the panorama of the topics of this first debate. Our crisis is represented by the recent pandemic.

¹ The article is the result of a joint work but, for the sole purpose of the award, the following paragraph division can be considered: Francesca Greco, paragraphs 1, 2 and 3; Gevisa La Rocca, introduction and paragraph 4.

It all started on December 31th, 2019, when China informed the World Health Organization (WHO) of the existence of a new virus whose origin was unknown both to scientists, and workers and visitors to a wet market in the city of Wuhan. Wuhan and its wet market are the city and the place where it all began. On January 9th, 2020, Chinese authorities identified a new type of pneumonia belonging to the Coronavirus (2019-nCov) as the causative agent of the disease. This is the SARS-CoV-2 virus (acronym for Severe Acute Respiratory Syndrome - Coronavirus-2) also Covid-19 – declared a global pandemic on March 11th, 2020 by the WHO – which suddenly projected us into a situation completely new and unexpected. Lockdown policies also forced us to renounce part of our rights, the freedom to go out, to be with friends, to see family members. There has been a reduction in our autonomy, our freedom of action in favor of safety and the protection of public health. Citizens all over the world are suffering from a historical health crisis due to the coronavirus pandemic, which is also accompanied by an unprecedented economic and social crisis. In fact, as Morin defined it, it is a threefold crisis (Scaloja, 2020). The aim of this work is to reconstruct – through linguistic statistics techniques – what happened in the debate within digital media in the period from March 25th to April 3th, 2020 in Italy. The chosen observation point is Twitter. The social media are already studied in terms of: creating *ad hoc* publics (Bruns and Burgess, 2015), networked publics (Boyd 2010), spreaders of social and political activism (e.g., Bonilla and Rosa 2015; Rambukkana, 2015), an environment for sharing opinions and emotions (e.g., Tettegah 2016; Döveling *et al.*, 2018; Boccia Artieri and La Rocca 2019).

1. Emotional Text Mining and public perception

The issue of citizen security has become particularly important in recent years and particularly, during this pandemic. Even before the emergency, it was a topic of systematic discussion on media and social media, assuming centrality also in the political and public debate. The debate about the security in Italy is not new but reappears cyclically in particular historical phases. In fact, it had already appeared in the press pages during the period of the latest terrorist attacks (see also La Rocca and Martínez-Torvisco, 2017).

Among other factors, media and social media play a relevant role in influencing public perception. Agenda-setting, priming and framing theories help to understand how the increase in media coverage levels can increase the relevance of a specific topic making it more important to the public. In fact, agenda-setting theory (McCombs and Shaw, 1972) states that publishers, newsroom staff and broadcasters play an important role in shaping reality, choosing events considered “newsworthy” and manipulating the space and relevance attributed to them through a mechanism referred to as “salience transfer”. By operating in this way, the media can transfer a topic from a private agenda to a public one, influencing the audience. Moreover, in contrast to past modes of communication, social media, has become massively popular and now represents the preferred platform for expressing politically incorrect sentiments. The reason why political propaganda is flooding social media platforms is that they increasingly fulfil the function of communication, not only enabling millions of users to share information daily, but also funnelling citizens’ comments, opinions, and feelings on a wide range of topics.

Therefore, the social media data availability represents one of the primary

sources to explore people's opinions, sentiments, emotions and life experiences. Therefore, social media messages can be analyzed in order to detect public perception and explain and/or anticipate the dynamics of different events, potentially producing useful results applicable in different contexts. For this reason, social media have started to play a growing role in understanding the social phenomenon, and sentiment analysis is increasingly used in order to explore people's opinions and feelings (e.g., Bollen *et al.*, 2011; Ceron *et al.*, 2013; Fronzetti Colladon, 2018; Gloor, 2017; Greco and Polli, 2020a; Zhao *et al.*, 2019).

Sentiment analysis is a field of study that analyzes people's opinions, sentiments, evaluations, appraisals, attitudes and emotions towards entities. It is also called opinion mining, since, frequently, the sentiment is considered a personal belief, or judgment, which is not founded on rational reasoning, but on a subjective emotion. The use of a text mining approach to classifying the sentiment of a text has been largely discussed in the literature, (e.g., Balbiet *et al.*, 2018; Bollen *et al.*, 2011; Liu, 2012). Most methods are based on a top-down approach, where *a priori* coding procedure of terms, or text, is performed focusing on the manifest content of the word. Nonetheless, it is not sufficient to classify the sentiment lexicon to perform a sentiment analysis because a term, classified as a positive or negative sentiment word, may have an opposite orientation depending on the context (Liu, 2012).

Emotional Text Mining (ETM) (Greco, 2016a; Greco and Polli, 2020a) is a text mining procedure that, employing bottom-up logic, allows for context-sensitive text mining approach on unstructured data, which constitutes 95% of big data (Gandomi and Haider, 2015). ETM is an unsupervised text mining procedure, based on a socio-constructivist approach and a psychodynamic model (Greco, 2016b). According to this approach, the sentiment is not only the expression of a mood but also the evidence of latent and social thinking process that sets people interactions, behaviour, attitudes, expectations and communication. Thus, according to semiotic approach to the analysis of textual data, ETM allows performing social profiling. This has already been applied in different fields (Cordella *et al.*, 2018a; Cordella *et al.*, 2018b; Greco *et al.*, 2019, Greco and Polli, 2020b; Laricchiuta *et al.*, 2018) and, particularly on the analysis of political debate in order to profile social media users and to anticipate or explain their political choices (Greco *et al.*, 2017; Greco *et al.*, 2018a; Greco *et al.*, 2018b; Greco, 2019; Greco and Polli, 2019). While the mental functioning proceeds from the semiotic level to the semantic one in generating the text, the statistical procedure simulates the inverse process of the mental functioning, from the semantic level to the semiotic one. For this reason, ETM performs a sequence of synthesis procedures, from the text pre-processing and the selection of the keywords to the multivariate analysis, to identify the semiotic level, starting from the semantic one.

2. Methods

In order to explore the representation and the sentiment on the two political leaders in Twitter communication during pandemic, we scraped all the Italian messages containing the word "Conte" and "Salvini" along ten days, from March 25th to April 3th, 2020. Data collection was performed with the *retweet* package of R (v.0.7.0; Kearney, 2020) that provide an interface to the Twitter web API.

All the messages up to 300 retweets were collected in a corpus, and two lexical indicators were calculated: the type-token ratio and the hapax percentage, to check

whether it was possible to statistically process data (Giuliano and La Rocca, 2010). According to the large size of the corpus, both lexical indicators highlight its richness and indicate the possibility of proceeding with the ETM.

First, data were cleaned and pre-processed with the software T-Lab (v.2018, Lancia, 2018) and keywords selected. We used lemmas as keywords instead of type, filtering out the words of the low rank of frequency (Greco, 2016a). Then, on the tweets per keywords matrix, we performed a cluster analysis with a bisecting *k*-means algorithm (Savaresi and Boley, 2004) limited to twenty partitions, excluding all the tweets that did not have at least two keywords co-occurrence. To choose the optimal solution, we calculated the Calinski-Harabasz, the Davies-Bouldin and the intraclass correlation coefficient (ρ) indices. Then, we performed a correspondence analysis (Lebart and Salem, 1994) on the cluster per keywords matrix, and we measured the sentiment according to the number of messages classified in the cluster and its interpretation. We choose to measure two type of sentiment: the classic one (Positive vs negative) and the trust and distrust in the government.

The interpretation of the cluster analysis results allows for the identification of the elements characterizing the representation of the political leaders, also in terms of positivity or negativity, while the results of correspondence analysis reflect its cultural symbolization setting social behaviors. The advantage connected with this approach is to interpret the factorial space according to words polarization, thus identifying the emotional categories that generate leaders' representations, and to facilitate the interpretation of clusters, exploring their relationship within the symbolic space. Moreover, as representations are a system of values, ideas, and practices.

3. Results

The name of the Italian prime minister allowed to collect 327,042 messages (sample_C), while the name of the *Lega* leader allowed to collect as smaller number of tweet (n= 228,043) (sample_S) and most of the messages in both samples(79%) were retweet. In the high rank of frequency of the first sample the name of the Prime Minister stand alone, while in the second samples the name of the Lega leader was associated with two other politicians. The frequency of the leaders' name in the two sample of tweets was different: *Salvini* has a 1:19 ratio with the word *Conte* in the sample_C, while in the sample_S *Conte* has a 1:14 ratio and the *Meloni*, the leader of *Fratelli di Italia* party, has a 1:7 ratio with the word *Salvini*.

The texts selection and the corpus preprocessing determined a loss of 10% of the messages (n= 433,353; n_{sampleC} = 264,112; n_{sampleS}= 169,241) resulting in a large size corpus of 11,921,450tokens. On the basis of the large size of the corpus, both lexical indicators highlighted its richness (TTR = 0.009; Hapax = 39.9%) and indicated the possibility of proceeding with the statistical analysis, which was performed with the 2086 keywords selected.

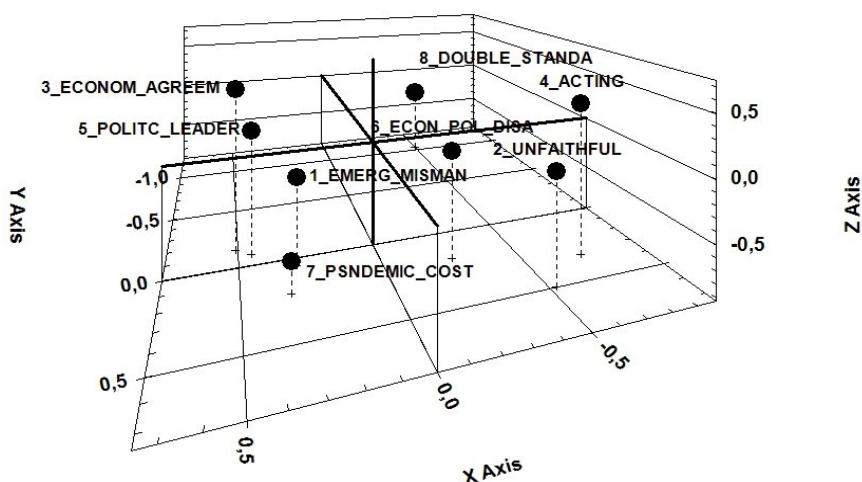
Table 1 – Correspondence analysis results

Factor	Eigenvalues	Inertia (%)	Cumul. %	Factor	Negative Pole	Positive Pole
1	0.2067	23.8	23.8	Leader	Opposition	Government
2	0.1801	20.8	44.6	Players	Politicians	Population
3	0.1253	14.4	59.0	Economic Issue	Municipal	European
4	0.1170	13.5	72.5	Media	Entertain	Inform
5	0.0980	11.3	83.8	Politic	National	International
6	0.0764	8.8	92.6	Information	Scientific	Political
7	0.0641	7.4	100.0	Guilt	impunity	Shame

The results of the cluster analysis show that the keywords selected allowed for the classification of 99.8% of the tweets. The clustering validation measures indicated that the optimal solution was eight clusters. The correspondence analysis detected six latent dimensions, and the explained inertia for each factor is reported in Table 1.

In Figure 1, we can appreciate the factorial space of the two politicians emerging from the Italian tweets. It shows how the clusters are placed in the factorial space produced by the first three factors, explaining 59% of the inertia.

Figure 1 – Factorial space



As shown in Table 1, ultimately, the Twitter users symbolize both politicians by means of seven main categories: the leader, the players, the economy, the entertainment, the politic, the skill, and the guilt. These are the themes that design our topics-scape, that is, a group media landscape produced by the discursive-textual interaction of Twitter users, and reconstructed through a retrospective analysis process (La Rocca, 2020).

The first factor in our topics-scape distinguishes the leaders: the Premier, *Conte*, from the opposition leader, *Salvini*; the second factor distinguish the players, pitting those who have the power to rule, politicians, against those who are ruled, the population; the third factor categorize the economic impact of pandemic pitting the health emergency against the market emergency. Pandemic posed an impossible choice between saving lives promoting the national house confinement, solving the immediate health problem but causing a future loss in productivity, and saving the economic productivity, solving the country from a huge economic crisis entailing an unbearable price of human lives.

The fourth factor distinguishes the aim of media, distinguishing the entertainment from the information; the fifth factor pits the national politic against the international one; the sixth factor calls for the need of knowledge differing the scientific knowledge and the political one; finally, the seventh factor focuses on the person of power guilt, distinguishing impunity, which rises citizen's anger and powerlessness, from shame, which evokes astonishment and punishment satisfaction.

The interpretation of the factorial space highlights the symbolic categories by which people, in general, emotionally categorize the leaders, and support the cluster interpretation according to their location in the symbolic space (Table 2).

Table 2 - Cluster location in the symbolic space

Cluster	Tweet %	Factor 1 Leader	Factor 2 Players	Factor 3 Economic Issue	Factor 4 Media	Factor 5 Politic	Factor 6 Information	Factor 7 Guilty
1	11.4	Premier					Political	Impunity
2	11.1	Opposition	Population		Inform		Scientific	
3	15.1	Premier		European		International		
4	9.1	Opposition	Population	European	Entertain			
5	13.0	Premier				National		
6	16.2	Opposition					Political	Shame
7	12.5	Premier		Municipal		International		
8	11.6	Opposition	Politicians					

The eight clusters are of different sizes (Table 3) and reflect different leader's representations. In the first cluster, the premier is held responsible for an emergency mismanagement, 85% of the tweets of this cluster belong to the sample_C, and therefore it mostly addresses the Premier decisions. The home confinement and the increase of death are represented as the evidence of the government incompetence in managing the pandemic impact:

It is not enough for him to have reduced us to a morgue thanks to his delays, this cialtrone is also leading us to total economic disaster)
Amateur buffoons who insult the dignity, honor and security of the whole of Italy.
They must go! ... The first who must go is Mattarella

The second cluster concern mostly the opposition leader as 86% of texts belong to the sample_S, and it represents the leader as someone who is striving for rising is visibility and consensus participating in the media show, sometimes rising extremely negative reactions. Then, his communication as well as his behavior is unreliable because they are fakes:

Who votes Salvini # Salvini # Piazzapulita A hit I see pizza Teresanna who says it is very good and like when Salvini spoke of excise duties, the same.
salvini in # piazzapulita goes to tell some bullshit Lies lies all lies
PiazzaPulitaSalvini's video of 27 February? Go Home!

In the third cluster 90% of texts belong to the sample_C and it represents the leader difficulty in finding an economic agreement for receiving support to face the pandemic cost and consequences. The level of uncertainty is also the results of the multiple, discord information:

MES but not MES. In short, TAV method. So, let's recap the Premier # Conte's position on # MES. 1 week ago at FT use all MES firepower. 4 days ago in Cons. EU MES old tool. 3 minutes ago yes at MES if new. Let's prepare for yes # MES but not MES. In short, TAV method.

The fourth cluster, in which 83% of texts come from the sample_S, represent the politician's participation in media entertainments as the play of an actor, who aims to raise consensus and visibility. As an actor he is not allowed to disregard some "cultural value":

Things we would have preferred not to see on TV: Barbara d'Urso and Matteo Salvini recite the Eternal Rest. The eternal rest of reason!

the problem is that #D'Urso prays live with #Salvini because someone is watching her !!! Gentlemen viewers who watch it but are you not offended by all of this???

Table 3 - Cluster analysis results

Cluster	Tweet	Label	Lemma	Sentiment	Government	Sample
1	11.4	Emergency Mismanagement	casa morto governo soldi governodellavergogna	Negative	Distrust	Conte 85%
2	11.1	Unreliable	contedimetiti piazzapulita salvini formigli laboratorio bufala virus	Negative	Distrust	Salvini 86%
3	15.1	Economic Agreement	MES UE gualtieri merkel coronabond	Neutral	Trust	Conte 90%
4	9.1	Acting	strumento D'Urso preghiera recitare salvini pregare	Negative	Distrust	Salvini 83%
5	13.0	Political Leadership	salvini sciacallo presidente conferenza pasquetta nuovo proroga	Positive	Trust	Conte 95%
6	16.2	Useless Opposition	allentare Meloni condono INPS guerra proporre	Negative	Distrust	Salvini 74%
7	12.5	Pandemic's Costs	comprensibile milioni sindaco difficolta stanziare speranza emergenza	Negative	Trust	Conte 78%
8	11.6	Double Standard	Orban poteri parlamento democrazia dittatura differenza	Negative	Trust	Conte 57% & Salvini 43%

In the fifth cluster 95% of texts come from the sample_C, the Twitter user seems to call for a resolute guidance in time of pandemic, a political leadership able to take the right decisions and to communicate with the population, taking care of citizens' sentiment:

Conte's measures - lockdown signed until April 13th. If we relaxed now all efforts would be in vain

#coronavirus #Conte #CONTE DIMETTITI The Prime Minister Giuseppe Conte will land a press conference at Palazzo Chigi at around 19. 20. The sources of the Prime Minister announce it.

The sixth cluster, in which 74 % of messages come from the sample_S, the political opposition is represented as useless, since they are unable to propose useful solution to reduce the emergency impact. The opposition is perceived as unable to solve problem compared to the ruling leadership. Their decision and propositions are interpreted as the political opposition needs to raise consensus which is unbearable during pandemic:

#Salvini #Draghi #COVID19 2019: Salvini chases Boers and puts Tridico in charge of INPS. 2020: Salvini invokes the resignation of Tridico. Sipario Coronavirus, Matteo Salvini: Referendum on leaving the European Union?

if he is cured, the life-long cage with herpes awaits him .. and Berlusconi Gori LapoBambaTajaniSalviniMeloni[...] Soon you will see Salvini flee to Hungary with Meloni.

The seventh cluster reflects the pandemic's costs and 78% of texts come from sample_C. The government's commitment to provide financial support to municipalities is represented as ineffective and its results as paltry

Conti: 4, 3 billion for municipalities. Plus 400 million tied for the expense of families in difficulty. In Italy there are 26 million families; 50% in difficulty. Then 400 million 13 million = 30 for family unit, half dinner.
 Coronavirus, Giuseppe Conte and the mystery on the extension: no announcement, but signs a DPCM of aid to the Municipalities

In the eighth cluster the texts come almost equally from both sample (Table 3), the political powers of Conte are compared to the Hungarian Premier ones, and the issue of democracy vs dictatorship is discussed:

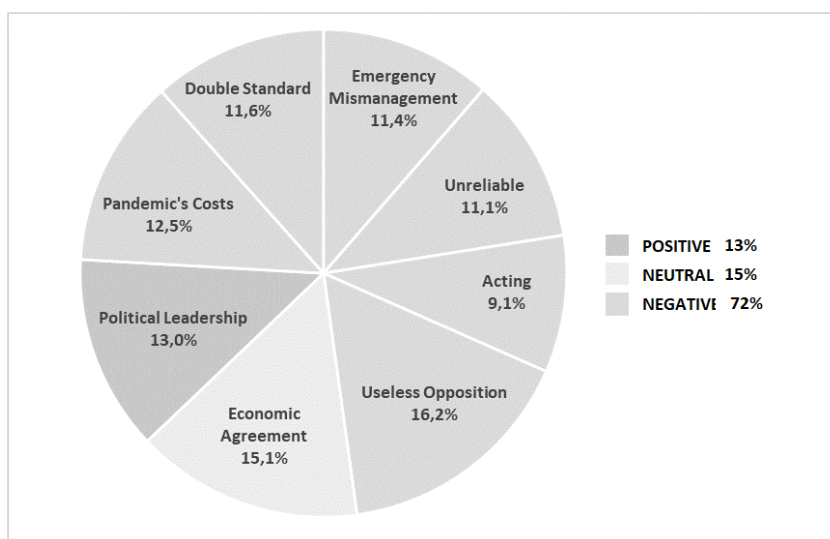
Everyone is scandalized by Orban's full powers in Hungary. Well. A question. What is the difference between the full powers of Orban and those of Conte in Italy? .. If you go to see they are very similar. But a difference is In Hungary, Parliament voted. Here not.

Conte cannot indict journalists, Orbanyes. Conte can be disheartened, Orban no DPCM have time limit, full powers Orban no Conte cannot suspend elections, Orbanyes Conte cannot change, suspend laws, Orbanyes I f I was # Conte I would not resist the temptation to call Salvini at 2 a.m., to tell him I have assumed full powers,

The two examples highlight the ambivalent need to have a strong leader who take all the decisions and ,at the same time, not to give up to freedom. The leader differences are then represented as a double standard evaluation.

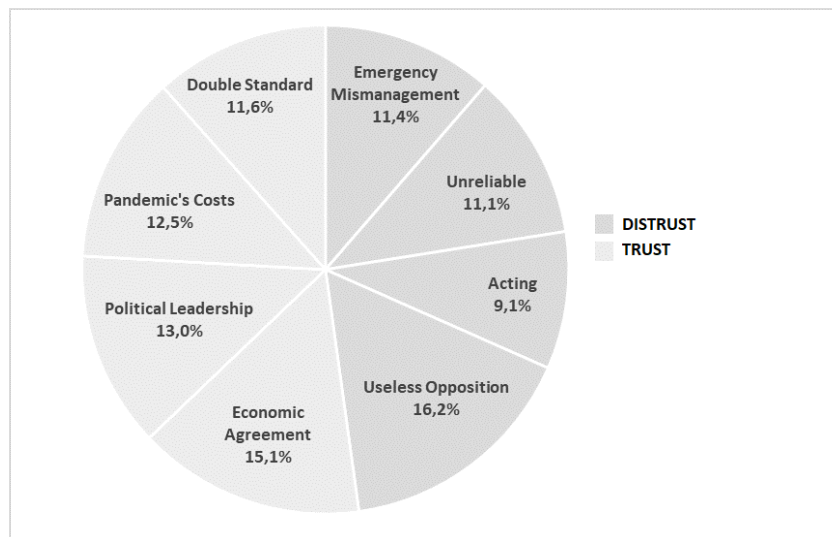
From the interpretation of the clusters, we detected eight different representations of the political leader. Since all the representations seem to be mainly negative, we grouped the sentient in two ways: according to their positivity (Figure 2), and according to their level of trust in the government choices (Figure 3).

Figure 2 - Sentient



We have considered all the representations negative (72%) unless the *economic agreement* (15%) that was considered neutral and the *political leadership* (13%) that was considered positive due to its trust in the government management (Figure 2). Not surprisingly the high majority of messages in the emergency period are negative but if we consider the sentiment from a different perspective the result is particularly interesting. Half of the representations (52% of texts) are confident with the emergency management of the government. We have considered *political leadership*, *economic agreement*, *pandemic's cost* and *double standards* as confident with the government choices. Even though in the *double standards* the focus is on the level of freedom connected to the political power, the emergency management is not an aspect of the discussion but rather who has got the power to decide. On the other hand, we considered *emergency mismanagement*, *acting*, *unreliability* and *useless opposition* as distrusting representation in the political leaders.

Figure 3 - Government Trust



4. Discussion and conclusion

The first image we get from the analysis of the tweets sees opposites between them: themes and actors. The first contrast inside the actors is between the politicians: Conte and Salvini; the second sees the holders of power on the one hand and the citizens on the other; around them a polarized debate develops, from which arise the themes: the protection of public health and the fear of the economic crisis produced by the lockdown and by the decrees issued by the Premier Conte (D.P.C.M. of 23 February 2020; D.P.C.M. of 4 March 2020; D.P.C.M. of 22 March 2020).

The leitmotiv of the pandemic crisis emerging from the background is the uncertainty. The latter clearly linked to not knowing what will happen next and therefore to the perception and feeling of bewilderment, but also connected – in a more or less latent way – to the relationship between the public and private spheres, which emerge like a Hamletic doubt, still today the subject of debate, between the interference of the State in terms of public health and the need for economic recovery.

On it, then, are inserted: the comparison with the containment measures adopted by other States and the recommendations that come from the world of science, represented by virologists and epidemiologists who have become new opinion leaders. Until this first reading, the landscape would seem varied and confused, but if you go into the analysis of emotions and sentiments, the situation becomes clearer, something emerges from the fog. He is the figure of Giuseppe Conte. In fact, although 72% of the sentiment is collected within the “negative” label, reversing the perspective it is found that half of the representations (52% of the texts; see fourth paragraph) have trust in the management of emergencies by the government.

If we consider that “images of linguistic phenomena gain social credibility and political influence” (Gal and Woolard, 2001, p. 7), we have the opportunity to consider how this discursive construction of publics, achieved through form of digital textual mediation – formed by social actors/users more or less autonomous and/or homogenous groups (Johnson and Ensslin, 2007, p.15) – have created processes of representation politically relevant because they are linked to the legitimation and trust of governmental measures.

The legitimacy that emerges from these measures –through the analysis of the digital practice of ideologically oriented language – gives back information that is important, and just not a bit. Especially in consideration of the recent debate that has arisen in the Italian press and in some fringes of public opinion on the action of the Premier, who adopted/imposed these measures through his own decree and not through a legislative decree. The group-scape that arises, from the analysis of the first period of diffusion and discussion of the pandemic in Italy, is certainly characterized by climate that oscillates between uncertainty and trust. Uncertainty for an unknown situation and trust in the choices of those who govern us.

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