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Between Infodemic and Pandemic: On-line Researches in the Time of COVID-19

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Social and Individual Processes at the Time of the COVID-19 Crisis

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Abstract

The author presents eight studies carried out during the global pandemic of coronavirus disease 2019 (COVID-19) and focuses on different methodological issues to be addressed within the Digital Society and netnographic research. The studies are reported in a common context ranging from the individual experiences of researchers to the receipt of political propaganda in mass society through social media.

Keywords: Social research methods, Autoethnography, Netnography, Big data, New data, Infodemic, COVID-19.

Introduction

The special issue of *Cultura e Studi del Sociale* under discussion was conceived as a conceptual continuation of the special issue issued in June 2021, which was also dedicated to sociological studies on the COVID-19 pandemic.

Like the previous one, this issue also maintains absolute scientific neutrality derived not only from the authors' commitment to study and work, but also from the fact that unlike summer 2020, this past summer was not accompanied by the same optimism as the previous one, despite the extensive vaccination campaign.

In a social situation where question marks are constant, for scholars and others as well, specific studies on aspects that have yet to be fully anayzed due to their precise link to life in the time of the pandemic represent a very useful contribution to the science of interpersonal relationships in these times of extreme crisis and beyond.

1. From auto-ethnography to political dynamics at the time of the pandemic

Speaking personally is always an act of courage, because authors not only lay themselves bare to the entire scientific community, but above all must observe themselves, a task that is not always easy. Apart from this, doing auto-ethnography at a time of extreme crisis, such as that of the COVID-19 pandemic, could lead a scholar to emphasize his or her own emotional expression, forgetting the relationship with traditional forms of social investigation. We therefore will take into consideration Martina Carleo's precise description in her work entitled *Being a subject expert during Covid-Era: an autoethnographic experience*, an analysis appropriate to the times and the situation.

The author tries to find the right balance between Leon Anderson's *Analytic Autoethnography* (2006) and Arthur Bochner and Carolyn Ellis's *Evocative Autoethnography* (2016). We can find a description that we all would like to see as limited to the terrible years 2020-2021, and which could serve to understand the

limits and positive elements of the so-called *Didattica a distanza* (Remote Learning), i.e. the more or less successful attempts to make normal what unfortunately was not, but probably will be for several years.

Therefore, new possibilities of teacher-student interaction have opened that will be studied over the next few years not only in the sociological field, but also in the psychological, pedagogical, and IT fields. It is not necessary in sociology to be the first to address a new topic by applying methodologies used elsewhere. However, we believe that studying them can not only stimulate the cognitive potential of other subjects engaged in pedagogical and analytical activity, but can also contribute, over time, to a historical reconstruction of what happened in Italian universities during the pandemic of the years 2020-2021.

The analysis of individual attitudes at the time of the pandemic is also addressed in an essay by Marianna Coppola and Giuseppe Masullo, who deal with the very delicate issue of Italian hikikomori based on the finding that "Today COVID-19 is pivotal for rethinking oneself". The Salerno authors tackle the issue of identity from the micro level of relationships between individuals and the "digital society" to using the now established methods of netnography to analyze a discussion group on Facebook of young hikikomori. Considering the close link between hikikomori and their families, since all their network activities are carried out in the space offered by the families themselves, we can also consider the essay a good practical example of netnography, as well as a further contribution to contemporary studies of Sociology of the Family focused on the perspective of subjects with a tendency toward self-isolation.[1]

The question of how to carry out innovative research using so-called Big Data is discussed in our volume by Ciro Clemente De Falco and Emilia Romeo. The authors remind us that "it is important to point out that the data is not only 'big' but also 'new'" and that the distinction must always be made between digitized data that was originally collected in analog format and data arising directly "from user activity on the web" ("native digital data"). The analysis of this latter type of data in particular raises the question of what types of collection methodologies to use, given that not all traditional methodologies can be applied to "new data". The emphasis of some authors, such as ours, on the difficulties faced by independent researchers in gaining access data produced by digital infrastructures will be particularly appreciated.[2]

On these premises, De Falco and Romeo examine the case study of Italy at the time of the first and second wave of the COVID-19 pandemic, identifying the main topics studied in social science regarding the pandemic and analyzing the use of digital data and techniques for empirical research in social science. The authors note that Italian researchers have focused mainly on the use of online questionnaires or have used methodologies excluding the use of the web, which offers the possibility of tracking subjects' behavior. The authors rightly emphasize the limits of the use of questionnaires as a "non-intrusive" technique (see Clark & Purdon, 1995) and rightly point out that "big doesn't necessarily mean better".

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[1] In my recent essay (Maiello, 2021) I show how addiction to role-playing games also massively affects the generation preceding the one studied by our authors, i.e. that of their parents. The positive function of RPGs, in the context of inter-family relations, was identified by the Polish scholar Michał Mochocki (2021).

[2] The debate about the limits of big data particularly for scholars in the humanities and social sciences, presently much more focused on qualitative research, has centered in this field on so-called Digital Humanities. The discussion of the past and perspectives of this field of study was recently summarized in the volume edited by Lauren F. Klein and Matthew K. Gold (2019). On the same theme, with a more radical approach toward scientism, see James E. Dobson (2019).

A similar approach, this time focused not on the products of specialized researchers but on the "broadcasters of the 21st century"[3], is offered by Miriam Di Lisio and Domenico Trezza in their study presented here under the title *The Fake News Pandemic*. The theme is obviously intriguing because we talk a lot about fake news yet at the same time there is considerable confusion about the definition of the term. Our authors, therefore, in addition to trying to carry out a specific study on the possible application of digital methods for the study of fake news, seek to impose order in the definitions of disinformation and misinformation with a mind to the ambiguity of the concept of fake news.[4]

The chances of success for an analysis of this type are obviously limited, "but needed", as confirmed by the authors themselves, and therefore we consider their research an invitation to proceed with caution in the study of fake news in a period that is "highly infodemic".[5]

An innovative content analysis is presented by Federica Palmieri, Jessica Parola, Marco Sallusto Palmiero, and Roberta Tofani, where the impact of the pandemic on individuals and on society is analyzed in particular on vulnerable social elements, such as the homeless, the Roma people, and women victims of violence. The authors remain strictly within the bounds of qualitative research by constructing their analytical categories inductively (see Glaser-Strauss 1967) and using CAQDAS Nvivo on data collected from Facebook or Instagram. In order not to confine their research only to individual cases, the authors compared the data collected by the aforementioned social media platforms with those of some Italian newspapers, thus managing to create a coherent research framework where the individual experiences are directly related to the collective experiences in the period of the first wave of pandemic. It should also be emphasized that the authors of the research, in addition to detecting clusters predictable in a period of pandemic, such as anxiety, sadness, nostalgia, resignation, and similar, notice another protagonist of the quarantine, which especially in Italy seems to represent a scarcely known phenomenon: silence.

We can therefore say that their choice to adhere to the principles of Grounded Theory will be useful to all who, basing themselves on the same principles, will look for data from below in the future, data that the study has made clearly available to the scientific community.

A less classic theme in social studies, that of Virtual Dark Tourism, which is already examined today at the level of scientific publications and even monographs (see McDaniel, 2018), is addressed by Gabriella Punziano and Giuseppe Michele Padricelli. The places they studied are those most affected by the first wave of COVID-19 cases in Italy, namely the towns of Codogno, Vo' Euganeo*,* and 9 other municipalities near the Lodi district. The netnographic analysis was not easy for our authors as the majority of Facebook groups that dealt with the life and

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[3] It is an elegant albeit ironic style to define what Umberto Eco directly, perhaps somewhat brutally, called the "legions of imbeciles" (Eco, 2015), i.e. "less erudite" active users of Twitter (and social media in general).

[4] We can only agree with the authors when they state that "if two people with different ideas and opinions were asked to define fake news, they would most likely give two completely different answers, based, in fact, on their beliefs". (cfr. *infra*).

[5] The word infodemic is a neologism created in 2003, in the middle of the 2002–2004 SARS outbreak, by the US journalist David J. Rothkopf. According to the original definition, infodemic means "few facts, mixed with fear, speculation, and rumor, amplified and relayed swiftly worldwide by modern information technologies, [which] have affected national and international economies, politics, and even security in ways that are utterly disproportionate with the root realities" (Rothkopf, 2003).

emotions of the inhabitants of these municipalities are open only to residents of these areas. The authors have bypassed the barrier of distrust, probably created by the massive presence of journalists in search of sensations, and have managed to enter a world of suffering and pain deriving from the pandemic disaster and aggravated by the fact that the spaces studied were in fact the first in Europe to experience lockdown and death, which was present almost everywhere. In this case as well the researchers' choice was defined as an unobtrusive approach where the scholar tries to show his presence as little as possible in order not to pollute the study or the spontaneity of the written and visual expressions of the social media users.

For the authors, it is also very important to understand a theoretical aspect already discussed in Tourism Studies, namely how a lurking tourism experience is a genuine tourism experience. The study of an extreme situation, such as that of the first red zone in Europe as a result of the pandemic, is able to provide further elements of understanding for the resolution of this question.

Social Media, however, does not consist solely of Facebook and Twitter. Among those platforms of medium size, with numbers of users on a global scale slightly higher than that of Twitter (STATISTA, July 2021), we find Reddit, which is used and described in detail by Ilir Rama. Reddit was born a little more than a year after Facebook and despite having sometimes been strongly criticized for hosting extremist groups in its rooms, defined as *subreddits*, it is considered a much more libertarian and substantially less hypocritical social media than Mark Zuckerberg's more famous one.[6] Rama presents in a very sophisticated and open way, given his status as a "researcher embedded in the environment", his method of considering affordances within the context of digital platforms based on his netnographic research (defined as "ethnography in digital environments") on the subreddit named *r/coronavirus*, which in May 2020 already had 2 million users. Despite the use of computational data drawn from 2.8 million comments, the topics were set manually through human interpretation. Even in this case we are faced with an analysis conducted with rigor and scientific awareness, supported also by an innovative theoretical apparatus and very useful considerations in particular on the use of social media, and the influence of these not only on the subjects who use it, but in general on all of society. Rama in fact points out that Reddit essentially creates a self-censorship mechanism in users through the so-called *Karma system* which "directly promotes a community's culture by punishing socially deviant expressions and promoting comments conforming to situated social norms, building an intersubjective meaning." Everything is presented in a very open way and not managed by algorithms elaborated in a centralistic and non-transparent way as in the case of Facebook.

If sociology today, such as anthropology, is not afraid to consider even the researcher himself an object of study, or at least a participant observer, there are still fields in which the researcher remains distant and imperceptible. This is the case of political sociology, which now goes hand in hand with political marketing and media communication. And yet the researcher, unless she herself is part of a team of marketers or the restricted secretary of a political party, must rebuild from the outside, and only on the basis of the public demonstrations of the party itself

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[6] In the January issue of *The Journal of Politics*, after analyzing Facebook groups and their enormous capability to manipulate a specific audience, Jennifer Forestal recommends Reddit as a digital platform more conducive to democratic forms of discussion and collective organization (Forestal, 2021, p. 320).

and the likely strategies that the studied political party implements to obtain its results, whether positive or negative.

On this basis two young Neapolitan researchers, Agostino Stavolo and Assunta Luongo, focus in the section *Esperienze e confronti* (Experiences and Comparisons) on an Italian political party that appeared on the public scene of this country in September 2019, i.e. a few weeks before the outbreak of COVID-19: *Italia Viva*. Our authors try to identify the differences in communication through Instagram by this party during the period preceding and coinciding with the first wave of pandemic in Italy. Their experience is based on the one hand by suggestions offered by the "communication strategists" of the party studied, but also on the first studies that appeared in Italy on political communication at the time of the pandemic (see Boccia Artieri, 2020; Bordignon, Diamanti & Turato, 2020). In a simple but outstanding study, the young scholars remind us of the need for the researcher to be ready to accept empirical results that cannot be predicted a priori and that it is always possible to find traces of outdated and vulgar techniques of manipulation, as well as the reproduction of gender stereotypes, even in political parties enjoying respect in the liberal and partly libertarian global community.

Conclusions

If epidemiologists had to deal with the pandemic in the years 2020-2021, someone could accuse social studies scholars of dealing too much with infodemic. In its original meaning, however, this would sound more like exaggeration of data and information compared to a real biological danger, rather than an inflation of data, information, and – soon, we would add – studies. But research is never enough. And even if confined within the four walls that the pandemic has long forced us, we always consider research a "wonderful adventure" (cf. Engels, 1877), aimed at placing the pieces of tile and bricks on the edifice of scientific knowledge. One such brick is the special issue we present here.

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Social Sciences Research Methods Regarding COVID-19 Pandemic. A PRISMA Systematic Review

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Abstract
In the digital society, the traditional methods of social research for the study of society have been accompanied by innovative methodological proposals: digital and digitized methods , which are now applied to many themes. In 2020 the most debated topic was certainly the one concerning the Covid-19 pandemic; a "total social fact" of which not only the medical aspects have been analyzed, a substantial scientific production, indeed, has concerned the impacts that the pandemic itself and the measures that governments have taken to resist it has had on society. Starting from these considerations, the aim of this work is to offer an overview of the topics analyzed and the research methods used to investigate this disruptive event in academic research concerning the social sciences - and in particular that which focused on the Italian case - during the last year. To map the state of the art, consolidate the heterogeneous corpus of knowledge, and investigate the different methodological approaches used (tradition/digital/digitized) a methodological approach was applied based on a systematic review of the literature conducted with the PRISMA method and carried out with a third type content analysis.

Keywords: Covid-19, Digital/digitized methods, Sistematic Literature Review, SLR, Big data.

1. Introduction: new way to study the society.

In the contemporary society, data are constantly produced as direct and indirect effects of human activities. Self-tracking with wearable devices, social media posting, mobile phone interactions, are only an example of data produced every day by billions of people. This "data deluge" (Halford et al., 2013) is commonly known as "Big data" (Kitchin, 2014). It is possible to categorize big data in different ways (Kitchin, 2014; Elias, 2012) but it is known that the biggest part is produced in digital ambient (Lupton,2015). For this reason, digital data are becoming significant sources for managing crises (e.g., tool of social media monitoring) but also to study phenomena that regard the society. For researchers now it is possible to obtain a large amount of information that previously was inaccessible. Due to Big data, it is possible to carry out "non-intrusive" investigations in "natural" contexts, avoiding distortion linked to the researcher/interviewer/observer's presence (Mahrt – Scharkow, 2013). Social scientists usually use digital media data (Rice, 1990) but now it is possible to obtain tons of data from multiple tool that retrieved information from different web sources like scraping; application programming interface (API); programs and websites designed to collect trace data and custom applications and computer scripts (Hampton, 2017). It is important to point out that data are not only "big" but also "new". Rogers (2013), indeed, distinguishes from "digitized data" and "native digital data". The first refers to objects that already existed in analogic

form and that was then digitized (e.g., films, documents, books, etc.), while native digital objects are made from user activity on the web. New and big data not only requires increased computational power but also new analysis' techniques in addition to traditional techniques. Rogers (2013), in this regard, distinguishes between digital methods and digitized methods. Digital methods are an ensemble of strategy and research approaches that use data retrieved from digital environments to study socio-cultural phenomena and changes (Rogers, 2009, Caliandro and Gandini, 2016); while "digitized methods" are traditional social research tools adapted to the web (Rogers, 2009). Both methods have strengths and weaknesses (Hampton, 2017) but allows researchers to retrieve knowledge from new and big data. What is still under discussion is the extent of these data and the generalizability of them results, for example is not clear if the study of the twitter data can help researchers to understand the dynamics that characterize the social network Twitter, or the dynamics of Twitter in-social-life (Marres, 2012). Furthermore, using new and big data or new methods can be difficult for several reasons. First of all, the accessibility to all data is not guaranteed, for example, due to the growing trend towards "proprietary closure" (Manovich, 2012) is difficult to access to data produced by digital infrastructures. Companies have access to large data sets, while researchers can obtain part of these. Secondly is not always easy for social scientists to collect, store and analyze massive quantities of data. For this reason, Lupton (2015) - as many others - highlights the importance for the new generation of social scientists to improve technical background and to work in interdisciplinary groups. Finally, resistance regarding the "ontological" level could hinder the use of digital data. Another typical challenge associated with high-volume, diverse datasets is whether synthesis of data streams can be translated into actionable knowledge. The concept of translating "big data to knowledge" is important to the social sciences in several respects, big data is now being used in a variety of fields: from economics to science and politics. Governments all over the world, for example, could use big data to monitor and manage their territories through Event Detection algorithms (Mellin and Berndtsson, 2009). This kind of algorithm is becoming increasingly popular in the context of Smart cities (Borges et al., 2017) and especially in emergency management (Pohl et al., 2012). An important example of this kind of uses can be seen in the data collection from tweets during natural disasters such as Sandy (Wang et al., 2015). In addition to the purely managerial side, big data can be used as knowledge source to better understand the socio-economic dynamics and phenomena that arise from emergencies. This general shift to data-intensive science will exert an influence on all scientific disciplines, but particularly on the social sciences given the wealth of behavior and related constructs captured by big data sources. Starting from the consideration of the covid-19 pandemic as an exogenous shock similar to a natural disaster the aim of this study is highlight, in the first place, the different kinds of research conducted in social sciences field regarding Covid-19. Moreover, given the challenging period and the importance of "social distance" between people and the "lockdown" restrictions carried on most of the research was conducted online. So, from a methodological point of view, it is interesting to understand in which way online research was carried out. Have digitized methods or digital methods been used? Have the new data sources been exploited? Besides providing an idea of the current level of implementation of digital methods and the use of big data in the current social research, answering these questions will allow us to understand, from a practical point of view, how we could consider constantly monitoring the evolution of socio-economic phenomena during emergencies and whether the tools currently used can be defined as effective.

The study is organized as follows. First, an overview of the diffusion of Sars-cov2 in Italy. Then, the methodology based on the Preferred Reporting Items for Systematic review and Meta-Analyses (PRISMA, Moher et al., 2009) model is presented. In the following sections, the results of the analysis are reported and discussed by identifying: 1) the main themes discussed in social research; 2) the use of digitized, digital, or traditional methods in empirical research during the pandemic; 3) the level of exploitation of big data in empirical social research. Finally, implications, conclusion and limitations of the work are debated.

2. Defining the issue. Covid-19 pandemic: the Italian case

A total social fact according to Marcel Mauss (2002) is something capable of influencing and determining a set of phenomena involving most of the functioning mechanisms of the reference community. The total social fact, thus, would allow the interpretation of apparently distant and different "pieces" of the same society. Today, the coronavirus performs the same function. Social norms, inequalities, culture and political polarization are the main things (but not the only) that have been affected and influenced, even in a radical way. In particular, Italy represents a case of interest as it is one of the first countries to register one of the highest numbers of infected in the world and it is also among the first to respond positively to the pandemic trying to implement measures to counter the spread of the virus, or at least to limit it as much as possible. On January 31st, 2020, a state of health emergency was declared due to the new coronavirus epidemic. The decision was made immediately after the WHO declared a public health emergency of international concern. The first two Covid-19 cases were confirmed in Italy in February 2020, and, by the end of the month, the virus had spread over northern regions of the country. On February 23rd, the Government issued a decree aimed at preventing and combating further transmission of the virus but during March, the toll of new cases and deaths kept surging, rapidly over- taking the numbers registered in China and making Italy the hardest-hit country in Europe and one of the epicenters of the global pandemic. The rules decided by the government to counter the spread of the virus initially included the total schools' closure, restrictions on people's mobility and the obligation for people not to leave their home for a month; while for the commercial activities two weeks of suspension, but then an extension of the measures was deemed necessary restrictive (Briscese et al, 2020). Until March 21st, 2020, the number of cases is multiplied, reaching the peak with a very steep curve. Then, from March 21st to May 3rd, in 43 days, the curve decreased slowly. On May 4th the second phase began with the opening of some kind of activities and with the possibility for citizens to freely move according to safety conditions. Since May 18th, the number of infected people has continued to decline and the government has ordered the reopening of most activities and the possibility, for the people, to move between regions and in Schengen countries. Sadly, the perhaps hasty reopening that involved the country, mostly in order to support a gradual revival of the economy severely affected by the period of forced lockdown, has exposed Italy to the severe consequences - still in progress - of a second wave with bigger numbers of infected than the first one. The 4th of November, in fact, due to the increasing number of infections, following a new decree of Italian Prime minister the country has been divided into three areas (e.g. red, orange and yellow) according to risk profiles that take into account the evolution of the epidemic with weekly updates. The classification system according to the risk scenario of each Region in "red", "orange" and

"yellow" leads to specific restrictive measures according to the color. The red is the most serious, followed by the orange and then the yellow. So, due to Covid-19 lockdown, our lives, by now, were projected in the network, that, according to Boccia Artieri (2015), has become "a place of the society". Job, education, shopping and other different activities, in this period, have been transferred to the digital world, representing a turning point for social research. Hence, this event, from a social researcher perspective can be seen as an opportunity to exploit the advantages related to big data and computational techniques related to the digital world. According to Pitrelli (2017) automated methods of information extraction, analysis of social networks applied to the Internet, use of computational models to understand how individuals interact with each other, augmented reality, geospatial analyses have gained an increasingly significant space in multiple fields of application, therefore becomes interesting to understand how much these advances have been exploited in social research.

3. Methodology

In order to provide an overview of the covered topics and the adopted methods and sources to investigate the phenomena - directly and indirectly linked to the COVID-19 pandemic and its restrictive measures - a systematic literature review based on content analysis is performed. The review presents two main objectives: 1) identify the main topics studied; 2) analyze the use of digital data and techniques for empirical research in social science.

The systematic literature review has been carried out during a temporal range that goes from November to December 2020 by two researchers from two Italian universities - the University of Naples "Federico II" and the University of Salerno - according to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) methodology (Moher et al., 2009). Moreover, thanks to a well-defined process in four steps, PRISMA ensures a strict review plan, offering methodological accuracy, transparency, and the possibility to easily replicate the research (Tranfield et al., 2003). PRISMA comprises four steps - identification, screening, eligibility, and inclusion - to perform the SLR (Moher et al., 2009), as described below and in Figure 1.

3.1 Data collection

During the first step, known as the identification phase, to properly cover the issue Scopus and Web of Science (WOS) database have been used for the paper research according to their extensiveness and relevance in social sciences. To obtain the most relevant literature in databases, the choice of keywords fell on "covid*19", "coronavirus", "Italy" and "Italian". The keywords have been connected with the Boolean operator "AND" and "OR". Thus, the following search string has been defined: (("coronavirus" OR "covid*19") AND ("Italy" OR "Italian")). The search produced 4,482 articles. To complete this step, after entering the search strings, inclusion and exclusion criteria were set to obtain the relevant literature in the chosen databases.

As shown in Table 1, works published between 2020 and 2021[1] were selected because this period indicates the arise and developing of Covid-19 emergence in Italy.

Table 1. The process of data collection

Database	Keywords	Records
Scopus	TITLE-ABS-KEY (("coronavirus" OR "covid*19") AND ("Italian" OR"Italy"))	3,304
WOS	TOPIC (("coronavirus" OR "covid*19") AND ("Italian" OR"Italy"))	1,178

Legend: ABS= Abstract; KEY = Keywords

Regarding the type of document, as reported in Table 2, reviews, editorial book chapters and working papers were excluded, while articles published in international and national peer-reviewed journals, conference papers and "in press" papers (in English or Italian languages) belonging to a specific research fields were included in the analysis. Thus, the related research areas that belong to the research domain of social science were considered for both databases, excluding disciplines as neuroscience, pharmacology, and medicine. It is important to highlight that a minimum number of citations were not included because of the novelty of the topic under study.

Table 2. Inclusion criteria

Criteria	Description
Document type	International and national peer-reviewed journal articles; conference paper; in press articles
Language	English or Italian
Research Domain	Social Science
Research Areas	**For Scopus**: Anthropology; Area Studies; Psychology; Behavioral Sciences; Physiology; Demography; Sociology; International Relations; Environmental Sciences Ecology; Development Studies; Family Studies; Communication; Social Work; Business Economics; Social Issues; Education Educational Research; Women Apos S Studies; Women S Studies; Ethnic Studies; Film Radio Television; Linguistics; Geography; Cultural Studies; Urban Studies; Sport Sciences; Social Sciences; Other Topics **For WOS**: Film Radio Television; Public Environmental Occupational Health; Geography; Nutrition Dietetics; Psychology; Behavioral Sciences; Education Educational Research; Demography; Environmental Sciences Ecology; Sociology; Family Studies; Cultural Studies; Women Apos S Studies; International Relations; Social Sciences Other Topics; History; Social Issues; Public Administration; Criminology Penology; Business Economics; Ethnic Studies; Linguistics; Communication; Philosophy; Anthropology; Women S Studies; Architecture; Telecommunications; Urban Studies; Area Studies
Timeline	2020-2021

As synthesized in Figure 1, in the step of identification 3,558 articles were deleted. 323 of the 924 records from Scopus and WOS resulted duplicates and thereby were rejected. On this basis, 601 records were screened. Then, in the screening phase, based on the reading of 601 abstracts, 218 papers were deleted, because of their

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[1] 2021 is the year of publication of some works included in the analysis.

low pertinence to research aims and review objectives. Thus, after the reading of the full texts of all 383 remaining articles, 164 publications were included in the review process because, dealing with the empirical investigation of social impact of covid-19, they contribute to answering the review questions. Moreover, according to Robinson and Lowe (2015), who recommended the inclusion of 10-50 papers for a SLR, the number of papers included seems to be widely acceptable.

Figure 1. The assessment and selection of contributions: PRISMA flow diagram
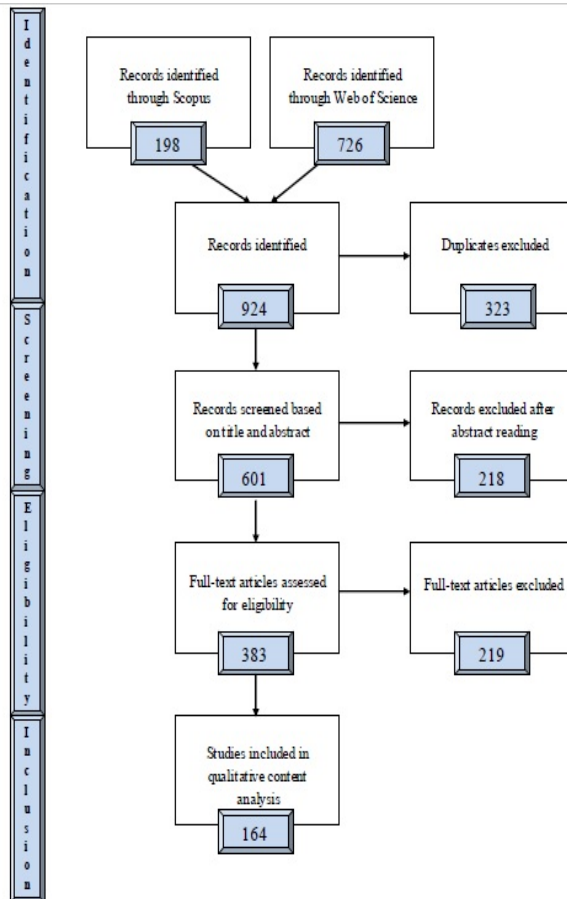
Source: Authors' elaboration

3.2. Data Analysis

After the systematic definition of the sample, the data analysis took place through the third type content analysis technique. In explorative research, content analysis can be helpful to derive relevant knowledge from a large number of texts using both qualitative and quantitative approaches (Krippendorff, 2018). This technique, in fact, allows the extraction from textsin a non-automatized way, some content categories in order to reveal the focal points of the studies (Krippendorf, 2004). According to Losito (1996, p.76) content analysis of the third type, also known as "inquiry", is a procedure that the researcher can apply "to any type of message - verbal and non-verbal - using a semi-standardized or standardized analysis sheet to record the states in which they occur certain properties in a set of suita-

bly selected units of analysis". In this kind of procedures, a questionnaire is used to analyze a movie, a discursive response of an interviewee, a story, an advertising image, or an article in a magazine instead of an individual (Rositi 1988, 73). In this work the unit of analysis is not a sample of individuals but scientific publications, indeed. So, the data collection took place thanks to the use of an analysis sheet in which the operational definitions and classification rules of the variables have been specified and made as explicit and exhaustive as possible, in order to allow other researchers to reach the same conclusions. The analysis sheet was divided in three sections: 1) general information about the article's characteristics such as number of citations, authors, year of publication, authors' affiliation etc.; 2) title, abstract and keywords; 3) variables detected in order to understand the methodological orientation of the selected papers such as type of action to obtain information, type of technique used, type of data (e.g., digital/digitized) and number of observations. In particular, to address the first objective of this study the keywords have been used as proxy for the main themes of each article. On the other hand, for the second objective the methods, sources and dataset extent have been investigated.

4. Results

4.1. Thematic analysis

In order to address the first objective a network analysis through the analysis of co-occurrences of the articles' keywords was carried out in order to identify specific themes or research areas starting from the associations established between the keywords present (López-Fernández et al, 2016). The analysis of co-occurrences allows to understand how many times two or more keywords are simultaneously present within the analyzed texts.

The results of the analysis of co-occurrences have been organized and displayed in a reticular form (see figure 2). Moreover, thanks to cluster analysis (modularity) algorithms, it has been possible to identify keywords groups, in the whole network, that should constitute the theoretical blocks or fundamental topics of the research field under examination (Manesh et al., 2020), regarding the online research that take into account the COVID-19 pandemic impacts[23]. To perform the analysis, VOSviewer (Van Eck and Waltman, 2017), developed at the Center for Scientific and Technological Studies of the University of Leiden, was used. It is an extremely useful software for mapping scientific literature (Van Eck and Waltman, 2009) which allowed first to code the text units and then to analyze the keywords of the sample selected in the previous research phases.

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[2] Works that used classic techniques (8) are not included in this analysis.
[3] To better bring out the links between the issues, the Covid-19 node has been ousted.

Figure 2. Keywords' network

Source: Authors' elaboration

Table 3 describes the occurrence of the keywords identified for each cluster in the network analysis performed through VOSviewer.

Table 3. Clusters' keywords occurrence

Cluster 1 (Red)		Cluster 2 (Green)		Cluster 3 (Blue)	
Keyword	**Occurrence**	**Keyword**	**Occurrence**	**Keyword**	**Occurrence**
communication campaign	2	adaptation, phsycology	2	behavior change	2
disinformation	2	Anxiety	6	distance learning	2
fake news	3	Coping	6	e-learning	3
health commu-nication	2	Depression	20	sense of belonging	3
information	8	mental well-being	2	social relation	14
interpersonal communication	3	phsycological resilience	2	students	4
mass media	4	Resilience	5	university	2
social behavior	7	Stress	14	vaccine hesitancy	3
social media	16				

Cluster 4 (Yellow)		Cluster 5 (Purple)		Cluster 6 (Light blue)	
Keyword	Occurrence	Keyword	Occurrence	Keyword	Occurrence
healthcare workers	4	dietary intake	2	commercial phenomena	3
infoveillance	2	eating habits	7	consumer behavior	2
job satisfaction	2	family	3	public opinion	3
loneliness	2	lifestyle	10	work experience	2
quality of life	5				
social network	2				
socioeconomics	2				

Cluster 7 (Orange)		Cluster 8 (Brown)		Cluster 9 (Pink)	
Keyword	Occurrence	Keyword	Occurrence	Keyword	Occurrence
access to information	3	government	2	home confinement	2
crisis management	2	lockdown	19	mobility	2
education	7	tourism	2	social distancing	2
school	2				

In the first cluster "information and disinformation" (red), there are studies that focus on how during the Covid-19 pandemic, risk communication has often been ineffective, and how from this perspective "fake news" has found fertile ground, both as a cause and a consequence of its ineffectiveness (Moscadelli et al, 2020). Many scholars investigate, indeed, the role of information sources in influencing public opinion and the choice of the Italian people to trust and rely on institutions, accepting such necessary measures and sustain behavioral changes (Falcone and Sapienza, 2020; Graffigna et al, 2020). Therefore, considering the fact of being the first full-scale global pandemic of the digital age, Covid-19 has presented novel challenges to government, above all the spread of news and misinformation, and the trade-off between the accessibility of science and the premature public use of unproven medical interventions (Badell-Grau et al, 2020).

The second cluster "psychological risk" (green) collects studies aimed at identifying psychological changes (e.g., changes in depression, stress, and anxiety levels) (Roma et al, 2020; Germani et al, 2020, Lenzo et al, 2020) among the Italian public during the lockdown period, in addition to factors associated with these changes. According to some scholars (Cusinato et al, 2020), the novel coronavirus outbreak has forced parents and children to adopt significant changes in their daily routine, a big challenge for families with important implications for family stress. But also

emerging adults have manifested risks for their psychological adjustment showing concerns about their role as a possible asymptomatic carrier of Covid-19 as is possible to see in Lenzo et al (2020).

In the third cluster "e-learning issue" (blue), it is possible to find works that analyze new challenges for university students (Capone et al, 2020; Procentese et al, 2020; Gaggi et al, 2020) examining the associations between mental health and academic stress or with other factors like self-efficacy, satisfaction for degree course, Covid-19 risk perception and so on. Conversely, other works address the role of individual resources and community dimensions into facing Covid-19-related lockdowns and the changes that these have implied, always with reference to academic communities. Some studies investigate the most adopted technologies, didactic methodologies, as well as the impact on school's population.

The fourth cluster "pandemic consequences" (yellow) collects the studies that have focused on the analysis of how social network sites have been used during this lockdown period and how they influenced the quality of life both by allowing spreading of information and by allowing the maintenance of long-distance relationships. The surveys mostly concerned how the social networking sites have became the prevailing information medium, where the main topics, during the lockdown phase, have been discussed (De Santis et al, 2020). Some scholars have collected information about the use of social network sites by the elderly, and about the impact on self-perceived loneliness and social commitment with family and friends (Rolandi et al, 2020).

The fifth cluster "food issue" (purple) shows works that investigate how the confinement due to the Covid-19 pandemic influenced dietary profiles (Ruiz-Roso et al, 2020; Pellegrini et al, 2020), evaluating the changes in weight and dietary habits, especially those of adolescents, who are highly susceptible to acquiring bad eating habits.

The studies in the sixth cluster "consumer behaviour" (light blue) contribute to the debate on consumer behaviour, evaluating impact of the coronavirus pandemic on the purchasing willingness, anxiety, trust, and concern of the Italian people (Aquilanti et al, 2020; Troise et al, 2020).

The orange cluster "education management" looks at studies that analyse how schools, one of the most impacted services in Italy, dealt with lockdown and social distancing measures, highlighting how, during the planning of an uncertain future, the public institutions cannot just shut down but must increase their activities in this field (Iacuzzi et al, 2020).

The eighth cluster "effect on tourism" (brown) presents the contributions that analyze the impact of lockdown measures introduced in response to the spread of novel coronavirus disease 2019 on socioeconomic conditions of Italian citizens, in particular in tourism sector (Aiello et al, 2020; Bonaccorsi et al, 2020). Some scholars explore, indeed, the touristic intentions and the role of public finance that could sustain the demand of tourist services in hotels and B&B, which is lowering because of coronavirus.

In the last cluster "impact of restrictions" (pink), there are studies relating to the ways through which mobility restrictions affected Italian citizens, and studies that looking into socioeconomic and institutional factors of urbanity and modernity that have significant effects on pandemic severity (Bonaccorsi et al, 2020; Rahman et al, 2020).

4.2. Analysis of methods, source, and dataset extension

As previously seen, the new context in which researchers operate is characterized by the possibility of using large datasets (e.g., big data) and digital/digitized data and methods which have been added to the traditional techniques. As seen in the previous paragraph, there are many ways in which the pandemic and its impact on individuals and the social system as a whole was studied. In this paragraph the analysis focuses on evaluating the extent to which the tools and data of the digital society have been used (Lupton, 2015). In order to address appropriately to the study's research objectives, and, therefore, to evaluate both the type of techniques and the type of data analyzed, it was decided to combine the classification criterion just mentioned (e.g., relationship with the digital world) with another classification criterion of the techniques, that, as stated in Amaturo (2012), are divided according to the type of action taken to obtain the information. There are three types: interrogate; observe and read. In the first case the information is directly requested from the subjects involved (questionnaire, interviews, focus groups, etc.), in the second case the researcher can obtain information observing the interactions between subjects (participant observation, periscope observation, etc.). Finally, in the third case, the products of the actions, that can be read and analyzed (statistical sources, documentary analyzes), are taken into consideration.

As Table 4 shows, the classification of the strategies for the information collection shows a clear prevalence of the "questioning" category (71%) followed by the "reading" category (28%) and the "observing" category (<1%), that as the data show, except one time, it has never been used. It is important to highlight that in a small percentage of contributes (7%) more than one strategy for data collection has been used.

Table 4. Type of action taken to obtain the information.

Type	n	%	% of article
questioning	125	71	76
reading	50	28	30
observing	1	< 1	< 1
	176	100	

Regarding the kind of techniques, as reported in Table 5, within the "questioning" category there is a clear prevalence of the use of digitized techniques. In particular, the online focus group was used just once, the online interview twice and the online questionnaire in all remaining cases. In general, the online questionnaire has been used in the 70% of the analysed works. No digital techniques were detected for the collection of information through observation, while the traditional techniques are detected eight times and mostly correspond to "face to face" and "telephone" questionnaires. In general, classic techniques are present only in the 5% of articles.

Table 5. Type of technique in questioning category

Classic		Digitized		Digital
type	*n*	*type*	*N*	
face to face question- naire	5 (3%)	online question- naire	114 (70%)	
Telephone questionnai- re	3 (2%)	online focus group	1 (<1%)	
		interview	2 (1%)	

Concerning the "reading" category (see Table 6), a good use of digital native data is detected. In fifty times in which "reading" occurred as adopted technique to retrieve information, 31 times digital native data were taken into account, while 19 times digitized data mostly coming from classical statistical sources (e.g., Istat, ministries, world bank, etc.). It is important to highlight, referring to digital data, that 15 times over 31 the digital data were "read" thanks to native digital techniques (e.g., Google Trends, or Youtube analytics) while in the remaining 15 the data were extracted from the web, and mainly from social platforms such as Facebook and Twitter, thanks to scraping tools.

Table 6. Type of data in "reading category"

Digitized data	Digital Data	
	direct	*undirect*
19 (12%)	16 (10%)	15 (9%)

Regarding the "observation" category, the technique used is an online one and it is the netnography. Thus, overall, it can be possible to observe that in the works analysed so far there is a clear prevalence of the use of digitized techniques (117) instead of digital ones (16) while as relating to the used sources, these are mostly digital (32) than digitized.

With reference to the big data issue, as can be seen from the table 7, most of the works (90%) is based on datasets containing a maximum of one thousand observations, only 1% of the works, indeed, is based on datasets that contain more than one million "lines". Therefore, most of the contributes drew its conclusions on information contained in matrixes with a not excessive number of rows. A large amount of data similar to what in the literature is defined as "big data" maybe has been processed by those works that involved digital methods such as Google Trends, but from those works it was possible only to identify the time range of observation and the number of keywords used, not the precise number of data analyzed. In the end it can be possible to assert that most of the works has not used large data sets.

Table 7. Number of observations used

	N.	%	% cumul
1-100	20	14	14
101-500	35	25	39
501-1000	49	34	73
1 K -10 K	25	18	91
10 K - 100 K	9	6	97
100 K -1000 K	3	2	98
> 1000 K	2	1	100
	143	100	

5. Discussion and research agenda

The SLR highlighted what are the different fields of society on which the Covid-19 pandemic impacted and how the social research investigated these phenomena and their consequences. Covid-19 pandemic, in fact, affected countries and people all over the world – and in particular Italy - in all their core activities, above all relational, economical, and educative. The content analysis performed suggested a series of theoretical-conceptual results through both the keywords' co-occurrence analysis (see Figure 2 and Table 3) and the collected data on research methods used. From the thematic analysis, nine clusters in which social research has been most focused could be identified. These clusters deal with different themes such as communication flows and fake news; pandemic's psychological effects and changes in the population; the impact on the educational world; social media both as the main discussion forum about pandemic-related topics and as a social infrastructure; lifestyle changes during lockdown (e.g., eating habits); consumer behavior, the role of institutions during the pandemic and the socio-economic effects this has had on the population. Considering these clusters as a starting point, four macro-areas had been derived then (see Figure 3): 1) information and communication area; 2) psychological and behavioural area; 3) economical-institutional area; 4) educational area.

As seen from the thematic analysis, many topics were analyzed using online survey as one of the main methods of study. The analysis of the techniques and tools showed that a substantial amount of these works used one of the classic tools of social research in his online version: the questionnaire. On one hand, this is a confirmation of its usefulness and flexibility, on the other hand, it is possible to identify at least two critical elements related to the use of this tool for online research. In the first place the type of information collected by the questionnaire - the main tool of standard social research - is already established upstream, deleting the possibility of identifying emerging or, however, not taken into consideration aspects of an analyzed phenomenon. Studies conducted on Twitter, for example, allow the researcher to broadly explore the semantic field of a given phenomenon. In second place, more generally, the default use of the questionnaire for online research precludes the possibility of exploiting the potential of the web, such as the possibility of studying subjects' behavior by collecting traces of their activities. Notwithstanding that the questionnaire is not an outdated or useless tool, because it often allows to obtain detailed information on a given phenomenon. However, it seems clear that in some cases it became possible to obtain information on a phe-

nomenon without resorting to intrusive techniques such as the questionnaire, but simply collecting data from the traces left by subjects during their activities on the web.

Figure 3. Clusters grouped into four macro-areas

This process would also allow the collection of a more consistent amount of data, while, as seen in the sample of articles analyzed, most of the works presented fairly limited datasets. Clearly big does not mean necessarily better, considering that one of the limitations of big data is related to the fact that their use does not allow any form of generalization, however it should be emphasized that also results deriving from data collected through an online questionnaire cannot allow any generalization. Large datasets are not the only potential that web research offers, for example the online experiment, as demonstrated in research, can be a successfully tool to study some phenomena. Combining different strategies for detecting information, indeed, could also be useful, as widely emphasized in the research that use mixed methods. In the study, just 7% of articles analyzed used multiple tools and sources. From the results of the analysis emerges that most research were conducted through the web and social networks, but considering the period, this was an expected result. An interesting result to discuss is the fact that between "digital" and "digitized" research there has been a strong propensity for the second type, taking into the account the fact that the analysis' results are certainly partial, since many papers that will be published shortly not have been considered. It can also be assumed that what emerged from the analysis is due to the fact that research conducted with digital tools needs more time to be concluded. On the other hand, it should be emphasized that, considering the unpredictability of the phenomenon, the importance of setting up research in a short time has led the research groups to apply and use known and well-tested tools. From this point of view, although used, the "digital" tools would not yet be part of the standard instrumentation of the research groups, not solely due to theoretical resistances towards digital but for the costs that the implementation of these particular ways of doing research might have. The new "degree", "masters" and "Ph.D" courses have trained social scien-

tists with remarkable technical skills, but like any other human enterprise (Lakatos, 1970) it can be difficult, at the moment, to implement new research procedures within groups. So, beyond the theoretical questions, doing deeply research on digital big data requires new expertise and it has a cost both in an economical terms and time. Cost that not every research group can or want to sustain.

Thus, both the thematic analysis and the analysis of the techniques and tools of the social research literature that focuses on Covid-19 pandemic led to the identification of some gaps and future research directions.

Research direction 1: Computational fact-checking
Being the first full-scale global pandemic of the digital age, Covid-19 has presented novel challenges to governments such as the spread of news and misinformation. The review shed light on the necessity of accurate information to avoid the spread of misinformation. Thus, the future research should focus on developing mechanisms of computational fact-checking for identifying the fake news topics that can arise during times of crisis, such as the Covid-19 pandemic. In a period of uncertainty and almost constantly changing news, in fact, fact-checking provides a service by clarifying the assessment of a claim and also delivering context and background information.

Research direction 2: Increase of multi- and inter-disciplinarity
The social research on Sars-Cov-2 through big data is dynamic and has developed along fragmented disciplinary lines. In particular, the review, through the analysis of existing works, has shown a need of interconnections among different fields of knowledge (Emani, Cullot & Nicolle, 2015), for better manage the topic by looking at the totality of the phenomenon.

Research direction 3: Increase use of geo-located data
Big data analytics definitely lead to valuable knowledge in many domains. The disaster management, for example, could benefit from it as there are many real-time information, which is available from official and non-official sources (e.g., wireless sensor networks, Internet-based systems, etc.). Thus, through the review emerges the need for more studies that investigate the potential of geo-tagged data in the disaster management (Chen et al., 2016; Chatfield and Brajawidagda, 2013).

Conclusion

Theoretical and Practical Implications

This paper provides a synthesis of the current conceptual and empirical literature on the disruptive phenomenon of Covid-19 pandemic in Italy. A first theoretical contribution of this study pertains to the identification of the current state of the art of the Covid-19 related topics, and the way these issues have been investigated by social scientists. Another implication of the review lies in the harmonisation of the existing knowledge in four macro-areas that underlines which are the main stressed topics in literature. Then, drawing the attention to one unique and valuable source like big data is, this paper tries to demonstrate the opportunities that they provide to social scientists, highlighting how these data and methods can be used to benefit social science research. However, the final conceptual contribution of the

paper rests in the identification of specific gaps in the Covid-19 pandemic literature that led to the description of three directions for future research in social sciences.

Regarding the practical implications, this study can contribute to a general understanding of the phenomenon for policymakers who wants to address better future emergencies, especially suggesting through the future research directions, what kind of methodologies should put in practise to avoid mistakes. For example, the review identified a major concern relates to Covid-19 pandemic into misinformation that can have drastic health care consequences, particularly the misinformation surrounding vaccines, is a significant obstacle in overcoming Covid-19 (Carrieri et al., 2019). So, an important role for public health organizations and governments in providing accessible online information and refutation of misinformation is highlighted. The presentation of accurate information is a moral imperative for scientists, public health authorities, and governments to safeguard the truth and maintain an accessible discourse with the public opinion to limit fear and to safeguard public safety. Therefore, in line with the future research directions highlighted above, policymakers should invest more in the development and integration of digited methods to exploit most of the cognitive power of big data in every aspect: from quality public information to disaster management and clearly to social research.

Limitations and Further Research

Despite the value of the findings presented here, the paper has some limitations. First, the results of this work, as mentioned before, need to be updated with works that will be published in the near future and it will be interesting to understand if the trend highlighted in this article could radically changes or not. Furthermore, as soon as a more consistent amount of works will be reached, it will be equally interesting to understand the ways in which the different areas within the social sciences approach to digital methods and big data and what kind of orientation will emerge.

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Digital Methods to Study (and Reduce) the Impact of Disinformation

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Abstract

Social media have democratized communication but have led to the explosion of the so-called "fake news" phenomenon. This problem has visible implications on global security, both political (e.g.the QANON case) and health (anti-Covid vaccination and No-Vax fake news). Models that detect the problem in real time and on large amounts of data are needed. Digital methods and text classification procedures are able to do this through predictive approaches to identify a suspect message or author. This paper aims to apply a supervised model to the study of fake news on the Twittersphere to highlight its potential and preliminary limitations. The case study is the infodemic generated on social media during the first phase of the COVID-19 emergency. The application of the supervised model involved the use of a training and testing dataset. The different preliminary steps to build the training dataset are also shown, highlighting, with a critical approach, the challenges of working with supervised algorithms. Two aspects emerge. The first is that it is important to block the sources of bad information, before the information itself. The second is that algorithms could be sources of bias. Social media companies need to be very careful about relying on automated classification.

Keywords: Digital methods, Fake news, Supervised classification, Text analysis.

Introduction

Social networks have gradually transformed the contemporary scenario. With the birth of the Internet, there has been a process of democratization of knowledge: it's no longer necessary to resort to the opinion of the expert since everyone is transformed into broadcasters, everyone can produce and share content and distribute their own vision of "world wide" reality without filters and control (Quattrociocchi, Vicini, 2016, p. 22).Not all the fake news that transits the web, however, is disclosed with the intent to misinform, not all those who spread them know that they are contributing to the sharing of unreliable information. There is a difference between disinformation and misinformation: while disinformation concerns the voluntary sharing of fake news, misinformation concerns that a set of fake news is not disseminated with the intention of misleading recipients. Many times citizens don't verify the news they come across, but they tend to believe and/or share information with which they tend to agree. In fact, previous research has shown that people are more likely to accept authentic information that confirms and corroborates their pre-existing certainties (Del Vicario et al., 2016). The automatisms of merging the information generated on the network on the one hand and the confirmation bias[2] on the other, contribute to the polarization of positions. The role of the social sciences for the study and understanding of this phenomenon

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[1] The paper is the result of a common work especially in its introductory part. However, Miriam Di Lisio edited paragraphs 1, 2, 4. Domenico Trezza edited paragraphs 3, 5, 6.

[2] A tendency to privilege information that confirms our opinions.

appears undoubtedly essential. Through previous research, the analysis of the content of the analyzed false news led to the identification of precise structural and content aspects of the aforementioned. It has been noted that there has been an evolution over the years regarding the actual construction of fake news. Just think that a few years ago fake contents were more easily recognizable for the elements that made up the corpus: the news was rich in information and showed images, links, and videos on the topic addressed. Over time, however, the way to compose fake news has gradually improved, trying to disguise the author's fallacious purposes, creating a scientific basis to give a certain credibility to the article in the eyes of the reader. There is an increasing need for short, intuitive news, which adapts to the size of the screens of the devices of the new millennium (Pira, Altinier, 2018, p. 27).

The history of fake news denotes the existence of particular predominant categories: the pseudoscientific one, which groups together all those news that exploit the scientific value to disseminate information and this make it credible; that conspiracy theorist who collects those news that claim that conspiracies or plots are hidden behind the most distinct events; that relating to pseudo-medicine/nutrition which refers to all those sites that are not based on any scientific principle, but offer cures, treatments etc; that relating to pseudo-journalism / politics refers to sites that use the journalistic idiom to disseminate articles that evoke ideas and opinions already consolidated in the minds of readers; that terrorist weather that concerns all those sites that divulge disinformation about the weather conditions; the pseudo-satirical one that refers to all those sites that use satire as a facade to propagate viral hoaxes, dedicated to that public that does not know what a disclaimer[3] is (Coltelli, 2018)[4]. With time, the detection/classification of fake news is gradually becoming of fundamental importance for the community in order to defend, in particular, the less erudite people. Over the years various machine learning techniques have been proposed, which represents the area of greatest impact of Artificial Intelligence, due to the ability of algorithms to perceive patterns and rules, which exceeds the human cognitive one (Marmo, 2020). Many scholars have tried to work in such a way as to automatically recognize fake news, trying to detect them not only efficiently but, above all, demonstrable (Zhou, Zafarani, 2020). The opportunity to use automatic classification techniques allows, where possible, to identify fake news based on semantic affinities: a semantic search algorithm determines the meaning of a text starting from the relationships between the lemmas of a corpus or a sentence; co-occurrences make it possible to recall the entity and category of the relevance of the topic. The realization of algorithms, however, takes time, especially in the field of machine learning: there is the need to do a lot of tests to find a suitable model and to optimize the parameters. What has changed with the coronavirus? Are these still the predominant categories in the disinformative scenery? In this scenario, digital communication and the context of social media appear to be decisive in the erroneous, fallacious, or illusory disclosure of information. The epidemic has triggered in the social networks they need to contain the spread of news from unreliable sources, however, the production and sharing of fake news has not stopped (Sala, Scaglioni, 2020). This work aims to answer these questions and to focus its work on the automatic classification of texts, applied to a corpus of about 230 thousand tweets obtained in the week from 9 to 15 March 2020. Working on

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[3] A disclaimer is typically a statement intended to define or outline the extent, rights, and obligations between two or more parties involved in a legally recognized relationship (Wikipedia).
[4] The Black List | Butac - Bufale Un Tanto Al Chilo

tweets means dealing with a type of content different from the usual, a form of short writing (Chiusaroli, Zanzotto, 2012) with brevity, synthesis, the reduction into significantly reduced elements, a type of text peculiar to the contemporary criterion of online communication. This methodology is presented as a necessary strategy for the realization of a mapping of bad information about covid-19. The aforementioned strategy has made it possible to shed light on the initial questions and to find lexical and syntactic tendencies within this type of texts, identifying the polarity of the tweets concerning three properties originally identified: the author (user), the source and the theme; moreover, it was possible to study how these trends affect the veracity or otherwise of news. The work is articulated into six paragraphs: the first and second introduce the study background. The first concerning social media strategies, with a focus on Twitter and Facebook, to reduce the risk of the virality of bad information and exploring the usefulness - with some examples - of machine learning techniques to identify fake contents. The second doing a review on the phenomenon of fake news in relation to the coronavirus emergency. The third paragraph is about methodology. The research questions and the technique used, supervisioned modeling, are defined. The fourth and fifth paragraph are about analysis. The fourth building training with the manual classification of tweets and exploring the most frequent fake issues. The fifth paragraph concerns the start of the model. The last section will discuss model results and emerging perspectives for supervised fake news analysis.

1. Fake news, social media and machine learning. Related works

Twitter is the context of our analysis. It has some important advantages for those who search with the textual contents of social networks: popularity (it has more than 300 million users worldwide), the few privacy constraints, and the tendency to standardize content (280 characters). This entails the possibility for a researcher to create easily huge dataset (accessibility to the API is rather fast). How does the platform interact with the problem of fake news, which is our object of investigation? Twitter, like all other social platforms, is a digital environment in which fake content can become viral in a short time and this can have disastrous consequences for the global community, especially because it can affect people's behavior. Proof of how dangerous the virality of fake content comes with the US presidential elections in 2016, during which there was a significant increase in fake content which, according to what political analysts and data scientists say, have influenced the electoral behavior of Americans (Allcott et al. 2018). This episode represents a strong alarm bell and has encouraged the owners and managers of large social networks to put a stop to the phenomenon, with different strategies and outcomes.

Allcott et al. (ibid.) studied the virality of fake content verified on Facebook and Twitter, over the period 2015-2018. The respective trends (fig. 1) shows how, based on very different numbers of engagement (significantly higher for Facebook), it is plausible that after 2017 Facebook began to implement effective algorithms to reduce the phenomenon of fake news (the trend of the engagement of fake pages is down), while this still seems not to happen for Twitter, with the number of fake shares that is even on the rise.

Figure 1. Fake trends in Facebook and Twitter engagement
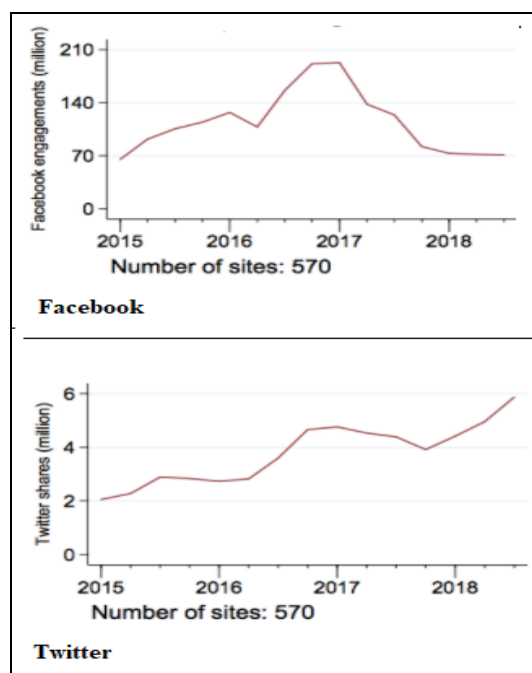
Source: Allcott et al. 2018

Twitter's concern as a fake-related environment seems fueled by research by Vosoughi and collaborators (2018), who found that fake content spread on Twitter is 70% more likely to be retweeted than real content. Twitter, like other social networks, have adopted strategies to reduce the phenomenon. These strategies are often linked to the use of machine learning techniques that train the algorithm to recognize user face (bots) or suspicious content and therefore new nip in the bud possible sources of bad information. But can this be enough? Although Twitter has claimed to have achieved some goals in the fight against the fake world (for example their supervised algorithms contributed to the elimination of + 214% of bot accounts compared to the previous year), many studies on the virality of bad information on Twitter suggest that the problem is still very relevant (Castillo et al. 2011). There are not a few jobs that aim to identify ML models to automatically detect suspicious content on social networks. Castillo and other collaborators, for example, were among the first to build a model based on certain aspects of the tweets that best discriminated against their credibility. Much of this type of analysis uses text as its main feature, using the frequencies and type of words present in the tweets. Other researches, which also achieved good results in terms of model accuracy, took into consideration the characteristics of the users (for example, the time of registration to the platform, the nickname, and the network of contacts). Although the models developed have achieved satisfactory results, the uncertain definition of fake news however reminds us that the task of reducing the phenomenon of viral disinformation cannot be completely entrusted to machine learning. In this work, we try to explore some machine learning techniques in a context in which the researcher has full awareness of the processes.

2. The problem of fake news during the Covid-19 outbreak. New disinformation classes emerging

In a difficult historical period like the one the world is going through since December 2019, fear, anguish and lack of knowledge of the virus and the disease have led citizens to produce, share and nevertheless, to believe in unverified news, generating an unprecedented flow of disinformation[5]. The WHO (World Health Organization) has not only announced the health dangers caused by the coronavirus, but has also defined the moment as highly infodemic, due to the amount of information, true and, above all, false, circulating on the net about this topic (Pulido et al, 2020). According to an English study (Julii Brainard, 2019), funded by the National Institute for Health Research and presented in late February by East Anglia University, "disinformation on health can intensify outbreaks of infectious diseases".As of December 2019, news about the virus, both true and false, began to populate the web (Orso et al, 2020). The AGCOM (Italian Authority for Communications Guarantees), following the analysis of the textual content of all the disinformation articles that it managed to detect on the coronavirus, highlights the emergence of some dominant narratives on the epidemic, such as risks, conspiracy theories and the news, centered on a disclosure built on the repeated use of terms aimed at leveraging negative emotions. In particular, it shows the fact-checks[6] of the top 10 fake news reports on the coronavirus epidemiological emergency. Among the most viral fake news Covid-related in the Net: those on the remedies to wipe out the virus by drinking water every 15 minutes or taking vitamin C daily, or those that denounce the use of ibuprofen because it would accelerate the outflow of the disease , or even those relating to the reduction of salaries by Italian political offices to deal with the country's economic emergency. Therefore fake news could have a terribly negative effect, mainly in a critical phase such as the one faced by Italy starting from the end of February 2020. The amount of fallacious data disclosed in parallel with the spread of the virus which has influenced communication on collective health, prompted us to choose fake news relating to the pandemic as the object of study (Brennen et al, 2020). It is not easy to define the concept of fake news. It includes several meanings, from disinformation disseminated for specific purposes (for example, political purposes) to that unknowingly spread or made viral in good faith. On the other hand, if two people with different ideas and opinions were asked to define fake news, they would most likely give two completely different answers, based, in fact, on their beliefs (political, values, etc.). This is to say that studying this phenomenon can be very complex. Of course, blatantly false information exists and is easily identifiable, that is, linked to non-existent people, things, or facts. But there is a gray area that is often not easily refutable because it is necessary to contextualize it (for example, a single excerpt that may have opposite meanings with respect to the textual context) or because its truthfulness cannot be established with certainty. The uncertain delimitation of the meaning of fake news suggests that doing research on this issue is quite complex, but at the same time it is useful given the growing problem of the virality of bad information. The application of machine learning techniques could represent a very effective way for this type of analysis because they allow you to use classification algorithms trained on specific contexts and then applied to large corpora.

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[5] Disinformation means the intentional dissemination of incorrect or distorted news or information to influence someone's actions and choices [http://www.treccani.it/vocabolario/disinformazione/].
[6] https://www.agcom.it/factcheckcovid19

3. Research questions, data and methods

Our research questions are relates to phenomon of the fake news and the methodological implications in the scientific research. What are the categories of fake news and with what intensity did they circulate during the first week of the emergency? What are implications on our data and on the fake categories about using supervisioned model? The work seeks to respond by applying supervised analysis techniques to the text, through a process of constructing reasoned training on specific emergency issues fakes. A strategy that involves the construction of the algorithm starting from the researcher's knowledge and reasoned choices. The work concerns the analysis of fake news circulated on Twitter during the first week of the Covid emergency, March 9-15 with the start of the Italian lockdown. As a result, a large communication Covid-related has developed on the social network. The tweet retrieval was carried out by the basic Twitter API 1.1, through the 'rtweet' R package, using four key extraction: #coronavirus, #coronavirusitalia, #covid, #Covid-19, that are the main hashtags of the emergency topic trends in the week considered. The main dataset consists of 238829 tweets. The analysis of the tweets was carried out through a manual classification from a sample of tweets and following an automatic classification through a machine learning procedure (regression logistic) using R software, and 'tm'package for the text classification. The difficulty and challenge of this work was trying to build an effective training dataset to form and test the supervisioned model. For this purpose, three steps were developed: 1. Preliminary (4522 tweets): extraction of 2% of the tweets from the main dataset by simple random sampling to analyze the content according to the fake related/no fake dichotomy. 2.Intermediate (4650 tw.): integrating 128 suspicious fake tweet from accounts 'fake oriented'. 3. Definitive (4722 tw.): adding 75 Fake tweets from a data web repository

Figure 2. Steps of dataset training creation
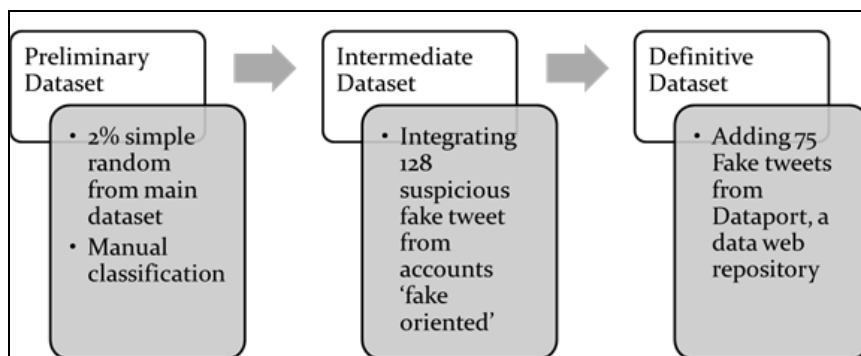
Source: Our elaboration

The first step involved the random extraction of 4522 tweets (2% of the main dataset). This share needs to balance between the manual classification of the tweets and a good quota forming the model. The only criterion envisaged for the extraction was the selection among only the no verified accounts[7], because it is

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[7] Twitter distinguishes between verified accounts (with a blue check) and non-verified accounts. Verified Twitter accounts are those belonging to profiles of public or private bodies, foundations, companies, or persons of particular importance, recognized by Twitter.

plausible that they are more "fake sharing - oriented". The second step involved the analysis of 4522 tweets and the attribution of each tweet to the fake / no fake dichotomy. We have classified as fake the contents that took up themes that are notoriously false or tend to be suspect, including those that suggested sharing in good faith (misinformation). In order to orient in the classification, our references have been the fake issues detected by two official sources: Butac.it ('Speciale Coronavirus' section) and Health Ministry website ('Attentiallebufale' section), which deals with Covid monitoring disinformation. As a result, our results may be weighted toward diffusion of misinformation that Butac and the Italian Healthy Minister is aware of, and may not fully capture trends in misinformation that they are not aware of. It is difficult to assess how large this latter group might be. Our study object almost certainly includes the most important issues of false stories on the first period of the Italia pandemic. Since this first phase, 54 'suspicious' tweets were identified (1.2% of the total[8]).

Table 1. Fake issue detected by the Butac site

Anti-europeism	*Pseudoscience*	*Alarmism*	*Denial*	*Anti-immigration*
- American soldiers and EU Subjection	- Vaccine developed in Australia - Vitamin C and Covid - Covid supplements	- I have my brother-in-law who is a doctor… - Detention of the good - BSL 4 Biocontainment - Young people hospitalized in Como - Underestimated deaths	- Sgarbi and denialbehaviour	- Uncontrolledinfectedimmigrants

Source: Butac.it and Italian Healthy Minister website

The second step involved the analysis of the network of fake-oriented users from main dataset (tab.2). This strategy has allowed us to found new 128 fake tweets and to integrate them in the training dataset. The third phase has tried to increase training dataset integrating 75 fake sentences on Covid, founded in the same period, from a Tweet database of IEEEDataport, a web repository (Lamsal 2020). Therefore, the definitive dataset consists of 4727 tweets, with 257 fake-related. The analysis section involves the application of the supervised logistic regression model, which operates on the text and classifies it automatically.

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[8] Being a random sample, it is plausible that this share does not differ significantly from the real parameter.

Table 2. Account nickname, fake tweets and topic fake

Account nickname	Fake tweets	Topic fake
santini1965	17	Virus denial (7) – Cospiracy (7)
GianvitArmenise	11	Cospiracy (6)
Esticatzhi	8	Antieuropeism (6)
MauLazio29	8	Cospiracy (7)
Saul95153757	7	Pseudoscience (7)
euright9	6	Cospiracy (4)
IeeeMatteo	6	Virus denial (5)
paolopasquale	6	Cospiracy (5)
ShootersykEku	6	Pseudoscience (4)

Source: Our elaboration

4. Before testing the model. Exploring the fake-issues

The tweets fake content - related are about 4% of the sample.As we can see in table 3, engagement is different between fake and no fake tweets. Fake tweets on average have less followers, but, as expected, they have higher virality values than others. They are more 'retweeted' (7.8 vs 2.5) and receive more likes (15.8 vs 7.6). Before testing the model, we have explored the most common fake issues and their engagement (follower, retweet, favorite count). We have found and classified 8 issues: Conspiracy, Pseudoscience, Virus denial, Antieuropeism, News not verified, Anti immigration and Anti China. Table 3 higlights that most of the fake tweets (65) of our sample are linked to conspiracy themes (for example, the virus and 5g, Bill Gates' vaccine, etc). A marginal share of fake tweets refers to Covid alarmism and the attitude against China. However, it is noted that the first issues are more common but also less viral, because they have low engagement values. Instead, the latest issues are less widespread but more oriented towards virality. As we expected, the tweets related to news not verified have very low engagement values: they are short news, not easily classifiable, linked to particular events and that did not circulate enough on the web. This first part of the analysis offers us an insight into tweet fake related. At this point, how can an automatic classification help us with large amounts of textual data? The authors tried to explore this question by applying a supervised model.

Table 3. Type, Topic and Engagement of tweets

	nr	%	avg nr of Followers	Retweets	Favorite
Tweets no fake-related	4468	96%	4450	2,5	7,6
Tweets fake-related	182	4%	2867,3	7,8	15,8
Cospiracy (5g, Bill Gates, biologic war)	65	36%	1429	2,7	6,1
Pseudoscience (vitamine C, Panzironi method, religion or magic solutions)	29	16%	1608	1,6	3,1
Virus denial	24	13%	2584	38,8	69,8
Antieuropeism / pro China (enemy Europe, China friend)	21	12%	2480	7,1	13,1
News not verified (suspicious events)	18	10%	166	0,3	0,3
Anti immigration (infected immigrants, uncontrolled arrival of immigrants..)	12	7%	3615	4,8	9,7
Alarmism (doctors, nurses and staff predicting bad events through viral audio messages)	10	5%	3162	0,8	2,0
Anti China (China guilty)	3	2%	2969	17,8	42,2
				high	low

Source: Our elaboration

5. The construction of the supervised model from the textual analysis to the training and testing model

The supervised model used is that of logistic regression, applied on definitive dataset of 4725 tweets. The purpose of this classification algorithm will be to identify the line that best manages to separate the two classes (in our case fake or not fake) in the space of characteristics, that are the text of the tweet. The text of the tweet has been processed and transformed in a corpus. The text has been pre-processed with R software, involved four steps: normalization to omologate words written in uppercase, and to strip whitespace; remove italianstopwords, to remove all 'empty' words such as prepositions, conjunctions, articles, etc; stem document or lemmatization to aggregate words that belong to the same root; remove punctuation to avoid getting punctuation as single textual form. Pre-processed the corpus, the frequency of each single term was extracted by converting the corpus into a documents-terms matrix, in which frequency is occurrence of the term within the tweets (tfweight). The vocabulary of tab.4, reduced by removing terms with relevant sparsity, shows the most frequent words. They are related to the hashtags #coronavirus, #iorestoacasa, #covid19, and #coronavirusitalia and to common words such as emergency, government, virus, now that better define the context of the situation and the urgency to act.

Table 4. Term frequency

Term	Freq
coronavirus	2999
iorestoacasa	1095
covid19	1092
coronavirusitalia	531
italia	417
casa	356
covid2019	269
fare	241
covid19italia	227
solo	227
restiamoacasa	202
emergenza	193
ora	184
cosa	181
prima	172
oggi	168
governo	152
virus	150
bene	147
quarantena	142
pandemia	139

Source: Our elaboration

The processed text allows us to test the supervised regression model (tab.5). The procedure involves taking the definitive dataset and dividing it into two subsets. The first subset is used to fit the model and is referred to as the training dataset. The second subset is not used to train the model; instead, the input element of the dataset is provided to the model, then predictions are made and compared to the expected values. This second dataset is referred to as the test dataset. As suggested by literature (Caruana, Niculescu-Mizil, 2006), there is no optimal split percentage, but common split percentages include three chances: 1)Train: 80%, Test: 20%; 2) Train: 67%, Test: 33%; 3) Train: 50%, Test: 50%. It could depend from the size of the sample. In our case, given the small sample, we have opted for 80% and 20% solution. The training was started with a logit regression, in which the dichotomous condition of fake or not of the tweet (labeled variable) is the dependent variable, while the features of the model are the textual forms that so have the faculty of predictors. Logistic regression models the probability of one class or another. In fact, we are modeling the probability that a tweet belongs to fake content-related class or not. Model has been tested on subset 'test', that is not labeled dataset, creating as an output a predicting variable.

Table 5. Setting, starting and output of the Supervisioned model

1.Setting train and test set
Train = 3750 tw. (80%)
Test = 975 tw. (20%)

2. Starting model
Logistic regression model
Mod →Glm(Fake content ~ text , Train, family = binomial(logit)) Predicting function →Pred Fake = predict (mod, Test)

3. Output table

text	obs	pred
#Gravidanza e post-parto. Come comportarsi di fronte alla ...	no fake	no fake
Voi ce l'avete la benedizione a domicilio? <U+2728><U+00...	no fake	no fake
Misure urgenti per prevenzione e gestione Coronavirus, nuo...	no fake	no fake
Se anche dovessi sfuggire al coronavirus, il colesterolo non ...	no fake	no fake
Nel caso ti stia chiedendo quanto i media controllino le pers...	fake	fake
<U+0001F5D3><U+FE0F>Il #Coronavirus sposta anche le d...	no fake	no fake
@micheleemiliano visto il decreto che costringe tutti in cas...	no fake	no fake
12. I dati ISS confermano che pochi dei morti sono deceduti...	fake	no fake
Coronavirus diretta. Appello del governo: «Non viaggiate ne...	no fake	no fake
Ora il nostro giornalista in diretta al @MediasetTgcom24 pe...	no fake	no fake

Source: Our elaboration

The assessment of the model has been carried out over three parameters: accuracy, as the the percentage of predicted correct on the total, precision, as the predicted correct on each observed class, and recall, which calculates the percentage of predicted for each class.The table 7 summarizing the results of the 2x2 crosstable between predicted and observed values (tab.6) shows us a good fit of the model for the prediction of the no-fake, superior to the good quota of 90%, for accuracy, precision and recall. Instead, several problems are detected for the prediction of the fakes, which reaches only 25%. It is likely that this is related to many factors: for example, the small size of the sample, so it will have to be expanded. We believe that one of the problematic factors is probably the ambiguity of the concept of fake news. As previously seen, in fact, that there are some categories of fake news that are deeply ambiguous. This is the case of not verified news. In fact, exploring the tested tweets, we observe that only 1 out of 11 tweets of that category was predicted correctly.

Table 6. Predicted / Observed Crosstable output (uncorrected predicteds are highlighted in grey)

		Observed	
		No Fake	Fake
Predicted	No Fake	869	46
	Fake	45	15

Source: Our elaboration

Table 7. Accuracy, Precision and Recall output

	Precision		Recall	
Accuracy	No Fake	Fake	No Fake	Fake
91%	95%	25%	94,9%	25%

Source: Our elaboration

6. Perspectives to improve the algorithm and better track the pandemic disinformation. Strengths and weaknesses

The Covid-19 pandemic has caused an unprecedented health emergency. Not only that. It was and still is an event that turned our lives upside down, and as result it also became a huge communication event. We believe that, looking at the production numbers of tweets related to the emergency, especially in the worst days of the epidemic, the media coverage and buzz on social media were almost total. A true infodemic, as an uncontrolled flow of information about the virus. Of course, it is not just about good information. The phenomenon of fake news, which in recent years has reached such alarming levels that it has also affected public opinion, has found fertile ground in such a complex emergency phase. Starting from the analysis of the concept of fake news and how the phenomenon has evolved in recent years, our research assumes that the study of bad information circulating on social platforms should not leave out of consideration the analysis strategies involving digital data, or large text corpora. Especially if the context of the research is that of an infodemic, in which the virality of information becomes maximum. This is the reason why analysis strategies, based on automatic text classification, are becoming more and more popular in the field of content analysis. Our work aimed to test the application of a machine learning model, based on supervised logistic regression, on a sample of tweets from the first week of emergence. To train the algorithm, it was necessary to create a base of labeled tweets. The task was not easy. In fact, we realized that the number of suspicious tweets, at least for the week under review, was not sufficient to create a solid base for the algorithm. Although this was a critical problem for the methodological process, it also represented initial evidence, useful for answering the first question: during the onset of the pandemic, the circulation of fake content was relatively small. Exploring our second question, we observe how these are associated with dimensions already experienced by the 'dialectic' of disinformation, such as conspiracy (the virus caused by strong powers), pseudoscience (virus that cures itself with non-scientific approaches), denialist attitudes (the virus does not exist). As if that were not enough, there is also room for the virus-immigrant association. We observed how the sources of these tweets are often accounts fake-oriented. For example, one account alone tweeted (not counting retweets) up to 17 suspicious

tweets within a few days. However, this list of accounts was also a methodological tool, as tracking them in the dataset was useful for us to find another group of fake tweets. The supervisioned model did not return satisfactory results: the good accuracy value could be due to the high number of non-fake tweets that the model detected (in fact, the accuracy of the fake is very low). Outcomes suggests that in order to increase the performance of the algorithm it is necessary to increase the number of the training base. This is not an easy challenge because, as we have seen, the base of fakes related to covid is not large, and this in our opinion can be solved through the shared effort of the scientific community to make available databases of fakes to better train algorithm and allow more reliable machine learning analyses. On the other hand, the misinformation concept is extremely complex due to its ambiguity, especially in unverified simply news, and this could be a problem when applying supervised techniques.There is a need for social networks, where much of the misinformation often circulates, to take this ambiguity into account. We believe it is important that within the framework of these predictive models, the researcher or data analyst has sufficient control over the entire analysis process. Tracking misinformation content on the web is not just possible but needed if we consider the large flow of textual data that defines our daily backgrounds.

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Diaries from Isolation.
Digital Testimonials' Analysis During COVID-19 Emergency

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Abstract

The research investigates the social effects of the atypical domestic containment situation during the Covid-19 emergency in Italy. The survey, which is placed in a phenomenological perspective, shows how individuals and the community have been able to develop an adaptation or resilience process to the lockdown in order to conform their life to the "new ordinary", making it real and purposeful. The research process, which was entirely conducted digitally through specific software for qualitative analysis, has developed dynamically, following the Grounded Theory approach. Facebook posts and Instagram audio tracks combined with newspaper articles represent the cases of the research. While on one hand, digitality has allowed an individual the perception of normality by feeling part of a community, on the other it has revealed various forms of digital divide, characterized by different levels of literacy at school, at work and domestically. The social disadvantage does not exclusively concern the digital world but rather on the lockdown that has heightened the systematic exclusion of the most fragile sections of the population.

Keywords: Covid-19, Lockdown, Phenomenological perspective, Digital methods.

Introduction

The break-in of the Covid-19 emergency has imposed restrictive security measures by the governments around the world. The SARS-Cov-2 infection was declared a pandemic by the WHO on 11 March 2020, shortly after the closure of the entire national territory by the Italian government, that was the first in the provision of nationwide lockdown among democratic countries in Europe. The first infections from Covid-19 were detected already in February, specifically in the northern regions of Italy, but their increase in the entire national territory led to the total closure on 9 March 2020 (D.P.C.M. 55/2020).

The Coronavirus pandemic of 2020 has taken a completely new form compared to any other historical social phenomenon, so much that it prevents its classification into predefined schemes. The atypical nature of the phenomenon is characterized not only by the global spread of the disease, but also by a generalized use of digital technology. The rapid global spread of the virus, that took place within a few months, is an expression of an increasingly, interdependent and interconnected contemporary society. At the same time domestic confinement has increased the already present digitalization of communicative and social processes. In this context, both individuals and economic, social and political activities have had to redefine the strongly changed everyday life, in search of the tools to deal with it.

The research project presented here aims to investigate the social effects of the atypical situation of domestic confinement in Italy. Following a phenomenological

perspective, it was found how individuals and the community were able to develop a process of adaptation or, again, of resilience by defining the lockdown situation in order to conform their lives to the "new normality", making it real and objective. For this reason direct testimonies of individuals were selected not only within social media platforms, "digital diaries" or daily reports that some users publish regularly, but also from newspaper articles, which have opened up numerous points for reflection, strictly linked to objective issues for society and its individuals. The contribution therefore proposes an analysis of individual experiences, related to habits, behaviours, thoughts, life perspectives, and collective experiences, liked to new problems and unprecedented challenges for society.

The article continues with the methodological part, divided into three sections: method theory, research design and research structure. Then the analysis of the results is presented in two separate paragraphs based on individual and collective impact. The last section concludes with some remarks about the undertaken work.

2 Methodology

2.1 Method's theory

This research, which was carried out completely digitally, was conducted in March 2020, characterized by the first outbreak of the Covid-19 in Italy and the consequent lockdown. Digital research is essential in this historical context in which the border between online and offline, already faint, becomes increasingly invisible. In the digital age, therefore, it becomes fundamental that sociology focuses on understanding the uses and ways in which technologies enter into everyday practices (Lupton, 2018). In this process of incorporating new technologies into everyday world, the identities and bodies of individuals merge with the same digital objects, transforming them into "territories of the self" (Nippert-Eng, 1996). In this perspective, the digital context is a privileged point of observation of daily practices. The lockdown has in fact increased the creation of content by users of social platforms, which is the only place, this time virtual, to share and express thoughts and criticality.

A qualitative approach has been chosen to tackle the survey, which allows to represent social phenomena as procedural and contingent, and to give an account of *how* a social transformation can take place (Hughes, 2010; Becker, 2007). The qualitative research design, as well as the digital one, has a flexible structure that means that construction phases of empirical material are circular. This flexibility has allowed us to adapt the method to the research context and to represent the phenomenon as a process that restores "moving images, not only instantaneous ones" (Cardano, 2008, p. 256).

A phenomenological approach has been adopted to understand the attribution of meaning to the emergency situation by subject. Realities and daily life routine are, according to phenomenology, socially constructed and taken for granted. These show themselves as self-evident in order to guarantee ontological security (Giddens, 1991) necessary to maintain a sense of order and continuity, such as the stability of the individual personality and thus guarantee the minimization of sources of anxiety. Broken by domestic confinement, the daily life of both individuals and the community has undergone a "leap" (Schütz, 1932), a discontinuity, bringing out the need to redefine and give meaning to the new circumstance, making it real and objective.

The research project aims to investigate the social effects of the atypical situation of lockdown in Italy due to the emergency Covid-19, through the observation of individual and collective experiences, told on digital traces. The analysis of the documents was done through the analytical perspective of qualitative content analysis, to explore and deeply understand their meanings. The construction of the analytical categories was developed following the reasoned reading and coding approach of *Grounded Theory*, letting the documents speak and extrapolating meanings from them (Glaser & Strauss, 1967). It was found out how the lockdown has changed, on the one hand, the habits, behaviours, thoughts and life perspectives of individuals, and, on the other hand, how it has contributed to the emergence of new problems and unprecedented challenges for society and for the community.

2.2 Research design

The research aims to understand individual and collective experiences during the domestic confinement. The research path has developed dynamically, raising new questions from time to time and enriching the initial theoretical interest. Initially, the research question aimed to analyse the impact of the pandemic on population, i.e., in a general way, how they were living the domestic confinement situation, both from a practical and emotional point of view. Above mentioned question has been searched within social network platforms, such as Facebook and Instagram. In particular, Facebook adapts appropriately to the search for spontaneous narratives, because it allows the creation of digital diaries by individual users and thematic pages on which anyone can share their story. Therefore, the survey was oriented towards the selection of various pages that narrate the experiences concerning the domestic confinement through different users' posts. At the same time, within the Instagram platform, personal audio tracks have been selected from the "ViceItaly" page, which deal with the theme of the change in life, society and future perspectives due to the health emergency.

Following the first reading of the collected material, it became apparent the importance of giving voice also to the categories considered "at risk" for health, economic and social reasons. Thus, online newspaper articles were found that reported the testimonies of those who for various reasons do not use social media pages to describe their situation. The selection process therefore concerned the identification of spontaneous narratives published by users and testimonies of the social categories considered vulnerable.

Facebook posts and Instagram audio tracks combined with newspaper articles represent the cases of research. The cases can then be divided into two main categories: on one hand the *user generated contents*, namely Facebook posts and audio tracks of Instagram, on the other, traditional data such as testimonies in newspaper articles. The *user generated contents* allow a truthfulness of the contents as non-intrusive data and produced in "real time", but they have presented exhaustive problems solved by the sampling of newspaper articles (Cipriani et al., 2013; Caliandro & Gandini, 2019).

For the analysis of documents, the exploratory content analysis was adopted, offering not only the possibility to thoroughly investigate the data, but also to identify similarities and differences, through a constant comparison, useful to interpret the contents and extract latent meanings (Schreier, 2012). Web content analysis merges a new place of data collection, which is the web, with a research

methodology that is renewed through the support of tools (Lewins & Silver, 2007). A software, called Nvivo, which adapts appropriately to content analysis, has been used for qualitative analysis of text, audio and video files (Coppola, 2017). It was possible to "capture" entire web pages and import them directly to Nvivo in pdf format, thanks to *Ncapture* function, included in the software. The analysis, aimed at giving voice to the subject of study, followed an *inductive* procedure, letting the documents speak, through an *open coding* approach, in line with *Groundend Theroy*'s approach which is informed into the nvivo software. This meant excluding analytic categories established beforehand by a theory, but exploring the topics that the subjects experienced, giving relevance to what was important to them. Therefore, the built analytical categories represent practices as well as reflections and problems emerged from the documents, through the support of the software Nvivo, that offers the possibility to qualify the material collected in containers called *nodes*.

The empirical material analysis' phases have foreseen the segmentation and the qualification of the documents, carried out simultaneously, through an iterative procedure. Therefore, the segmentation of the material empirically supports a specific qualification, and in turn the qualification creates new analytical categories, widening the themes of interest as the material is read, and making it necessary to return to the text. The segmentation and qualification process of the material was guided by the contents of the testimonies, which represent micro-stories of the lived experience. In fact, about the newspaper articles, only the direct testimonies of the categories under study, quoted by the journalist, have been taken into analysis.

After coding the material, the most relevant *attribute values* were applied in relation to the cases, which helped in the analysis phase to identify the relationships between the different categories and to represent the graphs. Nvivo allows the production of descriptive graphs of analytical categories created on the basis of segmentation and, at the same time, exploratory graphs that have highlighted the relationships between them. During the analysis phase, as you will see, graphs such as cluster analysis and word cloud will be presented. They were automatically generated by the software according to a quantitative logic, respectively through the functions of word similarity and word frequency. From these graphs, latent dimensions of meaning emerged, always interpreted in a qualitative way. Content analysis, in fact, is also considered an important bridge between purely quantitative and purely qualitative research methods (Amaturo and Punziano, 2013).

2.3 Research structure

The analysis of the documents revealed fundamental macro-dimensions that represent the two main thematic nuclei. Regarding individual impact, we have constructed the dimension of *perception of change*, which describes the perceptual sensations of the research subjects, which include both the state of mind experienced and the perceptions about the world around them. The second dimension identified, called *thoughts*, refers to the reflections matured during the Covid-19 emergency on the current general conditions but also on the prospects of life and the future. Finally, the dimension of *behaviours* concerns the change in life habits and the levels of adaptation to new circumstances.

The dimensions detected within the conceptual macro-area of the *community* are the following: *health*, *socio-economic* and *social issues*, which may at the same

time represent previous problems which have become more acute or have taken on a new form as a result of the Covid-19 emergency, or contingent problems which may lead to demanding challenges.
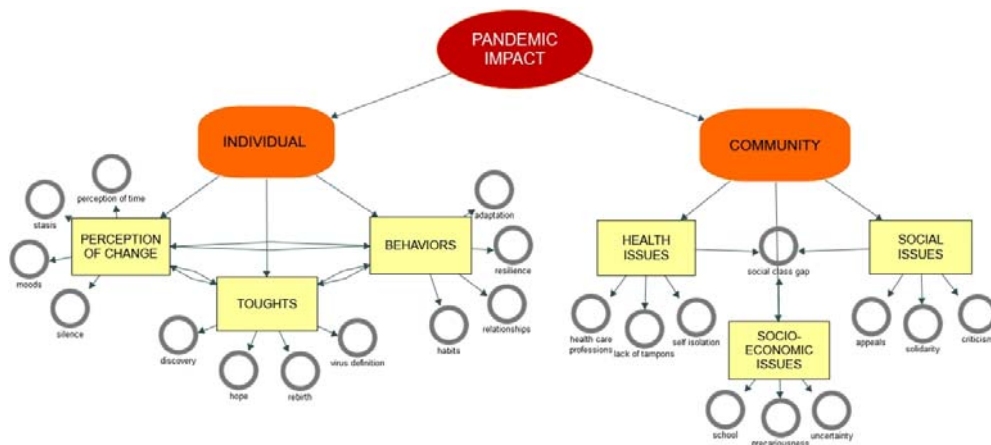

Figure 1: Concept map

3. Individual impact

The analysis on the individual level was done to understand the point of view of some subjects, who have left spontaneous testimonies and narrations of their quarantine, accounting for both the change in habits and its effects on the cognitive-emotional level. From a phenomenological perspective, the breakdown of everyday life was looked, due to quarantine, as a process defining the situation, characterized by the *perception of change*, *thoughts* and *behaviours*, that chase each other in a circular process.

3.1 Perception of change

The perception of change, which was made clear and unavoidable by domestic confinement, refers to the first impact that many individuals had of the emergency. What seems to characterize the individual experience of quarantine is the *stasis*, understood as the feeling that everything is still; even time seems to have stopped. In this context of immobility, silence is both a manifestation of stasis and a container of moods that contribute to the definition of the situation.

«That music violently broke a sort of collective stillness that hides and protects everything that each of us feels. Anger. Sadness. Fear. Frustration. Tiredness»[1] (Sara, personal diary on Facebook).

Silence is the new protagonist of the quarantine, but precisely when it breaks, the rhythm of "normality" is re-established. Several testimonies refer to noises that were previously taken for granted, but which now help to define the beginning of the day, such as the shutter of a grocery store, or even recall the crisis, such as ambulances.

In the process of individual impact analysis, the categories of feelings were found to be closely related to the categories that relate to the perception of time. If

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[1] The testimonies quotations in this article are proposed with *our own translation* from Italy.

on one hand the *perception of time* accounts for the condition of immobility and the succession of an almost circular time, with days always the same, on the other hand it also represents an attempt to re-establish a routine and therefore a time scan of the day, especially with work, which becomes essential for the attribution of meaning.

A category derived from the perception of time is the *time of the community*, codified in this way because the quarantine period becomes, for some, a moment of reflection on the time they dedicate to work, on the frenzy of life that characterizes the entire community. The time of the community is closely connected with another node, which is the *discovery*, which includes the testimonies of those who, thanks to the slowdown of activities, discovered that they feel the need for much less than they would have thought and re-evaluate, in this sense, the value of time. The few testimonies that fall into the category of *serenity*, refer precisely to the reappropriation of control by some people over their time.

> «I realized that time is really something precious, maybe many of us have forgotten about it, maybe we should slow down and enjoy the little things» (Regina from south Italy, "Il diario di una quarantena da Nord a Sud" Facebook page).

The *estrangement* identifies precisely the disbelief towards this new situation, but also for the new way of life that lies ahead, even when the emergency will be over.
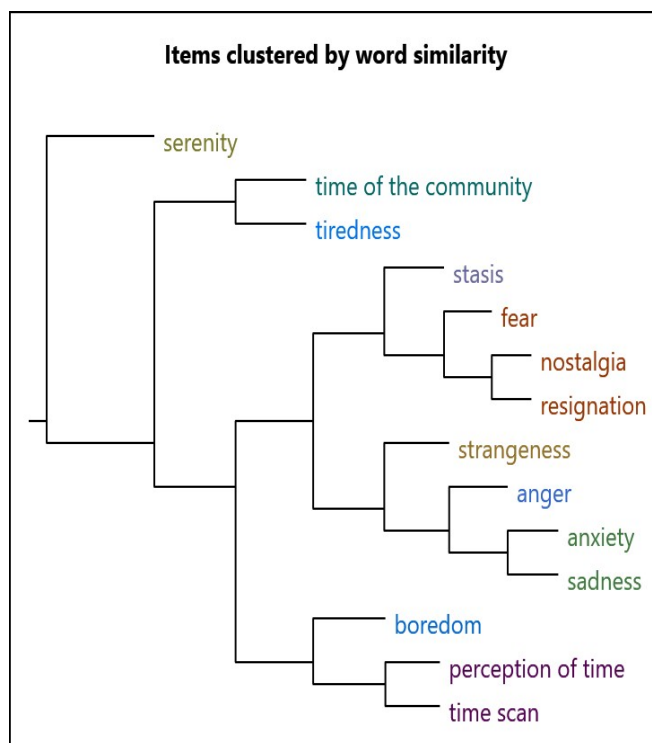
Figure 2: Word Clustering

The cluster analysis (Navigli and Martelli, 2019) brings out the process of defining the situation, in which these categories are linked. The first groups to form are those of *anxiety* and *sadness*, and *nostalgia* and *resignation*, which identify a frustration and a sense of helplessness towards the new "normality".

Subsequently, *anger* and *fear* are added to the first ones, which have a more active character and could be identified as a reaction. *Strangeness*, *stasis* and *perception of time* characterize instead a more reflective phase, where there is a greater awareness of the situation and a return to a new "normality" and routine. Then comes *boredom*. This graph represents the process of attribution of sense of the new state, which is accompanied by an awareness of the frenzy of "normal" life and in some cases, the desire to regain possession of time and slowness.

3.2 Thoughts

Among the testimonies, there are several *definitions* or metaphors that the subjects gave to the Covid-19 emergency. Giving a name to a new situation allows people to get in touch with it and try to understand it. The found definitions showed how people need to tell about the current period and thus giving it a meaning. "Being in a war with an invisible enemy" is the most common metaphor used in this period by many subjects. Health professionals have been described as "heroes fighting in the trenches" and the sick became the inevitable civilian victims of an invasion and dying became a defeat. All definitions show fear of novelty, but if on one hand there are those who look at COVID-19 as "a storm" or "a nightmare", on the other hand there are those who has showed trust in a humanity that has the strength to go forward and defeat it. For example, "We are riding an epidemic"[2] presupposes the idea that it can be "tamed".

«This virus sucks. But does it also do good?» (Cosimo from North, "Il diario di una quarantena da Nord a Sud" Facebook page).

This question, asked in a testimony, shows the link between further analytical categories built around the dimension of *thoughts*. Thanks to the perception of a still world, the subjects reflected critically about their lives and routine before the lockdown. There are those who reflect on sociality, on relationships taken for granted and now rediscovered precious; while others reflect on the division between free time and work time and unmask an often hasty life.
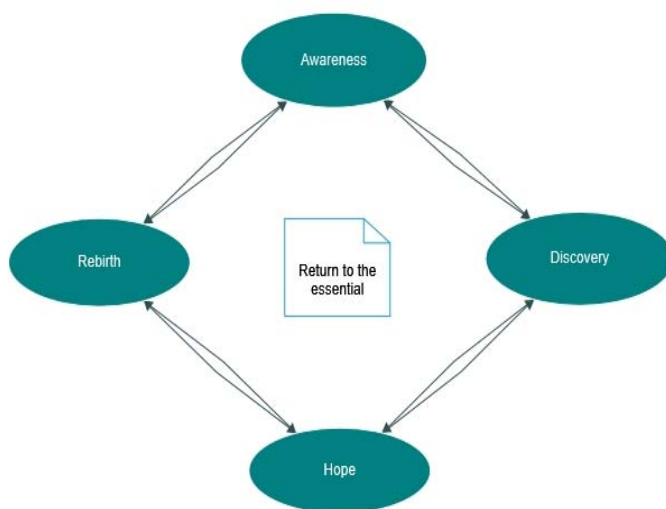

Figure 3: Circular Concept Map

The path that leads to the *attribution of meaning* is configured as a circular process marked by several steps, as shown in the graph: the *awareness* both about oneself and how everyday life took place before the forced quarantine, the *discovery* intended as an understanding of everything that was previously taken for granted and, finally, the *hope* that the period experienced will lead to the birth of a new world where one can *reborn* and start again. The above schematic path leads to "the return to the essential", which could be seen as a way of perceiving life different from the last decades.

The subjects, referring to life before the lockdown as "normal", reflect on the frenetic speed that characterized it. And they ask themselves if this lifestyle is useful for their well-being or if they have only adapted to the trend of society, so

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[2] Valeria, nurse from Lombardy, "Niente da dire" Facebook page.

much so that they have become accustomed to its frenetic essence, not even doubting its naturalness.

What was the speed with which the time was perceived before the quarantine? Some people traced back the speed to a day devoted to too much work.

«I worked two hundred hours a day» (Anna, Audio tracks on Instagram, "ViceItaly" page).

Others to a more structural setting of society.

«This is a good time to stop, something capitalism needed» (Francesca, "Chi resta fuori dai diari degli scrittori in quarantena", Internazionale).

The subjects become aware of how the capitalist mode of production has shaped their own way of being.This is demonstrated by the constant need to possess and reach new things.

«In these two weeks I have realized that I need much less things than I thought» (Dario, Audio tracks on Instagram, "ViceItaly" page).

How can the standstill of everyday activities lead to good? Subjects hope for a rebirth of themselves, in which feelings, the values of altruism, of social relationships are brought back to the center of their lives.

Therefore, various testimonies underline a strange serenity in living this situation, hoping for a general change in the way of being and living of the whole society. They hope that the ultimate goal of the days will shift from constant pursuit of new things, to an understanding of the importance of the purest and most essential values, such as those of affection.

«Let this be the last chapter in the history of a society that had lost its inner home. And the beginning of a new world» (Ilaria, personal diary on Facebook).

Furthermore, there are also different senses of *hope*. The subjects hope that this sense of community, demonstrated in the afternoons singing together outside the balcony or by the sadness that has crossed them in listening to the number of contagions, will continue in the future, bringing a greater understanding and solidarity towards the other.

In conclusion, the subjects attribute a deeper meaning to the lived experience. The days spent at home have revealed probable "defects" in time management and a desire for deeper change of the human being and a humanity united in a community.

3.3. Behaviours

The rules of social distancing and the constraint on the domestic environment have changed the *habits* of an entire country overnight. Unexpectedly, people found themselves in their homes forced not to go out, with much more free time. The reversal of everyday life gave the perception of a sudden immobility, which in some ways was only apparent. In fact, many activities have undergone a change in

practices, so people have been looking for ways to adapt, entering new dynamics and *habits*:

«Habits protect us. They put us in a comfort zone that makes us feel safe» (Sara, personal diary on Facebook).

Many testimonies report the problem of how to reinvent and manage time. Staying up late, getting caught up in boredom and inactivity are constant features. Each person therefore tries to find a way to rethink time imposing new habits and activities:

«In an attempt to correct these habits, I have imposed myself to carry out a series of domestic tasks at a strict cadence» (Auro, "Diario della quarantena", la Repubblica).

There are many habits that have taken on new meaning, first of all the acquisition of basic necessities. Shopping has become an important issue, as it is the only time for many people to leave their homes. If on the one hand this fundamental activity has been particularly regulated with compulsory masks and limited access, on the other hand many businesses have adapted by activating delivery services. Many businesses have developed apps to guarantee the service, but in order to meet the needs of those who do not have digital literacy, they have also developed analogue ordering methods such as telephone calls. The delivery service has also proved to be important for households isolated due to Covid infection that cannot rely on the family for the supply of basic necessities.

«The main unknown is the refrigerator. My relatives are getting organized to supply me with food. However, I believe that in the coming days I will try the delivery service proposed by some supermarket chains» (Davide, household block, "Coronavirus, diario di una quarantena", la Repubblica).

But digitality comes in many forms. Many testimonies stand out for a marked desire to continue their work and their hobbies by deploying a great ability to adapt. An *adaptation* that is certainly technical, i.e. being able to learn and master digital devices in order to connect, but also a type of resilience, the ability to recover after an event that could put an end to many activities that classically need to be done in presence. Despite the difficulties, the need has pushed people to digitize themselves and experiment with the totally unthinkable solutions that the digital world can offer. Some people have thus adapted their activities to the current phenomenon:

«Anyway, I am not discouraged: I will continue to be a yoga teacher, more convinced than before» (Andrea, "Partite iva e precari, i lavori più penalizzati dall'epidemia", Internazionale).

The computer, or rather any digital device connected to the network, has become the central tool to interact with the outside world.

«My dependence on the computer, the only window to the outside world» (Paolo, personal diary on Facebook).

In fact, while for some the lockdown was the time to adapt to the digital world, for others it was an opportunity to experience further immersion in cyber space. The use of digital technology that has involved most of the daily activities, from smart working to relationships, has helped to build the routine and at the same time has become a cause of stress and fatigue due to hyper-connection.

«I've been working for almost twelve hours on the computer between video conferences and WhatsApp chats and I'm tired. I've been so hyper-connected that I've disconnected from myself» (Ilaria, personal diary on Facebook).

4. Community impact

The second dimension refers to deep-seated issues that the impact of the pandemic has brought to light in all areas. At the same time, the issues represent past problems that have been exacerbated or have taken on new form, or contingent problems. In this regard, the thematic nodes that were considered, refer to the new challenges that the community is facing in work, health and social spheres. In this dimension, both spontaneous stories collected by social networks and testimonies from newspaper articles have been analysed for *health*, *socio-economic* and *social problems*. The phenomenological approach allowed to focus not only on the representation of the situation but also on the adaptation of the categories involved.

As for the individual dimension, also in the collective one, the problems intersect. The classification conducted among the different problems must therefore be understood in its entirety, going beyond the distinctions in order to understand the complexity that characterizes the society during the lockdown period in Italy.

4.1 Health issues

In the analysis of the problems related to health care, many testimonies have been found that denounce a sense of abandonment by the institutions. One of the first problems to emerge for citizens, but also for companies and in particular for health facilities, was the difficulty in finding safety devices.

«We will work with polystyrene on our faces, garbage bags on our feet, we will work anyway» (Valeria, nurse in Lombardy, "Niente da dire" Facebook page).

This excerpt from the diary of a nurse tells not only about the lack of devices, but also about the fear and stress that this entails. The diary describes the rituals of dressing and undressing, the yellow line separating the wards, all necessary measures for the isolation of Covid patients. The laborious care for this separation of the rooms is accompanied by the lack or poor efficiency of the devices. The lack of adequate safety devices also involves workers who cannot take advantage of smart working, especially those who work in contact with the public, to whom the company should ensure the safe exercise of the profession. At this stage, however, the most common scarcity is perhaps that of tampons. Testimonies that show the difficulty of access to the swab were found. One such testimony was that of the alarm cry by a woman who, in protest, lied down in the Sanità district, a historic neighborhood of Naples, to ask that her husband be swabbed and tested.

The fear and anger, the sense of abandonment by the institutions involves in particular those who have already lost loved ones, who are not given clear instructions on what to do. This is how a woman relates the loss of her parents:

«We were all night and day in contact with Mom and Dad, we saw them go to the hospital in desperate conditions, and now we can't take them to the grave. But there

is no assistance, there is no worry for us. What prevention, what logic, what common sense explains this?» (Arianna, "Coronavirus a Napoli: «dopo mamma è morto papà, ma niente tampone ai familiari»", la Repubblica).

The traditional problem of social inequality is connected to health problems. The human body is the spokesperson of inequality. It is marginalized physically to the extreme margins of society, where institutions do not arrive.
«In reality, Covid-19 reiterated that belonging to a certain class means being part of different groups of people, who can count on greater or lesser protection of the body. And I do not speak of the body as a metaphor, but of the real body, the cells and matter we bring into the world» (Francesca, "Chi resta fuori dai diari degli scrittori in quarantena", Internazionale).

What seems clear is that the emergency caused by Covid-19 has only brought to light previous problems that now emerge from systemic flaws in light of the contingent implications of the pandemic.

4.2 Socio-economic issues

Lockdown is a transversal phenomenon whose impact is perceived indiscriminately among all segments of the population. To create the differences of experience is the mode of this impact, which can be explained by the working condition and the possibility of being able to work.

From the testimonies emerge a feeling of sharing among workers who, although have different occupations, find themselves in great economic disadvantage due to the interruption or closure of activities. The feeling of belonging to one's own social class seems necessary in order not to feel alone in the face of uncertainty. In the same way, for many people, the lockdown is doing nothing more than emphasizing the classic "class gap", creating differences in terms of opportunities.
«If you're a writer coming from the working class, you'll have to worry» (Alberto, "Chi resta fuori dai diari degli scrittori in quarantena", Internazionale).

> «Someone has a little money aside and with that he is dealing with the emergency» (M., "Il Covid-19 fa paura anche ai rom ma nessuno li ascolta", Internazionale).

There are various occupations that at this particular time are experiencing job and economic precariousness. People who have lost all income, without any shock absorber. The sufferers are, first of all, the workers with atypical types of contracts. Freelancers, who perceive their work as constantly uncertain, find themselves suffering from increased anxiety.

> «Those who do a job like mine are used to staying at home for periods, but the problem at the moment is that we are facing great uncertainty about the coming months. I have estimated that I can survive without working for the next six months. After that I don't know what I will do» (Angelo, sound engineer, Rome, "Partite iva e precari, i lavori più penalizzati dall'epidemia", Internazionale).

There are those who have already lost their jobs and there are others, who expect to lose theirs, those who have recently invested in technological tools and now do not know how to recover the money spent and those who depend on the commissions of other work activities, also closed. In the same way, insecure

employment involves the restaurant owners and the shopkeepers, those who have just invested in the opening of a restaurant or, simply, those who find themselves no longer receiving any earnings. All these categories feel a particular anxiety about how they can survive and sustain those necessary expenses, such as bills or rents.

> «With that money I will do nothing but pay the bills that are not paid by themselves and the expenses that remain unchanged» (Viola, owner of a bookstore, Rome, "Partite iva e precari, i lavori più penalizzati dall'epidemia", Internazionale).

Uncertainty is also influenced by the same emergency situation that does not allow even experts to predict a date for the opening of the activities. If not even the State, that protects you is able to guarantee certainties, then these certainties will collapse in every field. There are many who call for greater support from the government.

> «The decree lacks an intervention for workers with occasional collaboration contracts, almost completely unknown to INPS. The majority of riders are hired, for example, with this type» (Andrea, union reps of Nidil-Cgil, "Partite iva e precari, i lavori più penalizzati dall'epidemia", Internazionale).

In this regard, we can recall the exponential growth in recent decades of the types of employment contracts that are moving more and more towards a precarization of the labour market (Mingione and Pugliese, 2010). This creates obstacles in the construction of standardized regulations to manage contributions in an emergency situation, such as the current one.

The perception of the subjects for the work dimension goes to underline the classic social inequalities, making them almost insuperable, in terms of opportunities and the performance of certain practices. To be perceived by subjects as a further marker of the class gap is the digital divide, which refers both to an unequal possession of devices or access to the network, and to a marked differentiation in digital literacy. This theme becomes strongly relevant during the lockdown, which has led to a generalized expansion of the use of digital. In particular, some testimonies have highlighted the difficulties of schools in offering online education. The digital divide, present internally among the various schools, makes the services and learning methods offered to students vary. This rift is perceived as injustice and lack of care for every single child who has the same fundamental right to education as everyone else, whether they attend a prestigious school or a suburban school.

> «In this imprisonment, class differences affect the youngest and the schools they attend: those who have a little more means, those who are a little richer, those who are a little cooler, are organizing very nice things. Others, on the other hand, do not make it» (Davide, children's books writer, "Chi resta fuori dai diari degli scrittori in quarantena", Internazionale).

The gap between the infrastructure owned also affects Italians in their homes, the effect of a more general economic poverty. Not everyone possesses the newest infrastructure to adapt to these new digital modes.

4.3 Social issues

In this emergency, a part of the population remains forgotten and cut off from the narrative of a nation facing a pandemic together. Partial or complete inattention towards certain weak social categories by the government and the community determines the formation of the dimension of *social silence*. Djarah Kan, an Afro-Italian singer-songwriter, says:

«Drug addicts, undocumented or simply poor immigrants no longer exist, even if they continue to live. Their existence no longer brings percentage points to this or that party. We no longer exist» ("Chi resta fuori dai diari degli scrittori in quarantena", Internazionale).

Some fragile and exposed categories, already normally marginalized or disadvantaged, have experienced an exacerbation of difficulties during the period of home isolation. The population groups present, although united by the same *social silence*, reflect different shades of marginalization.
First of all, during the period of quarantine the homeless experienced a paradox: there was the obligation to stay at home, but they do not have a fixed abode.

«I wash my hands as much as I can, but it is difficult to stay clean on the street» (Benicio, Rome, "La solitudine dei senzatetto nei giorni del Coronavirus", Internazionale).

For this fragile category we report mainly testimonies of social workers who somehow try to take care of it.

«Demand has increased, because those who live on the street know they are more exposed and are afraid» (Alberto, spokesman of Caritas, Rome, "La solitudine dei senzatetto nei giorni del Coronavirus", Internazionale).

The complex circumstance of homelessness is aggravated by the restrictive measures imposed on welfare activities run by various associations such as Caritas. Many shelters have been closed or have forbidden access to new guests in order to ensure the new level of health security. Alessandro Radicchi, founder director of the National Observatory of Solidarity in Italian stations, recounts an obstacle:

«We had to stop possible new entrances. We are sorry, but we are not able to control everyone, also because we are less, the volunteers these days prefer not to come, and we must protect both our operators and our guests» (La solitudine dei senzatetto nei giorni del Coronavirus, Internazionale).

Another forgotten social category is the Roma people. The camps where they live are in poor sanitary conditions, there is a lack of electricity and the water is distributed through tankers. It becomes very difficult to get supplies of basic necessities, first of all physically, because of the distance of the camps from the city centers, but above all economically, because of the interuption caused by the lockdown to the often occasional nature of their works that allowed them to have a day to day livelihood. Significant is the cry of alarm of S., a 55-year-old man from Castel Romano:

«We are abandoned, no one tells us anything, we don't know how to do it. All the elders of the camp are like that! We are human beings, yet we are abandoned, and no one helps us» ("Il Covid fa paura anche ai rom ma nessuno li ascolta", Internazionale).

Women victims of violence are another "at risk" category. They also experience a paradox, as they are forced to share the house with those who make them victims.

«The house is a safe place. It is completely ignored that for many women staying at home is not safe» (Giusy, "Non una di meno" Facebook page).

In addition to canteens and shelters, also the listening centers for women victims of violence have suffered severe limitations but have tried to adapt to the new social situation. Most of the centers have not only set up reception modalities that guarantee health security, but have implemented assistance procedures that adapt to the new conditions, such as the dissemination of social awareness campaigns on the importance of psychological support to women, or the activation of remote services, which provide calls and video calls for victims who had already started the path of support, and for anyone in need. In general, the activation of switchboards or toll-free numbers focus on the objective of the centers and its operators to maintain or establish relationships so that women victims of violence do not feel alone. Dr. Micci, SVSeD's coordinating psychologist tells this purpose:

«Psychic discomfort will increase and, therefore, even situations of domestic violence will return to be felt more strongly. It is important, therefore, that women know that, even in this moment, they are not alone» ("Coronavirus e violenza di genere, in tutta Italia «non sei sola»", Futura).

As it has been shown, the health emergency and the consequent domestic confinement have brought to light some relevant social problems. The cases of the research report in different forms and modalities, the acts of solidarity towards the weaker population. These are not only associations but also actions of individual solidarity. In order to fully explore the issue of care, a word cloud has been generated for the *solidarity* node.

One can find at the center terms such as *need*, *difficulties*, *people*, which call for solidarity action in itself; while words such as *close*, *structure*, *centers*, describe the emergence of obstacles and difficulties on the part of associations in the third sector that had to adapt their service to the emergency situation.

Figure 4: Word Cloud.

In the context of individual solidarity, there are widespread phrases of support for doctors and nurses, those who "work in the front line during this emergency situation", but not only. Solidarity actions also extend to different areas. A cab driver from Bologna, for example, shows solidarity with his colleagues:

«I decided not to go to work anymore because at least this way I leave the few clients to colleagues who have just bought a license and who still have the mortgage on their shoulders: they are in great difficulty» (Roberto, "Partite iva e precari, i lavori più penalizzati dall'epidemia", Internazionale).

Figure 5: "Panarosolidale".
«If you need take,
if you can put»
(La Republica, 2020)

But some actions of solidarity have been determined in this situation of serious emergency especially towards the homeless, families in difficulty and in general all those in need. For example, the city of Naples has launched the initiative of the "panari solidali" that have become the symbol of Neapolitan solidarity, and that have spread to other Italian cities.

Individual solidarity actions seem to be linked to the awareness of the difficulties experienced by the neighbours, which is affirmed and expanded, both because of a widespread empathy and because they often experience similar needs or difficulties. That of Covid-19 is an emergency that we are all suffering the consequences of, and it is for this reason that the need to "express solidarity if we want to receive it" has spread. Therefore, it seems that the common circumstances experienced by people in this difficult emergency situation has pushed them to do solidarity actions.

Conclusions

The emerged dimensions from the various testimonies have opened up numerous opportunities for reflection, which are closely linked to issues and problems relevant to individuals and society. The analysis highlights how the virus and the resulting lockdown have affected everyone indiscriminately; what varies, however, is the way this new situation is experienced and the impact both on individuals and on various social categories.

Domestic confinement has changed the everyday life of both individuals and community and has brought out the need to define and give meaning to the new circumstance. The process of defining the situation can be described as a method through which subjects have constituted a "new normality". In response to a condition of alteration of reality, re-establishing the routine has allowed an "ontological security". In a phenomenological perspective, individuals have activated an adaptation process by defining the lockdown situation through a name that recalls the value sense that has been attributed to it. In this way, the subjects adapted their lives to the "new normality", making it real and objective.

"If men define situations as real, they are real in their consequences" (Thomas, 1928).

The sensations and emotions that accompanied the different phases of domestic confinement were countless. Also, in this case, individuals undertook a path of adaptation in seeking a balance between contrasting moods, in which they came to the acceptance of a still world. The immobility of the world has infiltrated the individual, that perceived the experience as something that should not be let go. In this regard, some subjects have activated a process of resilience that has led them to face and reorganize their lives following the traumatic event of domestic confinement. The condition of stasis and slowness becomes a moment of reflection about their own life and how to live it.

«If we are closed in the house and we leave our hearts open, we will be able to realize many shades that until now, perhaps, we had not considered» (Ilaria, personal diary on Facebook).

Since "society cannot exist without man; and man cannot exist without society, and both co-produces with each other" (Pecchinedda, 2009, p. 11), adaptation has not been a process limited to individuals, but has also involved associations dedicated to others, who have activated their forces in an attempt to continue their service through alternative methods.

The research highlights how the community's issues have been structurally related to the Italian context. These issues became even more difficult to manage in a time of crisis that made clear the strong insecurity in which many social categories live and their frustration and sense of abandonment.

The background dimension that has been touched by all the interventions is the role of digital. It seems impossible to imagine the experiences of individuals during the quarantine period without the constant presence of the digital and its countless forms. For many subjects it represented a window on the world, as a bridge to build and maintain relationships. Digital has allowed people to perceive a sense of normality, despite the atypical conditions of the lockdown. For others it has been a way to feel part of a community, offering indistinct help to the weakest sections of society.

Digital has also assumed a fundamental role in the social context, allowing the dissemination of all information. The Covid-19 pandemic of 2020 has taken a completely new form compared to any other historical social phenomenon. The dissemination of information offered digitally, has in fact allowed everyone to know the disease and all its problems, both closely related to the virus and to individual experiences. The continuous use of digitality during the health emergency has configured in this sense several forms of digital divide, characterized by different digital literacy in school, work and home contexts.

This social inequality has not only affected the digital world, but the lockdown has also exacerbated the exclusion of population groups already normally disadvantaged. Each segment of the population interprets the concept and idea of home in a different way. While in a mainstream narrative *home* can be identified as a refuge from illness, for some women it has been the place steeped in violence and insecurity, and for others, such as Roma and homeless people, the home is a necessity, often unmet.

The transformations that marked the historical period of the Covid-19 pandemic plunged society into a "new normality". Italy and its citizens had to deal with a progressive digital acceleration that involved practices and habits. During the lockdown, society poured into the digital universe and tried to adapt to the new context. One of the main questions moved by these transformations is whether this adaptation will lead to a change in the organization of life, and therefore to the

affirmation of a permanent digitalization of social, relational and economic activities. In the labour market, for example, smart working has become the predominant type of work; schools, such as universities, have speeded up, or even started, a process of digitalization; finally, commercial activities had to face the challenges of the digital world in order to remain competitive. Could technological acceleration trigger a new revolution capable of redesigning the way cities are lived?

Finally, it is necessary to ask whether digitalization will intensify social inequalities, or on the contrary, society will be able to trigger training paths aimed at activating a generalized digital literacy in the population. Could digital acceleration create a world of equal opportunities?

Acknowledgments

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The Coronavirus Conversation on Reddit:
A Mixed Methods Approach

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Abstract
This article engages in a methodological discussion on how to consider affordances in the context of digital environments, focusing on the r/coronavirus community on Reddit. To underline how affordances might affect social interaction, Reddit and its voting system offer a privileged ground to observe how social dynamics intersect with technical features to guide expression. I will consider a vast dataset of comments, including those deleted by their own authors, through non-participant ethnographic observation and automated text analysis. It is shown how the r/coronavirus community fluidly negotiates social norms by enforcing them through affordances, that are employed to sanction social behaviour that does not conform to broader situated cultural norms. This intertwines with moderation practices, as they concur to define what is considered socially proper within an environment, as well as functioning as discursive tools to legitimise a specific view of the world. Based on this experience, the implications of a mixed methods approach for the study of online communities are briefly presented, underlining how it might aid reflexivity for researchers embedded in their research environment.

Keywords: Affordances, Digital platforms, Mixed Methods.

Introduction

Affordances are a constant presence in the research on social media platforms – and beyond. They are used to refer to specific socio-technical characteristics such as the like button, as well as to higher level dynamics that platforms enable, such as "searchability" (Boyd, 2011). Regardless of this ever-increasing popularity applied to the digital, the concept has been used into the fields of design, communication studies, human-computer interaction, sociology and more. Despite - or because of - their ubiquity, the conceptual boundaries of the term are uncertain not only across fields, but within them: affordances might refer to macro-scale effects or be used to point at objects, they might simply mediate interaction or strongly constrain it, and they might refer to the physical or to the digital (McGrenere & Ho 2000; Davis et al. 2017, Nagy & Neff, 2015; Evans et al. 2017). Social media research is not exempt from this plurality of interpretations (Bucher & Helmond 2018): affordances are used in virtue of their ability to mediate between the social and the technical, and to address the complexities arising at the crease between digital environments and social agency.

In this article I will consider a methodological approach to consider affordances in the context of Reddit, by drawing on the relationality between agent and environment, on intersubjective meaning, and by partially forgoing the socio-technical approaches that characterize social media scholarship. To this end, affordances have two functions: they concur in defining contextual social norms, as well as being means through which different forms of sociality can be enacted. A similar approach would be to consider the number of *likes* on a Facebook comment

not only, amongst other, to represent what is socially acceptable - and conversely what is likely to be socially sanctioned - but represent a way in which a groupnegotiates and enforce their vision of the world by making it visible.

1. Affordances

The noun "affordance" has been introduced by ecological psychologist J. J. Gibson (Gibson 1966). In its original conception, it links an environment to an actor. Here, affordances are a relational property, one that exists between a living actor and its surroundings: the environment is not perceived as it is, as a finite element, but is perceived through the possibilities for action that it provides. Gibson refers to the environment as being measured in relation to the actor who inhabits it: different species have different possibilities, and perceive only those upon which they can, in different ways, interact. Action is based on the context, the environment and an actor's perception and intentionality.

Affordances will then be picked up by Donald Norman (1988) and recontextualized for design studies, paving the way for its application, years later, in relation to digital environments. The result is a concept less focused on the interdependence of an actor and its surroundings, and leaning more on the agent (user) and the abilities of an object to project its potential uses. Despite reframing most of the intuitions that popularized the original concept, both concepts offer meaningful insights when considering its application to digital platforms: a relational approach is useful in alleviating the tension between human and machine, while Norman's emphasis on designed cues neatly fit the move to digital environments and social media. Mostly, however, the focus on perception that characterised first conceptualization of affordances is useful to understand how they can affect social action.

1.1 Affordances and sociality

Sociality has historically been present in the conceptualization of affordances, as "the richest and most elaborate affordances of the environment are provided by other animals and, for us, other people." (Gibson, 1979, p. 126). Such a conception on social interaction will drive two parallel schools focusing on *social affordances*: one follows the tradition of ecological psychology, where they are intended as cues from individuals to which an actor reacts (e.g. body language, or slamming a door, Loveland, 1991); the other is rooted in Human-Computer Interaction and Design where, following the intuition put forward by William Gaver (1996), they will come to represent "the relationship between the properties of an object and the social characteristics of a given group that enable particular kinds of interaction among members of that group" (Bradner, 2001).

Social affordances as such fill the gap with previous conceptualizations to consider digital media, where have been used to refer to the relationship between technologies, interaction and social context: to point at how social norms, knowledge and media literacy can affect interaction (Bradner, 2000; Kreijins, 2002; Hsieh, 2012); to consider how the technological features of a communication medium can be employed by users in a socio-instrumental way (e.g. globalized connectivity fostering long distance relationships; Wellman et al. 2003); or implemented as the cues of social environments (Hogan, 2009).

Attempts to conceptualize sociality and affordances, however, were not limited to the tradition of social affordances, and were certainly not rare. In fact, according to some scholars affordances might lean too much on the social, while undermining technological and structural constraints. This is true for what concerns communication theory, where "affordances, ironically, most frequently refer to what users and their sociality get from a technology" (Nagy & Neff, 2015). Similarly, sociologist Ian Hutchby slightly pushes back against social constructivism, arguing that we can "become too fixated on the social shaping of technology at the expense of an equally pressing, though differently framed, concern with the technological shaping of social action" (Hutchby, 2001). While these represent aptly aimed critiques at the intersection of sociality and technology, they are arguably nested in a context which tendentially privileges broader conceptualizations (e.g., macro level) and more theoretically driven approaches, while considering technology as central. Rather, a subjective point of view and an empirical focus might prove more useful in considering sociality, especially when compared to approaches that overemphasize technology or distribute agency, be it to other human actors (such as designers, see Cirucci, 2017) or non-human actors (e.g., Actor-Network Theory, see Callon & Latour, 1981). This tension between sociality and technology will become apparent in the study of digital platforms.

1.2 Affordances and social media

Bucher and Helmond identify two main uses of the concept: high-level and low-level, with the former describing "dynamics and conditions enabled by technical devices, platforms and media" (Bucher et al., 2018), the latter considering technical features of a platform and its interface, such as Twitter's feed. This fragmentation is partly due to different objectives: a high-level conception allows to extend findings, going over a specific platform (Ellison & Vitak, 2015), while a conception of affordances as features allows to delve deeper into uses, norms and individual understanding of mediated social action (Hayes et al., 2016). Danah boyd points at high-level affordances of social networks such as persistence, replicability, scalability, and searchability (Boyd, 2011); conversely, a low-level approach sees discrete features as affordances (e.g., Twitter hashtags; Rathnayake & Suthers, 2018). Different scopes have been considered as well, such as organizations (Treem & Leonardi, 2013; Wellman, 2001), or the macro-level effects of mobile media (Schrock, 2015). Concerning individuals, different use of affordances led to the focus on different aspects, for example in relation to gender (Schwartz & Neff, 2019), ethnicity (Cirucci, 2017) and geographical and cultural contexts (Costa, 2018); following a micro approach, the concept developed towards a focus on practices (Costa, 2018) and first-person accounts (McVeigh-Schultz and Baym, 2015). When factoring in culture, Nagy and Neff (2015) propose the concept of *imagined affordances*, which takes into consideration the expectations, beliefs, emotions, and perceptions built around technologies by actors. Focusing on perception allows them to consider for a peculiarity of digital environments, their dynamicity: "users need to explore mediated environments socially, culturally and cognitively before they can use them effectively" (ivi, p. 6). At a more general level, affordances have their own imagery surrounding them and guiding their use (Bucher, 2017; Nagy & Neff, 2015): they have a discursive and social power (Beer, 2017), in turn affecting social practices (Airoldi, 2020; Shepherd, 2020).

Considering the contribution of affordances in guiding social action and

practices provides a powerful tool to understand interaction in digital spaces. Let us consider Reddit: in this instance metrics, algorithms, and groups construct an intersubjective social reality; a subreddit creates an audience, while algorithms and metrics order and quantify the "feed"– for both content and comments – effectively creating a ranking. In a platform that is difficult to navigate, with a set of intertwining rules differing from the broad website to clusters of communities, and down to norms of specific subreddits (Chandrasekharan et al., 2018), socio-technical features provide a way to navigate this complexity. Users leverage features such as a content's score to understand the social and cultural norms of a mediated social context (i.e., they concur to a definition of the situation), for example by adapting to which type of self-presentation is deemed most appropriate in a specific page (Kennedy et al. 2016; Horne et al. 2017). Concurrently, other features such as upvotes and downvotes are employed to promote content deemed as worthy of visibility (Gaudette et al., 2020) or push what is deemed unworthy into oblivion (Bucher, 2012). When taken together this might lead, for example, to the intersubjective negotiation of an ideal body type in communities dedicated to personal image sharing (Kennedy et al., 2016).

Focusing on a social view of affordances then provides a useful methodological tool to delve deeper into the Coronavirus subreddit, and into how users define and manage social norms within it; this means focusing on how features such as the karma system allows to express social action, making it tangible, and guiding collective behaviour.

2. Reddit and self-censorship

Reddit is a digital platform or, more specifically, a content aggregator. It is comprised by thousands of different communities, *subreddits*, that are created, managed, and moderated, by its 430 million monthly users (Reddit Inc. 2020). These subreddits contain a plethora of content: from links, videos, and images to textual posts, and more, with each submission having its own comment section. The sorting of every piece of content and of every comment is determined by a score (the *karma* score) displayed next to it: this score is determined by users voting, who collectively determine the visibility (or invisibility) of content. This voting system affects what is displayed on the feed of the website and is therefore pivotal in managing the flows of information that constitute the platform.

The combination of its affordances allows for a consistent operationalisation of shared cultural values and norms, both guided by and guiding social action; this is exemplified by idiomatic expressions and neologisms that signal and foster membership among its users and might therefore be promoted (or *upvoted*) by the community. Affordances can then build and manage cultural boundaries, as well as engendering "a space in which alternate viewpoints are discarded" (Massanari, 2015a, p. 92). Following, I will briefly expand on two of the platform's central affordances: the subreddit and the karma system.

2.1 The subreddit

Subreddits are digital spaces, created and managed by users. Users create, moderate, and personalise these communities: as long as they adhere to broader rules and terms of service imposed by the website, they have a discrete autonomy.

More than 130.000 communities form the platform, widely ranging in size, topic, and approaches to content or moderation (Reddit Inc. 2020): memes and digital culture, mental health, pornography, politics and news, and more. Despite this multiplicity of topics, subreddits retain a collective imprint, an identity with shared norms and sensitivity that connect it to the platform as a whole (Singer et al. 2014), like a diffused "geek sensibility" (Massanari, 2015b); however, they retain different and often contrasting values: the platform, for example, has been the host of *r/the_donald*, a community of almost 800.000 Trump and alt-right supporters (McLamore, 2020), as well as the 500.000 members of *r/sandersforpresident*, supporting Bernie Sanders' candidacy in the 2020 US democratic primaries. Thematically close subreddits might differ in audiences, content and culture, based on goals (self-help versus news in transsexual subreddits, Triggs et al, 2019), moderation policies (strongly moderated and lightly moderated LGBT communities, Gibson, 2019), and might have similarities and differences despite covering tangent topics (e.g., different approaches to mental health, Park et al., 2018). This balancing of contexts and norms occurs across different communities as well, leading to self-censorship of information that would clash with established, situated, social norms.

The subreddit is then considered as a main affordance, both for the identity of the platform and the relevance in selecting audiences, contents, and their salience; subreddits have different social and cultural norms, often conflicting with one another. The same user might have to navigate opposing contexts, using multiple strategies to adapt to the situation, with one of these strategies being self-censoring based on a subreddit's perceived norms (Triggs et al. 2019).

2.2 The Karma System

The karma system is central to Reddit's functioning and identity. Users can vote positively (*upvoting)* or negatively (*downvoting)* on every comment and submission: this manages the visibility of content, as the platform promotes popular content as established through this voting system. Subreddits' content is sorted through a series of factors, including the karma score, with the most popular submissions reaching the *frontpage*: the feed situated on the homepage of the website.

Aside from regulating the flows of information on the platform, this feature has a social function: every user has a *karma score* visible on their profile, a cumulative score quantitatively tracking the social interactions through voting. This poses as an incentive for users to maximize their karma, for example by reposting previously popular content or by sticking to opinions that are perceived as dominant (Massanari, 2015b). This intertwines with the subreddit, as different communities sanction or reward contrasting points of view and different modes of expression, exerting tangible pressure by leveraging on the karma system.

Affordances then affect the production of content: users express by adhering to context-specific cultural codes (van der Nagel, 2013), as informed by the karma system; furthermore, this score has a herding effect, reinforcing collectively shared social norms (Muchnik et al., 2013; Weninger et al., 2015) and amplifying the reach of the content supported by cohesive groups of actors (Sheperd, 2020). Contextual norms drive what gets threatened by algorithmic invisibility (Bucher, 2012), as the audiences socially sanction users by downvoting comments that do not fit contextually situated cultural norms (Zhang, Keegan, Lv, & Tan, 2020).

The karma system and the subreddit keep digital interaction flowing by simultaneously informing and being informed by contextual social norms. Users accumulate karma and it has a tangible value, both as a cumulative score and as a symbol of acceptance for specific comments or submissions; as mentioned above, its value is underlined by the efforts to gain karma by manipulating the system and adhering to norms (Massanari, 2015a, p. 117). Conversely, users might avoid situations in which they might be socially sanctioned by not expressing an opinion, changing the venue in which they do so, or withholding information that clashes with subreddit-situated norms (Triggs et al. 2019); furthermore, they might withdraw expressions that get consistently sanctioned. Considering these behaviours as self-censorship allows an additional entry point into the social function of affordances.

2.3 Self-censorship

Self-censorship can be understood as a tool employed by individuals to avoid sanctions or reap social benefits, for example by altering a position based upon social influences (Kuran, 1997) or avoid expression if it does not conform to hegemonic narratives (see also Noelle-Neumann, 1974).

In the context of digital media, and specifically of platforms, self-censorship manifest as a series of behaviours: the decision to not express at all, or the removal of content prior to its publication, for example starting to type a reply to then delete it (see Das & Kramer, 2013); the removal of content after its publication, fully or partially (i.e., edited messages); the fragmentation of audiences and expression across multiple spaces. Concerning the latter, Marwick and boyd use the term 'context collapse' to refer to the ways in which Twitter affordances coalesce different publics, considering how users navigate this imagined audience; that is, how the understanding of one's public influences expression (Marwick & boyd, 2010). Following this line, individuals use affordances to self-censor in response to specific contexts: to multiply them, by segmenting audiences using fake profiles on Instagram (Dewar et al., 2019), by leveraging on pseudonymity (Chen, 2018; Triggs et al., 2019) or through private groups on Facebook (Costa, 2018).

Self-censorship, then, is actuated on different platforms in disparate ways, as based on available affordances. The perceived support for one own's opinion might affect expression (Wu & Atkin, 2018; Askay, 2015): therefore, affordances that explicit this perception (i.e., Reddit's karma score) might be central in guiding the understanding and possibilities of social action. This is especially relevant when considering how self-censorship still occurs when considering clearly segmented and specific audiences (Das & Kramer 2013).

Reddit and self-censorship, then, can be considered through an approach leaning on affordances: the subreddit participates in establishing contextual norms, that in turn are negotiated and collectively enforced through the karma system; consequently, other affordances allow to save face or to avoid social sanctions by self-censoring, for example by editing or removing comments, by withholding expression, or by segmenting audiences.

3. Methodology

To consider these dynamics it is required to focus on a single subreddit, given

the differences among them. The subreddit considered is *r/coronavirus*, centred around discussion on the COVID-19 pandemic. Emerging and gaining prominence during the pandemic, the r/coronavirus space quickly gained popularity; it is a young subreddit, to some extent exogenous and unlinked from the broader themes of the platform (Massanari 2015a). It focuses on the discussion on COVID-19, the diffusion of the pandemic, and potential economic and societal impact. Growing from less than 1000 subscribers at the beginning of 2020, as of May 2020 it counts more than 2 million users; the community is one of the many sprouting and rapidly growing around the issue, and while it is the biggest for what concerns the topic, it is far from reaching the 28 million subscribers of r/gaming. Similarly to some scientifically oriented communities on Reddit, r/coronavirus is strongly moderated: among the moderators, several have a scientific or medical backgrounds, and only trustworthy media outlets and sources are accepted; furthermore, to avoid misinformation, purely political posts and comments are banned, and automated tools flag for approval racist and xenophobic posts (Solon & Glaser, 2020). It fosters divulgation by interviewing experts (through Q&A sessions) and key actors in the field, as well as collating useful resources in its sidebar. Other subreddits treating the same topic have other declinations, such as less strict moderation around sources and political speech (r/chinaflu), a focus on academic publications (r/covid19) or on location-based discussions (e.g., r/coronavirusUK).

The choice of this subreddit follows months of non-participating observation and an exploratory analysis of digital data from different communities on the platform, with an eye to regulation (i.e. moderation rules and tools) and size: entertainment, scientific, finance, general-purpose communities and more have been considered. However, a young community has the advantage of not having a crystallised culture: privileged ground to observe how norms are fluidly negotiated.

3.1 Ethnography and Topic Models

Ethnographies in digital environments require first and foremost a reflection about the object of study. Designing a subreddit as a community entails a series of difficulties, as it does not consider actors and their practices (Postill and Pink, 2012), the fragmentations of spaces, or the circulation of the object (Caliandro, 2017). However, the focus of this research is not the community *per se*, but rather the cultural norms that are enforced within a *digital space*: to this end, we follow the medium (Rogers, 2013) to collect data, exploiting native features of the website such as the subreddit.

Non-participant observation of the platform and the chosen communities has been carried out in the context of the research, thoroughly and with extensive field notes; however, I am also a long-term (10 years) Reddit user: while this allows to consider the cultural dynamics of the website as an insider (Clifford & Marcus, 1986) it is necessary to consider that subjectivity might affect findings. I actively participate on the website, albeit not extensively, by commenting and submitting content to various subreddits; while these interactions were non-systematic and unrelated to the context of this research, they still reflect the observations of a researcher embedded into a community.

Aside from naturalistic observation of the subreddit following platform logics, in-depth observation followed the object of the research – affordances, and specifically the karma system and the imagery around it, by following Caliandro's approach to ethnography in digital spaces (Caliandro, 2017), in turn informed by

digital methods (Rogers, 2013), multisited ethnography (Marcus, 1995) and Actor-Network Theory (Latour, 2005). The purpose is to reconstruct the imagery around affordances by deconstructing discursive practices; more than metrics, following how social actors negotiate and enforce a specific view of the world through first person accounts (Boltanski and Thévenot, 2000).

It is difficult to have a comprehensive overview of Reddit. The production on the website is as complex as it is vast, with billions of comments scattered across hundreds of thousands of spaces. This unprecedented flux of data is common to all social media platforms and concurred to an increase in the use of computational methodologies in the social sciences (Conte et al., 2012), such as quantitative text analysis, the application of statistical methods to analyse textual data. This allows to draw statistical inferences from a text population and is especially useful when a corpus is too large or complex for qualitative analysis (Roberts, 2000).One of the computational tools increasingly used for the analysis of social media data is that of the topic models. Topic models are unsupervised machine learning approaches, meaning that they require no prior manual annotation, and can discover the themes underlining unstructured datasets (Blei, 2012). Such themes – or topics – are mixture of words, with each word having a probability of belonging to a topic; similarly, documents are a collection of topics in various proportions, as based on the words in it. Topic models have been employed in a variety of contexts, for example to empirically consider cultural influences on news coverage (Di Maggio et al., 2013) or to supplement qualitative analysis (Nikolenko et al., 2017). Topic models are not exempt by a fair share of criticism, aimed at the number of qualitative decisions required from the researchers (Chuang et al., 2014). Data must be pre-processed, to consider which words and how they should enter the algorithm; furthermore, the number of potential topics must be manually set.

Varying these parameters, for example by considering only words which appear more than once or changing the number of topics, can radically alter the output of the model (Sbalchiero & Eder, 2020).

To circumvent some of the limitations of topic modeling, scholars have harmonized it into comprehensive mixed methods approaches, where iterative research designs and researchers' interpretation can mitigate its inherent weaknesses (Wallach et al., 2009). This takes a variety of forms: topic models can aid in analysing open-ended responses and estimate treatment effects (Roberts et al., 2014), or be harmonized into more comprehensive mixed methods approaches (Chakrabarti & Frye, 2017), for example by finding lexical patterns and perform a "computationally guided deep reading of the text" (Nelson, 2020, p. 6). Paired with ethnographic approaches, then, topic modelling can validate findings or underline overlooked topics, aid reflexivity, and balance emic and etic perspectives (Ophir et al., 2020).

Following these approaches, I focused on naturalistic observation first, to then move on discursive practices around the object of research; computational analysis has been implemented iteratively, following qualitative analysis as well as prompting further observation.

3.2 Data collection

The timeframe for ethnographic data collection runs from the end of February 2020 up until June 2020, comprised by almost daily browsing of the platform and the subreddit. Computational data collection focused on the month of March and

consists in almost 2.800.000 comments on r/coronavirus.

The data has been collected by leveraging on Reddit APIs and on a data-platform collecting all of Reddit's comments at time of production, Pushshift (Baumgartner et al., 2020). This combination allows to obtain the original text of the comment as well as its status: if it is online or it has been removed (by a moderator or by its author). Pushshift removes comments from the dataset only if manually prompted by the user or due to server errors.

Data has been processed to remove comments by moderators, bots, and recurring messages (e.g.,r/coronavirus reporting daily cases by country with a standardised format). Furthermore, for self-deleted comments all deleted profiles have been removed, to isolate comments removed manually from mass-removals coinciding with the deletion of an account. Finally, the month of march has been queued to obtain all the comments mentioning affordances revolving around the karma system: *upvote, downvote,* and *karma*. The final data set consists of 3 parts: 122.233 comments removed by users, the same amount (randomly sampled) of online comments, and 14.763 comments mentioning affordances. While all three served as a point of reference and underwent in-depth analysis, only the first two underwent computational analysis.

The algorithm employed for computational analysis is that of the Correlated Topic Model (Blei & Lafferty, 2006), implemented through R and its STM package (Roberts et al., 2019). Comments have been pre-processed, (i.e., removing HTML markers and URLs, numbers, punctuation, symbols, stop-words, and tokenised), and some words have been removed based on frequency to remove additional stop-words and misspellings. The number of topics must be set manually, and it intertwines with the type and length of documents (Sbalchiero & Eder, 2020); while topic can be evaluated using semantic coherence (Mimmo et al., 2011) or exclusivity (Lucas et al., 2015), following some sociological applications (Nelson, 2020; DiMaggio, 2013), topics were chosen through human interpretation, based on the avoidance of similarity among groups and their univocity (Wallach et al., 2009). Given the type of data, results are not as solid as with longer documents, since aggregating texts is not feasible (Alvarez-Melis & Saveski, 2016): however, results still provide valuable insights.

4. Analysis

The conversation on the r/coronavirus subreddit is varied and is constituted by submissions and comments. Even before that, however, it is influenced by its moderating practices, which aim at promoting what is dubbed as high-quality posts and discussions. An emphasis on the quality of the conversation is reflected by the broader ecology of subreddits, with some, such as r/chinaflu, welcoming more controversial content: when compared to said subreddit, r/coronavirus focuses more on negotiating what submissions conforms to the subreddit's standards of quality (Zhang et al., 2020). This was the core focus of the subreddit, as user leveraged quality often, to upend situated cultural norms across three main areas: data and sources, politics and policies, foreign countries.

> *"I upvoted you because you're adding to the discussion in a thoughtful way."* (user1)

The value of quality is reflected discursively into an apparent respect for data: institutional and academic sources, figures, and statistics, are evoked by users to

justify their position. However, such an approach is supported mainly when it fits a specific narrative: comments that do not conform to hegemonic positions are often met with caustic reactions, even when reasonable points of view are expressed and backed by data and sources. Conversely, the push against what is perceived as a violation of broader social norms is strongly supported regardless of content: personal attacks were preferred to figures, when this concurred to sanction perceived violations. This often creates mismatches into the expectations of users, as they might get downvoted after posting what is perceived as factual information backed up by data: *"This has been backed up by so much data and you get downvoted this subreddit is bonkers"* (user2).

This pattern is stable across the subreddit and the different themes considered. Furthermore, downplaying the seriousness of the virus, or praising the US management of the crisis, were often met with downvotes. Despite the ban of political content at a subreddit level, comments still refer to political figures, parties, and bills, as they relate to events concerning the pandemic and its consequences, such as the stimulus package announced in the US on March 2020. Overall, this seems to reflect the liberal bias that Adrienne Massanari identified at a platform level (Massanari 2015a), which coalesces into a broader support for local and federal measures (e.g., lockdowns) and state-mandated financial intervention (e.g., stimulus checks). For example: *"You can't even give the slightest inclination that the Trump administration isn't to blame for something, or you'll get sent to karma hell."* (user3).

This relentless criticism of the US management of the pandemic intertwined with a praise for other countries and their own management of the issue. As the virus spread over the world, several countries entered the conversation; however, the country featured the most is China. While the presumed responsibility of the country in spreading the virus is debated, their management of the epidemic is praised; attempts to downplay their containment efforts are downvoted and criticized, for example when mentioning a possible manipulation of the number of cases in the early days of the pandemic. By some this is perceived as being part of a broader propaganda effort by "CCP shills". This is a recurring pattern, as users refer to external forces, such as shills or coordinated efforts, when opinions that are considered opposed to that of the subreddit as a whole obtain some form of support (e.g., pro-Trump comments).

> *"Based on these evidence, I can confidently trust China over USA over my dead body"* (user4)

> *"The entire tone and tenor of this subreddit has changed 180 degrees this morning. What the fuck is with all these shills upvoting low quality comments. Do we suddenly trust anything coming from the CCP?"* (user5).

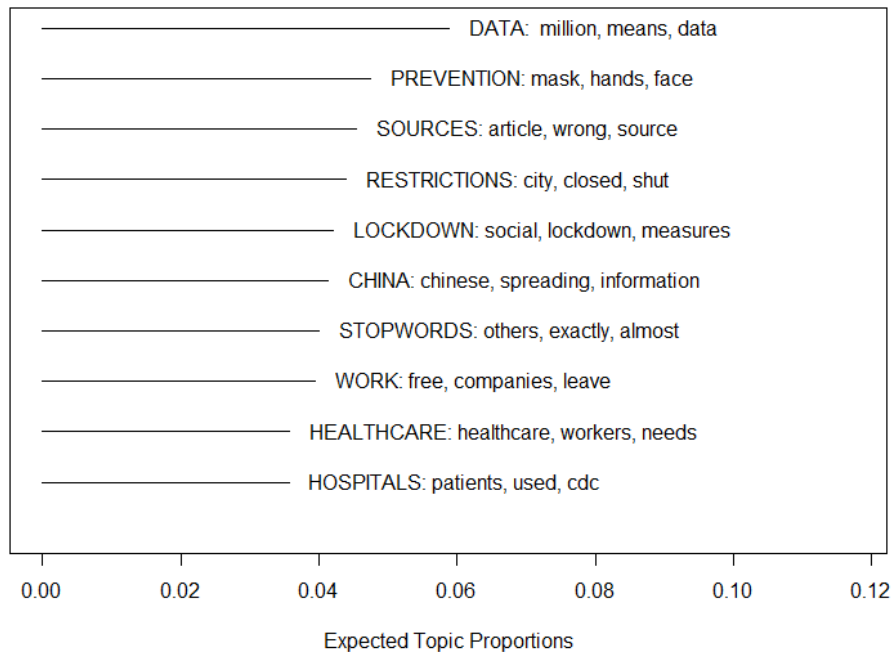**Top 10 topics by proportion for online comments (K = 30)**

Figure 1 - Topics by proportion of documents in which they appear. Online Comments. Expected topic proportions as fraction.

Computationally generated categories seem to resemble ethnographic observation (figure 1). The most discussed topic, spanning roughly 6% of the documents, captures a discussion of the pandemic from an epidemiological point of view that leverages data, figures and indicators; the most influential text in the category compares the case fatality ratios (CFR) of South Korea to estimate the potential number of cases in the United States: *"Based on reported 3.5% CFR which is likely inflated due to lack of testing and south korea's 0.6% reported CFR and how well they're doing on testing, we can probably extrapolate to say the number of cases in the US is 5x what is reported. Of course this is a crude estimation so take it with a grain of salt"* (user6). This is linked to the third most discussed topic, which refers to sources, articles, and the broader negotiation of quality in the subreddit, especially for what pertains the quality of indicators and their origin.

In the case of restrictions to movements and broader containment measures, the model is able to capture different facets of the same phenomenon: as geared towards a higher level of abstraction, with a focus on lockdowns and their social and epidemiological implications, as well as a focus on the physical restrictions applied to cities and freedom of movement (figure 2). The focus on China is split between the representation of the country on US media and on how China controlled the flows of information pertaining the spread of the pandemic.
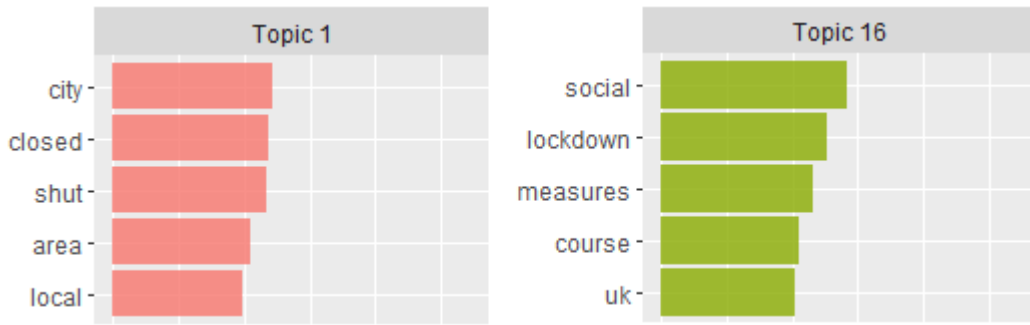
Figure 2 – Topics referring to lockdown and restrictions of movement. Top 5 word probability distribution per topic.

Comparing online and self-removed topics did not underline any relevant differences, as major clusters vary slightly in words but not semantically. This seems to point at themes being constant among the comments removed by users to those that were still online. However, topics from the self-deleted dataset underline a category related to right and left leaning politics. Further investigation, consistently with subreddit guidelines, pointed at a mistrust in both parties: more than a liberal bias, then, a rejection of political discourse as a whole seems to be dominant in the community - or at least a balance among parties.
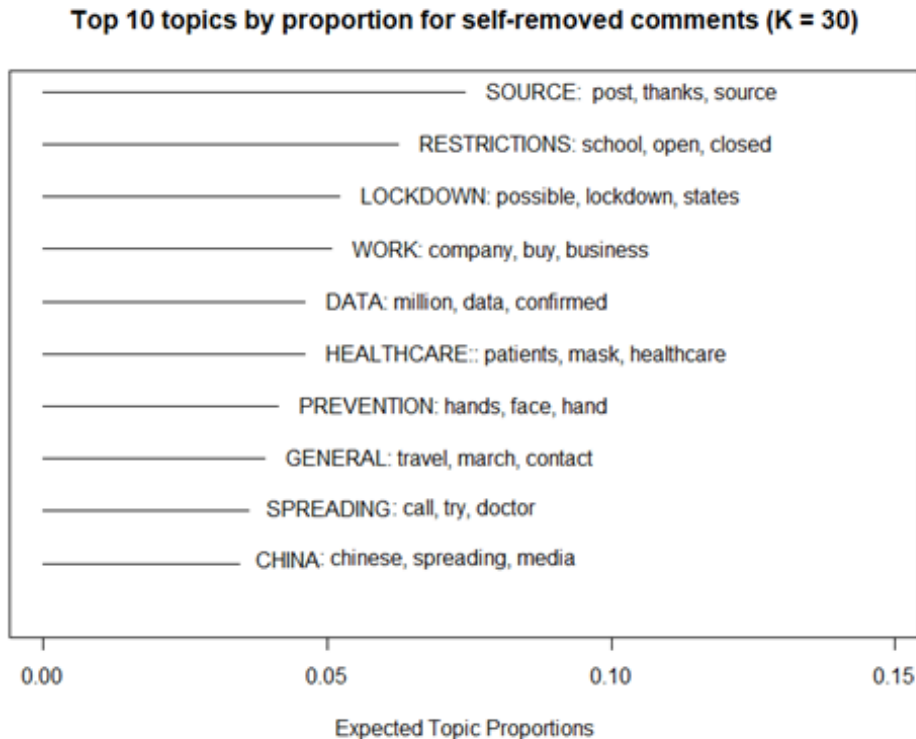

Figure 3 - Topics by proportion of documents in which they appear. Self-removed comments.

Conclusions

Some subreddits are created and maintained based on guidelines and explicit rules, that are enforced through moderation practices to various degrees. In the case of the r/coronavirus subreddit, perhaps the most relevant guideline is that of quality: an emphasis on the quality of content, of data, and of sources. This is enforced by moderators and is reflected by the broader ecology of communities, as testified by the presence of COVID-19-focused subreddits with looser rules and moderation practices.

These guidelines concur to structure the cultural climate of the subreddit, that in turn influences naturally emerging social norms; however, these norms are enforced by users, that often use rules as discursive devices to reify and legitimate specific cultural codes. The focus on quality, then, becomes a way to sanction content and users that do not adhere to situated, unwritten norms, that naturally emerge (i.e.: bottom-up rather than imposed by moderation) rather than a focus on the quality of content as per rules. Affordances play a role in this mechanism: comments, upvotes, and downvotes were used in conjunction with guidelines to enforce specific views pertaining to an array of topics both directly and loosely related to the pandemic (e.g.: lockdown, restrictions, spread of the virus, and politics, countries, work).

The plethora of references to affordances such as downvotes and upvotes seems to point at aware users, that collectively and fluidly negotiate and enforce these norms across the community. When a comment breaks what are perceived as established norms, for example by praising the Chinese effort, and is not sanctioned as expected but instead supported (i.e.: upvoted), it is pointed to as the evidence of the work of shills. Furthermore, while rules are often perceived as being specific to the subreddit, the general dynamics that regulate expression are frequently reconducted by users to Reddit's karma system, demonstrating an awareness of the role of affordances in managing the flows of information on the platform (Shepherd, 2020) and its accumulative logic (Muchnik et al., 2013). Individuals often invoke the pressure given by collectively negotiated social norms and are aware of how it can affect expression (Massanari, 2015a): this hints at platform-level dynamics and how those intertwine with more granular social formations as based on perception. Overall, affordances are central to this process: the subreddit allows for the creation of communities situated into the broader ecology of the platform, each with their own rules and norms (Horne et al., 2017); then the karma system more directly manages a community's culture by punishing socially deviant expressions and promoting comments conforming to situated social norms, intertwining with rules and moderating practices.

Notably, there seems to be no overwhelming difference between online and removed comments. This seems to point at the lack of mechanisms of self-censorship, and it might be influenced by a multitude of factors: social desirability, awareness of the norms of the community and of the potential punishment for breaking them (van der Nagel, 2013), concerns around privacy, or due to the segmentation of audiences across spaces (Triggs et al., 2019).

While this research points at the connection between rules and norms in online groups, such an approach has limits. While an observational ethnographic approach is invaluable to peek into cultural dynamics of groups, interviews would provide useful data concerning self-censorship and the perception of social norms. Furthermore, it would mitigate the problem of dealing only with active users, and an emphasis on engaged and aware actors, giving more weight to users that do not

comment or actively participate in the subreddit.

These concerns are to some extent mitigated by a mixed methods approach: pairing naturalistic observation and computational methods allowed to consider not only the distributive logics of the platform, and therefore widespread comments, but also comments that were less popular or visible. Considering both dimensions allowed for a more systematic view of the intertwining of culture and visibility, especially relevant in this case.

Considering cultural factors, iteration among components proved useful into guiding the reading of data; for instance, by disaggregating what was ethnographically perceived as a single topic (e.g.: lockdown and movement restrictions), or by prompting additional reading of the same data through a different lens (e.g.: disentangling politics and policies). Iteratively, this took place at different points, guiding the analysis and providing grounds for additional data collection. A mixed methods approach allowed for a comparison among different datasets, providing a ground of reflexivity for the researcher embedded into the environment; unpacking contextual factors from cultural and social norms adopted throughout the platform made it possible to consider the characteristics of Reddit at large, while taking into account the peculiarities of a smaller fraction of it, r/coronavirus.

Considering affordances socially allows to consider not only how social action is enacted and perceived through them, but how they concur to create, foster, and manage social situations made of broader social and cultural norms. By applying it to Reddit, it points at how individuals are aware of the social pressure affordances exert, how their meaning is negotiated in a fluid way, and how it is nested in a broader environment; this intertwines with the dynamics of the platform, underlining the specificities of different social formations in negotiating their culture. The crystallised rules of a digital environment intertwine in complex and layered ways with the social norms that naturally arise in a group, as their authority is used to reify situated views of the world.

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Being a Subject Expert During Covid-Era:
An Autoethnographic Experience

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Abstract
This paper shows an autoethnographic research, based on the personal experience as a sub-ject expert during Covid Era. Starting from an introductive paragraph about the diffusion and the application of the methodological autoethnographic approach, the paper will focus on the personal experience of the author as a subject expert in university environment. The student-teacher's relational dynamics will be the center of this paper, as these figures had to experience new approaching methods towards the research and the theoretical study.

Keywords: COVID-19, University of Salerno, Autoethnography.

> Telling is a creative act, a subjective restitution of oneself and of the world. It is also always a social act - not only while telling "the world" - because a story is always in relation with someone, with an "other" to whom it is told.*
> (Piaggio, 2013)

1. Autoethnography: research, experience, reflection

During the 1970s the encroaching of various research topics and styles was so relevant that led to the divulgation of research approaches and writing-modes «which seeks to describe and systematically analyze (graphy) personal experience (auto) in order to understand cultural experience (ethno) [in which they are situated]» (Ellis *et al.*, 2011, p. 1). Basically, autoethnography differs from traditional ethnography, a social scientific research method employed by anthropologists and sociologists, in that autoethnography embraces and foregrounds the researcher's subjectivity rather than attempting to bound it, as in standard empirical research.

Therefore, resuming to the origins of autoethnography, we intend to analyze the style of postmodern papers. As a result, it appears that a reflexive approach is currently adopted in autoethnography research (Cardano, 2001, p. 200). Nevertheless, current ethnography tends to be in favour of empirical material built around the concerned topic and the consequent relationship between researchers and participant actors (Cardano, 2001, 2011; Gariglio, 2018).

> If the ethnographer wants the conclusions he reaches through his study to be taken seriously by the scientific community, he cannot [...] rely solely on his own reputation as a serious and rigorous social scientist. In order for the scientific community

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* In riferimento ai testi di autori italiani, la traduzione è opera propria.

to evaluate [...] the plausibility of the results he reaches, the researcher must accompany them with a detailed reflective account (Cardano, 2011, p. 142).

However, a small group of ethnographs who preferred to give value to reflection in field work started to take hold around the 1980s. They focused on the relevance of the subjective dimension, such as the writing's role, the importance of the protection measures towards the subjects of study and the overcoming of the boundaries between social sciences and literature (Bochner, Ellis, 2002).

The last and most radical form of ethnographic reflection is the one that goes so far until it can foresee a complete fusion between the researcher's life and the "field," that is, autoethnography [which today we would define evocative], or introspective ethnography. Although they're still relatively uncommon (with a number that has exponentially increased in recent years, though), these experimental ethnographies represent one of the most relevant (and discussed) innovations in the panorama of contemporary ethnography (Marzano, 2001a, p. 272).

Colombo (2001, p. 219) argues that «ethnography no longer requires fieldwork based on confrontation and experience with otherness, but focuses on the experience of the ethnographer. Life of one's own becomes an ethnographic material to analyze and narrate». In fact, most of the autoethnographs of that time rejected the conception of a diversity between the experience of the researcher and the «world outside».

Choosing an autoethnographic approach, before the analytic autoethnography (Anderson, 2006, 2011), meant recognizing in the subject of study a sort of independence from the "observative relation". In a similar context, the intention to overcome the multidisciplinary perspective, which was popular in the ethnographic research, rose up and pointed out the imprecision of the disciplinary distinctions, especially in the academic field between *Social Sciences* and *Humanities.*

Practice of autoethnography started from a temporary tripartition of the time together within four main factors: 1) recognizing a social dimension within the scientific research[1] (Denzin, Giardina, 2008); 2) the relevance of aesthetic and literary value within the ethnographic field; 3) the attention towards the ethics within "doings" and "publishing"; 4) the weight of subjectivity within the research itself, in a historical period covered by pacifist movements, students' revolts and fighting for human rights (Adams *et al*., 2015).

Between the 1970s and the end of the 1990s, autoethnography firstly sponsored the works of few protagonists or narrow groups (Hayano, 1979), which included scholars, activists in social movements and civil society (Holmes Jones *et al.*, 2013). It was just an experimental and avant-garde practice which flowed into a more widely self-reflective research, which was in its own way in favour of the hybridization among ethographic, literary and aesthetic studies (Bochner, Ellis, 2002). Examples of this type of hybridization are Hayano's *auto-ethnography*, Ellis' *first-person accounts,* Denzin's *self-stories*, Van Maanen's *self-ethnography* and Reed-Danahay's *ethnic autobiography* (Adams *et al*., 2015).

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[1] In *Politics of Evidence,* there have been brought together all the contributions of an interdisciplinary group of scholars, who have addressed the problem of the sociology's presence in knowledge and sciences concerning the political and social dimension of the of collectively recognized knowledge constructions.

The first institutional recognition, due to the publication of *Autoethnography, Personal narrative, Reflexivity* (Ellis, Bochner, 2000) within the second edition of *Handbook of Qualitative Research,* published by «Sage»[2] (Ellis, Bochner, 1996; Denzin, Lincoln, 2010), contributed to the raising of the reputation of the new ways of research, gaining more interest among scholars and students in an academic environment inclined to differences and multidisciplinary. (Atkinson, Hammersley, 1994).

The last phase of interest into the developing of the autoethnographic practice dates back to 2006, when an argument in response to *Analytic Autoethnography*[3] was published by Leon Anderson (2006) in *Journal of Contemporary Ethnography.* In the same year the institutionalising process of this particular type of approach reached high levels with the publication of several relevant papers, such as *Handbook of Autoethnography* (Holman Jones *et al.*, 2013). The proliferation of the contributions under the subject "autoethnography" is a bright proof of the reputational grow, as much as even methodologists not involved in this new type of research consider the autoethnography «one of the most interesting innovative forms of research in the fields of anthropology and sociology.» (Gobo, Molle, 2016, p. 66).

Doing a recapitulation, autoethnography can be considered as a research method which leads to a more comprehensive analysis of social and cultural studies, through the description of the researcher's biographic experiences. In a wider perspective, autoethnography can represent a bunch of methods and specific practices which permits a sort of syntony with the biographic tradition (Holmes Jones *et al.*, 2013, p. 17). However, one should not assimilate autoethnography with autobiography because, as a social study, the former is always oriented towards an analytic approach of the «world outside». It is indeed said that this way of research's peculiarity could be the interaction between both author's personal and professional experiences, and practices of cultural and social formation. As Holman Jones (2013, p. 23) says:

> However, autoethnographic texts typically feel more self and socially conscious than autobiographic works; the intent to describe cultural experience marks this difference (Holman Jones *et al.,* 2013, p. 23; Gariglio, 2017, p. 493).

Autoethnography therefore (re)produces the author's autobiographic and subjective requests, including vulnerable states of mind, in order to increase the comprehension of social and cultural contests in which that specific experiences set up. The main argument related to this use of autoethnography is basically the contraposition between a more radical evocative part and a more analytic one (Reed-Danahay, 1997); the former tends to focus mostly on social worlds outside the academic space[4] (Ellis, 2009), as it is generally more open-minded and inclusive to-

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[2] In 1996, Ellis and Bochner organized a conference held at the *Society of Study of Symbolic Interaction,* in which several qualitative researchers participated. From there, the process of recognizing the legitimacy of autoethnography beyond self-referential boundaries began. One of the direct consequences was the publication of the book *Composing Ethnography: Alternative Forms of Qualitative Writing* by Ellis and Bochner themselves.

[3] Google Scholar indicates that this article garnered an impressive number of 2925 citations (30/10/2020).

[4] In the work *Fighting Back or Moving on: An Autoethnographic Response to Critics* (2009), Ellis defends the practice of evocative autoethnography brilliantly and hilariously. Using the metaphor of three characters, Mr. Social Sciences, Mr. Aesthetics, and Mr. Literature, the author is able to set the

wards a pluralism of research methods (Ellis, Bochner, 2016; Ellis, 2004); the latter, on the other hand, is closer to analytic ethnography (Lofland, 1995) and theorization.

> Autoethnography shows struggle, passion, embodied life, and the collaborative creation of sense-making in situations in which people have to cope with dire circumstances and loss of meaning. Autoethnography wants the reader to care, to feel, to empathize, and to do something, to act. […]it shouldn't be used as a vehicle to produce distanced theorizing. What are we giving to the people with whom we are intimate […]? (Ellis & Bochner, 2006, p. 433)

The peculiarity of an evocative paper is this sort of rhetoric confession, which leans on a strong emotive profile dedicated to the author's personal experiences. In less critical terms, «[i]n evocative storytelling, the validity of the story must be evaluated in light of what it could arouse into the reader, what is their reaction towards a narrative, perceived as more or less authentic, credible, realistically interesting. The only residual generalization lies in the reflections the narrated story suggests to the reader for interpreting his own life, or the life of others who are close to them.» (Marzano, 2001, p. 274; Kafar, Ellis, 2014).

To tell an experience means willing to describe an intimate world of one's self, such as emotion or action of one's own. Using the autoethnography as a way to divulgate our own reflections, leads to a conversion of them into ethno-anthropologic "culture" or, in better terms, into an "analysis plan" of the needs.

What could be the meaning of telling the experience? It could be telling one's self by telling the context and vice versa, trough reflection and narration: the former participates as each researcher "looks" at the «world outside» with different points of view; the latter reflects the form in which one chooses to expose themselves.

A tentative definition of autoethnography can be formulated as follows: the narration of a research's result, including documents, interviews, personal experiences and emotions. Besides, autoethnography could consist of an ethnographic experience's diary. We can affirm that the process of recognizing autoethnography is still a work in progress, though.

2. The participating observation of a pandemic

At the start of 2020s I was entering my second year as a Subject Expert in the Department of Humanities Studies at University of Salerno. I was aware of my tasks in everyday schedule, and I had a strong tendency towards getting close to students, especially the ones who were close to graduation.

My approach to "being a teacher" was always based on a confident relationship between me and my co-workers, my teachers, and above all my students. I've never stopped to be a student, after all. My formation might have influenced a lot my style of teaching, the same as my way of teaching could have influenced my further formation. The "face-to-face" contact activated a "mind-to-mind" connection, which led me to learn new things about the topic that I was teaching. This type of "educational hybrid" – or "hybridization of the education" – was the way

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stage for the points of disagreement between evocative autoethnography and the three fields of study mentioned.

that I chose for putting into practice a totally innovative approach compared to my standards.

Suddenly, in March everything changed. On the 3th of March 2020 I was still used to walk through my university corridors, between tutoring hours and conversations with my colleagues. Instead, just a few days later, everyone was speaking about online distant learning, lessons online schedule, links, platforms, redistribution of "smart" working hours. This could have forged by now my comprehension of the meaning of my qualification. My own horizons were changed: it was no more about preparing a lesson or responding to standard questions, but everything was focused on "distance learning".

Distance. Reflecting on this term and applying it to academic environment led me to realize that, in my entire academical experience, I was never requested to be "far" from that reality, which represented a notable part of my everyday life and impacted on my "doings" and my "beings". Taking part of that new kind of environment so differently structured meant turning into diversified realities. Students, evidently, consider university a second home, a place of usual meetings and experiences; for professors and other teaching staff it is a working and studying place, which is worthy of respect in its institutional role. For Subject experts like me, it's a curious place full of occasions of manifold investigation.

An investigation that, due to the present circumstances, has changed and is much colder than before. My researching field is now a screen, my researches flow through instable internet connections and gazes are now pixels. From direct connection – implying all the doubts and viewpoints concerning a variety of topics – from corrections of essays and consultation with the chief of the chair, I moved to a new researching field: digital problems resolving issues about lessons and exams due to a "face-to-screen" way of teaching and testing.

I am now a Subject Expert who had to study quite accurately Microsoft Teams' platform and all its functions. I am now able to recognize the best cloud storage and backup services and the different extensions necessary for sharing files. I learnt new words belonging to sectorial languages and I have also improved my linguistics skills, I guess. I witness my adapting capacities in the context of a global pandemic, the same capacities which allowed me to survive between chaos and improvising, in a changing education style, unknown before. I had to conform the "doing teaching" to the "how can I teach while spending most of my time on problem solving?" overnight. It means that in only one month I had to organize the virtual classrooms and their timing, while sharing web accesses with faculty Councils, department meetings, graduating sessions, and the spooky online exams. Not to mention that, of course, I had to transmit some of these skills to senior professors.

Theory, research and methodology issues are now overcome by urgent practical skills, to the point of creating new relationships between who acts directly on the field and who assures from behind the good functioning of relevant facilities. Specifically, in my job I was accompanied with a now omnipresent figure always ready to exchange with me various confrontational opinions: the computer specialist.

The basic thought that has emerged is a continuous improvising, supported by various "but if?". Confronting this new type of teaching, learning and testing, has created new perplexities about what strategies to employ according to specific situations, and the various solutions appear sometimes questionable. Experts themselves had to renew their competences, by "learning" to implement and coordinate informatic procedures with administrative rules and by "teaching the teachers" who, because of their age, were not supposed to have the necessary experience in

managing operative systems. Senior teachers experience is usually limited to a basic knowledge of word processing and internet navigation. Not to mention the major problematic involved in exploiting efficiently the opportunities offered by: smart working.

Working from home, as a technician, a teacher, or an assistant, has in certain cases involved a feeling of demeaning in struggling to overcoming lots of problems in shortage of time, disregarding daily apt schedules and holydays. According to several studies, methodology and research has become the gimmick through which a person can be considered always available and ready. It has to be said that, indeed, such a variable experience cannot be considered as a simple participant of the creation and realization of events never employed before. This new experience should become available to every individual that is supposed to benefit from it like never before, students in particular.

Conclusions

It may be necessary to pay more attention towards students, because they try to do and to give their best even in unsure circumstances. According to several opinions, it is clear that students have concern about the complex time we are now living, which brings distress and anxiety and negatively marks the relationship teacher-student in particular. The most evident paradox is the occurring of a completely opposite dynamic: the relationship teacher-student is becoming more concrete by weaving it with the stay-at-home daily life.

The "faces of theory" may accidentally lose their credibility: roles are unmasking, every divergence is being left behind and the "enemy" is being more and more accepted. Students are amused by "live" small hitches; for example, users may be distracted by the customary relaxed atmosphere of their own home and could accidentally forget to switch off the webcam, showing themselves in "inappropriate clothing" in front of a perplexed invisible audience. Students can indeed identify in the blundering of the figure they're referring to; at the same time, they regain consciousness of reality and personal experiences. This process of recognising one's self admits, on the other hand, a perception's variation of "theory", "method" and "research", as it is easier to face improbable episodes, which trigger spontaneous reactions, such as laughing or incredulity, and it is possible to let go feelings of creativity or sensations of domestic daily life.

My first-person living experience is full of (un)comforting sudden anecdotes, which lightened my studying and the tiredness resulting from the adapting effort. I had the chance to assist to a live familiar debacle, to interrupt the quick lunch of the students waiting for their turn to be evaluated or even to give advice about what to eat for dinner, after exams taken at an improper "evening" time. Every day is challenging: rationality, rapidity, efficiency, practicality are skills devoutly required. Circumstances automatize everyone's habits, duties take the place of free time, reflection may be the sole way out one is aiming to reach. This will not only be the telling of an experience, but it has to be considered as a further perspective about standard theorical methods, as it is evident that theory is being left behind the practicing of interpersonal relationship on which to shape methodologies and non-traditional researches.

It is undoubtedly necessary to solve the problems born from institutions and students, while trying to set an efficient and long-lasting collaboration, which may conduce to personal and collective improvement and to a reshape of usual systems.

Aiming to a legitimate and beneficial metamorphosis, able to revolution the concept itself of "experience", may not be an unthinkable hypothesis. Even considering socio-politic problematics, unrevealed from a so much complex period as Covid-Era, the opportunity of renovation in research, through reflections regarding the «world outside», can't be ignored.

However, researches about experience based tales had demonstrated that there's still a lot of work to do for the involvement of the student's community. Data collected from whom was not directly involved in my own experience are red flags showing the urgency to become better. The research involved almost twenty students from three different universities, such as Polytechnic Institute of Milan, University of Bologna and University of Salerno.

Most of interviewed are "in course students", which experienced a university past life outside the merely institutional environment too, building positive interpersonal relationships with their referring teacher's group. However, the passage from "face-to-face" lessons to "distance learning" influenced various aspects of these bonds: students clearly felt the relational detachment and the difficulty to adaptation, sadly becoming more insecure and diffident towards changing and collective improvement.

I can therefore confirm that, to the present day, I've never stopped to be active in my field nor I will do. As a personal witness of the illness, with brokenness, anxiety and all other hustles involved, I had to learn to allow it sometime; concretely speaking: studying, researching, distance learning, unexpected breakthroughs, first times, trains, teaching, comprehension and realisation were affected by this accident. A bunch of unceasing and fast events. In short, a frenetic lifestyle which has to be lived in firm and constant pace. My own lifestyle.

Finally, I introduce a homemade anthropological observation: qualification is not role. Recently, I had the chance to live a teaching experience in a secondary school, which is something completely different from what I was doing in university environment. This gave me also the chance to reflect on the job I was assigned to. I don't really like when someone defines me a "subject expert", because I don't think I am competent only because I have a role in a specific system and "it's how it works". I am a Subject Expert, an "assistant" like most students say, because I understand through experience the subject I study. I understand it so deeply that I apply it in my daily human relationships and vice versa I shape my subject on reflections born from experiencing such relationship.

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The Political Communication of Italia Viva on Instagram:
From its Formation to the COVID-19 Emergency[1]

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Abstract
On 16th September 2019, Matteo Renzi in live recording announces his exit from PD and the formation of a new party called "Italia Viva". According to these social and political events, the research aims at understanding, through an approach based on *content analysis*, what are the main contents conveyed by the Instagram page of Italia Viva in the initial phase of the birth of the party – from September 16 to February 19 - and if there are any differences in the communication strategy adopted during the COVID-19 emergency – from February 20 until June 3.
The expected results of the study are focused on analyzing the relationship between digital spaces, politics, and the pandemic, offering a detailed analysis of the consequences of the COVID-19 emergency on politics and the use of the media, contextualized in the communication strategies of the Italia Viva party.

Keywords: Content analysis, Political communication, COVID-19.

Introduction

The advent of the Internet and the spasmodic consultation of digital platforms have brought about major changes in mass society. One of the most significant of these is certainly the change in political communication defined as "the exchange and comparison of contents of public interest produced by the political system itself, the mass media system and the citizen, not only in his capacity as a voter" (Mazzoleni, 2013, p. 34).

The relationship between the new media and politics, which has been established during technological development, has led to a change in communication in this field. Among the many salient aspects of the opportunities offered by social media, there is the possibility of communicating directly with potential voters, bypassing the journalistic mediation of the mass media, in a potentially continuous and completely self-managed flow, without limits and filters. Another interesting aspect concerns the transformation of political language, which adapts to the type of media used. Thus, a technical-institutional language will be used if a political leader uses traditional media, such as television and newspapers, and a simpler, non-technical language if he conveys his messages through new media. In the second case, the politician will choose to use language that is more in line with voters who are addicted to media consumption. This last aspect makes it clear that politics, as the prestige and cultural relevance of media companies have grown, has progressively gone from being 'mediated' to being

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[1] The essay is the result of a joint reflection. Introduction and paragraph 1 are attributed to Assunta Luongo and paragraph 2 and Conclusions to Agostino Stavolo.

'mediatized'[2] (Mazzoleni, Schulz, 1999, p. 251). Focusing on the use of social networks, to achieve the set objectives, which in the political sphere are generally identified with the increase in the number of voters, strategies have been used that concern the targeting of the reference public and the choice of message. This means not only identifying the content to be conveyed but also carefully selecting the words to be used, the form to be used and the media format to be used (images, videos, stories). The social pages of parties and the profiles of political figures require dynamic care and continuous study, ranging from the choice of color to the cover image, to the biographical information, elements that alone can determine a greater number of followers and likes.

From this point of view, emblematic is the case of Italia Viva that is a party founded by the leader Matteo Renzi on 16 September 2019. Italia Viva, as well as representing a novelty in the Italian party scene, presents some characteristics that make it a valid and interesting object of study for the sociology of communication. First, the figure of Matteo Renzi stands out, as he has always relied on the Net to gain consensus; secondly, the communication strategy built around the logo, which was not chosen by the party's internal members but by web users through a voting system, is worthy of attention. The chosen symbol features:

- The tick, which represents the concreteness and the idea of "things are done".
- Two wings in flight, to indicate the idea of not losing the ideal dimension typical of politics
- The V, of Italia Viva.

There is also a precise idea in the choice of colors, preferring a gradient of warm tones, starting with yellow and ending with fuchsia pink, combined with light blue in the word 'Italy' to represent nationalism. The choice of the blue-pink contrast goes to represent one of the party's rules, namely the appointment of a man and a woman to office.

As expressed by the party's website, Italia Viva "presents itself as a young and innovative house", which is why Instagram is the most suitable digital platform for reaching many people, mostly young people, and for immediate communication made up of images. In addition to the communicative power of images, however, Instagram has added the importance and strength of online networking typical of social networks. The present work, therefore, aims to analyze the political communication carried out on the Instagram page of the Italia Viva party.

1. Research Design

The research starts from the choice of using content analysis as a reference approach, defined as a rather large and heterogeneous set of "methods that use analytical decomposition and classification procedures, usually for statistical purposes, of texts and other symbolic ensembles" (Rositi, 1988). This definition appears to be consistent with social researchers' use of the method, and especially with its use in the empirical research understudy, as it presupposes three fundamental concepts: inference, texts, and context.

In the wake of what has been explained so far, this research aims to investigate the macro-area of political communication, investigating how it has changed in the new media, in digital environments and how it has been shaped by its main actors, such as parties - in our specific case Italia Viva -, institutions and citizens, who can

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[2] Mediatization is defined when both the actors and those who narrate it conform their communicative action to the formats and logic of the media system of reference.

act in an increasingly interactive way. This contribution starts from a substantive conceptualization that uses the digital and its contents as the place where the phenomenon, i.e., political communication, develops, takes shape and provokes different reactions.

The first step of the research is the identification of the questions to be answered to deepen the theoretical dimension of the phenomenon we are approaching and subsequently define the empirical aspects to be detected. Consistent with what was said in the initial part of the structuring of the research design, two research hypotheses were formulated:

1. What are the contents conveyed by the posts on the Instagram page of Italia Viva in the initial period of your training?
2. Is there a difference with the contents conveyed by the posts during the period of the COVID-19 emergency?

These hypotheses are the consequence of specific cognitive needs, including the adoption of a perspective linked to small-scale theories in which the researchers let themselves be guided by the suggestions that come from their data, grounded theories that leave more relevance to the work on the 'field'. The study of empirical data leads to the definition of the unit of analysis as a cultural product, corresponding to the set of posts published on the Italia Viva Instagram page.

Therefore, to determine the object of the first cognitive question, the publication period ranging from 16 September 2019, the day of the opening of the Instagram page of the new party, to 19 February 2020 was taken into consideration, for a total of 1182 posts. As previously stated, Italia Viva is an ex-Novo party, and therefore there is a need to know the themes, the topics, the main actors of their proposals, and their communication strategy. More specifically, it is interesting to know the political agenda and the target population it mainly addresses, but also the type of structured online communication.

In February 2020, however, an unprecedented event occurred, with huge consequences on society, the economy, politics, health: the emergence of COVID-19. Given the global scope of the epidemic and the considerable changes linked to it, it was considered interesting to analyze the contents conveyed by Italia Viva in this historical phase to verify if there were any significant changes in the way it communicated and, specifically, which issues were highlighted.

The second question aims to analyze the posts published by the Instagram page of Italia Viva from 20 February 2020 until 3 June 202, for a total of 700 posts.

The beginning of this time frame corresponds to the discovery of the first outbreak in Lombardy, while 3 June 2020 represents the day on which the decree was issued allowing free movement between regions without the need for self-certification. 3 June is therefore an important date that marks the definitive exit from the lockdown, with the opening of the regions and the consequent start of the third phase.

1.1. Content Analysis

The Instagram platform presents a very flexible policy, thanks to which the extraction methods become simpler and more accessible to everyone. In fact, in the present work, data extraction was carried out manually, given the unlimited temporal availability of the posts themselves. Following the collection and extraction of data, a quantitative content analysis was carried out, i.e., a technique

for breaking down the message produced on the Instagram platform into simpler constituent elements, using explicit and standardized criteria to be applied to the entire unit in question. In this regard, a content analysis was chosen as a survey, defined as "a set of semi-standardized and/or standardized data collection techniques for recording the states in which, from case to case, certain properties occur in a set of appropriately selected units of analysis" (Losito, 2007). The aim is to interrogate the objects of research, in this case, the posts on the Instagram page, through a standardized procedure. For this purpose, a standardized coding sheet, consisting of 14 categorical variables, was developed to detect the properties of the post. Each coding sheet was created respecting first the characteristics of the message (e.g., images in the case of posts) and the peculiarities of the medium from which the classification units were analyzed, which, in this case, coincide with the context units, going to outline a case of the third type of Rositi[3].

It is important to bear in mind that the tables shown below are the result of a continuous elaboration of the definition of the variables and the methods linked to them. This is because the framing of the study from an exploratory point of view, where there is no need to formulate hypotheses beforehand regarding the relationships between the variables under study, has allowed them to be redefined during fieldwork until the final version shown here is presented. It is necessary, therefore, to consider the willingness to accept empirical results that cannot be predicted a priori.

The encoding card for the Instagram post was elaborated to code the images of the posts published by Italia Viva on its official Instagram profile in the period from its formation until the day before the explosion of the COVID-19 emergency.

Figure 1 – Encoding card

Date of publication	1 – September/October 2 - November 3 – December 4 – January 5 – February
Composition of the picture	1 - Subject 2 - Text 3 – Subject/Text 4 – Video 5 - Other
N° Tags	1 - No tag 2 – One or more tags
Prevalent style	1 - Informative 2 - Complaint 3 - Propagandistic

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[3] The third type of Rositi is used when no linguistic or extra-linguistic breakdowns are made, and the classification units coincide with the context unit. It is possible to encounter problems during data analysis. This happens especially when it comes to combining the flexibility and heterogeneity of texts and content with the standardization of the survey sheets because the content under analysis is pre-existing and not produced ad hoc for the study conducted. For this reason, the order of the entries must necessarily follow a subdivision into homogeneous thematic areas.

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Prevalent scope	1 - Political 2 - Economic 3 - Social
Prevalent Topic	1 – Party 2 - Social and environmental policies 3 - Antagonism 4 - Economy and finance 5- Covid-19 6 - Others
Origin of posts	1 - Published from the page 2 - Repost 3 – Other
Logo	1 - Logo showing 2 - Logo not showing
N° Subject foto	1 – No subject 2 - One 3 – Two or more subjects
Subject gender	1 - Man 2 - Woman 3 – Mixed 4 – No gender
Clothing	1 - Formal 2 - Informal 3 – No clothing
Pose	1 - Posing 2 - Natural 3 – No pose
Subject attitude	1 - Gritty 2 - Serene 3 - Explicative 4 – No attitude

The coding sheet for the posts published by the Instagram page of Italia Viva functional to the analysis of the Coronavirus emergency period is almost identical to the table above, with the addition of a COVID-19 mode within the variable "Prevailing topic". The choice lies in the fact that it was necessary to analyze how much the emergency was central in the political communication of the party and, above all, to visualize it about the variable "Prevailing topic".

At the end of this phase, the data collected are ready to be analyzed

2. Data analysis

Through the analysis of multiple correspondences (ACM), it was possible to analyze the characteristics of the communication of the Italia Viva party. What emerges from the results is reported within this factorial map:

Figure 2 – Factorial axis of Italia Viva communication in the first six months
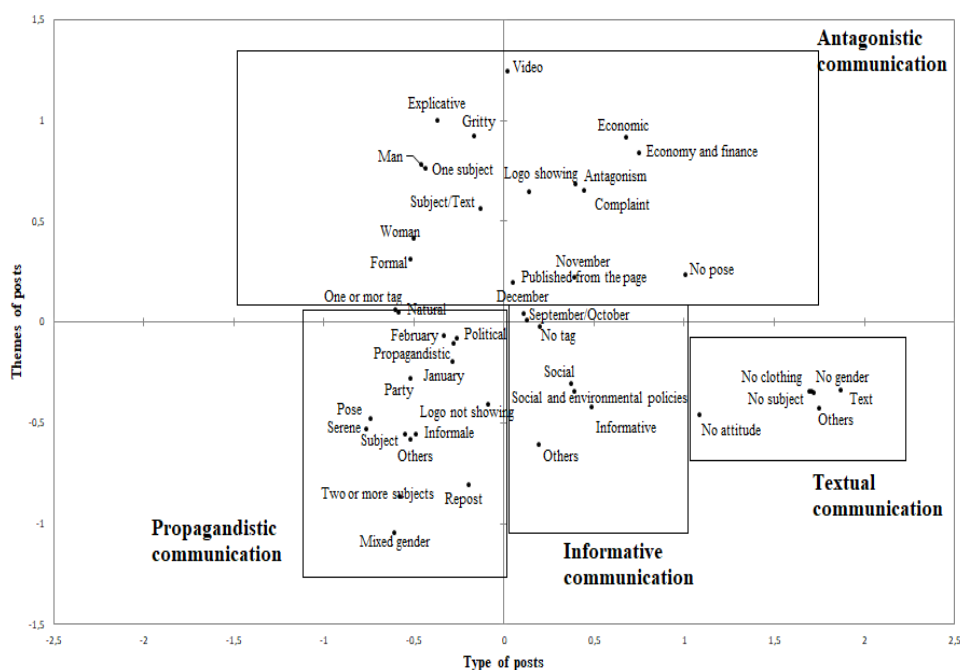
As regards the "Type of communication" (F1 axis) you can distinguish a right part that prefers a type of communication turned on Instagram through the use of "Texts", dragging with it all the characteristics that follow ("No gender", "No subject", "No clothing", "No pose" and "No attitude"); and a left part of the graph that shows a type of communication turned on "Subjects" and, therefore, *ad personam*. with the consequent proximity of the modalities that indicate the gender of the subjects, clothing, attitude. This lies in the fact that the political communication carried out on social networks today is increasingly personalized and focused on the figure of the leader.

The side of the " Topics" (axis F2), on the other hand, highlights the topics covered by the party Italy Viva contextualized in the period. In the lower part, it is possible to observe a communication that prefers themes related to the "Party" and "Social and Environmental Policies" while in the upper part themes related to Economy and Finance and Antagonism.

From the intersection between the two axes, it is possible to determine different types of communication adopted by the new party.

In the initial phase of Italia Viva, corresponding to September/October, and informative communication was privileged, mainly focused on social and environmental policies (19%) concerning education, gender differences, and environmental protection and safeguard. The choice lies in the will of Matteo Renzi's party to define the key points of the electoral program and the political positions taken to inform the electorate. Among these is the redevelopment of infrastructure that shows tangible signs of precariousness following the flood that hit Venice on 12 - 13 November. This leads politicians to redefine the agenda-setting and change the flow of communication, focusing on the controversy surrounding the functioning of the Mose. Therefore, in this period, the use of video

media (18.5%) and text media preceded by the image of the leader or other members of parliament (22.5%) is privileged, where the central subjects are the members of the party, both men (36%) and women (22%), aiming to explain what the economic and financial maneuvers of Italia Viva will be. In summary, the preferred topics in this phase of the communication are the economic proposals made explicit through some decrees, including the DL simplifications "Italy Shock" where we highlight the future opportunities produced by the unblocking of construction sites and the streamlined bureaucratic procedures. (10%). And it is especially this theme to be declined as "attack" and denunciation against the opposition leader Matteo Salvini, harshly criticizing the maneuvers legislated during the previous government.

In the period between January and February the communication flow evolves again and becomes propagandistic (62%). Noticeably, it turns out to be the preferred mode of communication for the party: although in the first four months of its formation, communication forms focused on the social and economic sphere have been preferred, the propaganda element is always central. This is because being an *ex-novo* formation, with a leader within it who had previously been at the center of turbulent political issues, it was necessary to make the party known to the electorate and highlight the element of novelty, which is what distinguishes Italia Viva first from the Democratic Party and, secondly, from other political actors. This objective was achieved through the promotion of initiatives, conferences, and interviews of the parliamentarians of Italia Viva themselves. It is important to note that in dealing with issues of the internal organization of the party (46%) it was chosen to use single subjects, portraits strictly posed (23%), with expressions of serenity (31%), and with a purely informal attire (18%). This political strategy resides in the awareness that carving out an online space means not only outlining the profile of one or more individuals - in this case of a leader and other prominent members of the party - but also eliminating barriers and distances between a subject and/or a party configuration and all other voters. To do this, the strategies put in place are a non-technical language, greater interaction of political actors with citizens through comments, likes, and reactions, but also photographs depicting informally dressed party representatives and ordinary people. Added to this are the strategy of publishing photos and videos of young boys and girls who express the expectations they have of Italian politics and in Italia Viva. Figure 3 shows a second factorial level, related to the second research question.

The denomination of the axes is equal to the previous factorial plan because the researchers intended to make a comparison between the content conveyed in the two moments that separate the political activity of the party to highlight similarities or differences.

When, in the first days of January, the Coronavirus epidemic began to spread in China, the attitude that the Italian public institutions, and in particular the politicians, took was to inform the citizens of the situation, using calm tones and avoiding alarmism. Nevertheless, some politicians were beginning to discuss possible political decisions to be taken to avoid contagion in Italy as well. At first, there was the closure of direct flights from China to Italy, which did not raise concerns because the "contagion spread" situation seemed still far away. Yet when the first outbreak occurred in Lombardy, on February 20, 2020, there began to be an escalation of contagion that resulted in a redundant communication of risk by political institutions and then became persuading from March 9, the day on which the lockdown begins. Therefore, any television channel, newspaper, and party conveyed information about the contagion, the preventive measures to be taken, the

situation in hospitals and nursing homes. Following the above, it is possible to notice in the first quadrant of the factorial plan that in March Italy Viva adopted a propaganda communication on issues concerning Covid-19 (50%).

Figure 3 – Factorial axis of Italia Viva communication during COVID-19 emergency
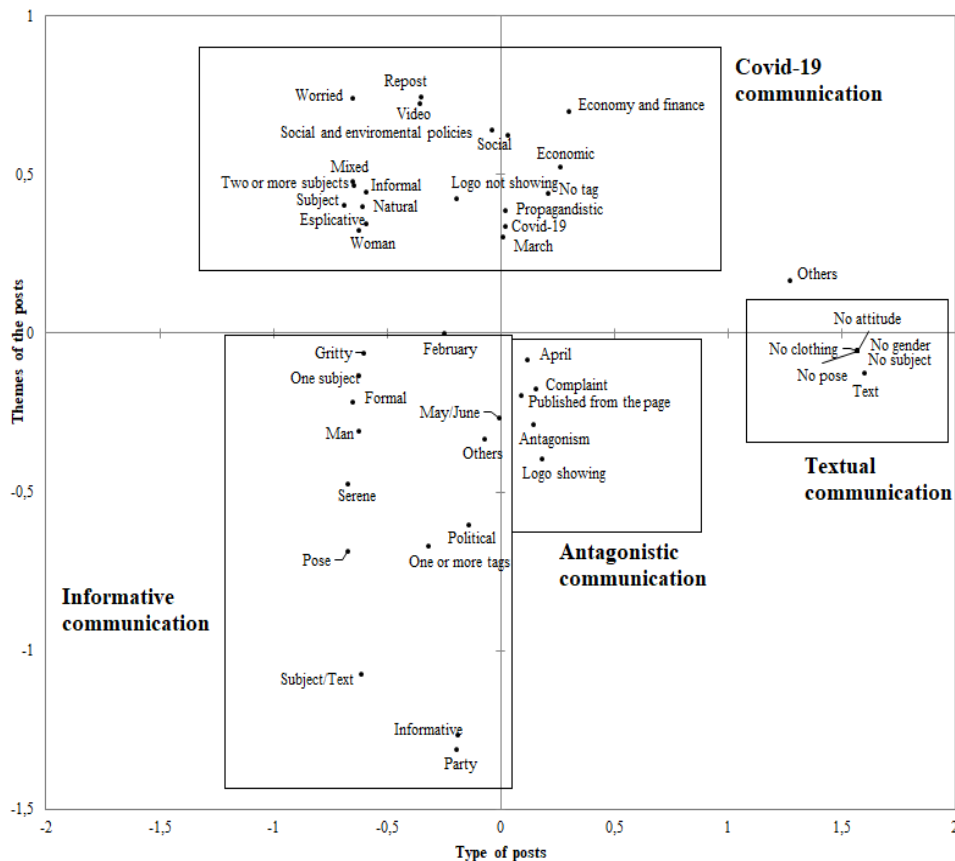
The propaganda set in motion by the party focused, in this first phase, on issues related to both the social and economic spheres. As far as social issues are concerned, numerous posts have been published on the Instagram page of Italia Viva in which health workers - such as doctors and nurses - and voluntary workers, such as the Red Cross, were portrayed. In fact, in this historical period, the party uses mainly videos (17%) and photographs (33%) in which the subjects depicted are always presented in groups (18%) and in a mixed form (11%), i.e., there are both male and female. Yet the propaganda operated by Italia Viva on social policies is also focused on the role adopted by parliamentarians within this political movement: in fact, it is mainly female subjects (23%) who are present in the videos (16%) that aim to illustrate and present the main solutions to the health emergency and the closure of schools. As far as the economic dimension is concerned, it is necessary to broaden the focus on what is part of the consequences of the Coronavirus. Inevitably, closure of businesses, except for agri-foodstuffs and those deemed necessary, and the suspension of work activities that cannot be carried out in a smart working model will have repercussions on the economy of the country. In this regard, billions of euros have been allocated for the maintenance of these families that, in addition to the money paid for citizenship income, have led to live a complex economic phase. This issue has not escaped the attention of Italia Viva,

which in this period post on Instagram has conveyed the economic sphere (23%), focusing on financial proposals (6%).

In pursuit of Prime Minister Giuseppe Conte's Decrees, the lockdown extended beyond the March period and the protests by commercial operators for the delays in financial subsidies, Italia Viva takes a clear and precise position: it is on the side of companies and workers. All this is visible in the lower part of the factorial plan, in which it is clearly explained that the party in April adopts a communication of antagonism, especially about the release of the bosses allowed by the Minister of Justice, Alfonso Bonafede, because of the COVID emergency. In fact, in this period the communication strategy aims to denounce the ally in government, the Movimento 5Stelle, both for the violations of constitutional freedoms and for the work and income situation in which Italy was in the period of closure. After this first phase of denunciation against the political authorities in government, accused of acting late, a partial opening of activities gradually began in May. On May 4, begins the so-called "Phase 2" where visits to relatives, take-away service for catering activities, and the opening of public parks are allowed. From here on, a phase of "normality" begins for Italy where it is necessary to respect the anti-accounting measures and the obligation to wear the mask. At the same time as the Coronavirus emergency changes, the tone of political communication is further modified: the information element, expressed through personal communication, returns to be central. Posts on Instagram focused on subjects where it is recommended to respect safety distances, the use of personal protective equipment, and frequent hand washing are privileged. Very often it is audiovisual content, accompanied by textual support that makes immediate reading and understanding of the rules. The COVID-19 emergency, despite the escape from the lockdown sanctioned by the decree of June 4 that allows free movement between regions, remains the central issue for Italy Viva throughout the pandemic period, however, declined through a political approach that considers the proposals made by the party for the resolution of the problems and that focuses on improving public health.

Conclusion

In the final phase of the work, the focus was on the relationship between politics, digital spaces, and the pandemic. In this regard, it is important to stress that the Covid-19 pandemic had a significant impact on international relations and affected the political systems of several countries, as it caused the suspension of legislative activities, led to the isolation of several political actors and forced the rescheduling of electoral appointments. "The impossibility of occupying physical space has also reduced the channels of political participation and the opportunities for expressing dissent, limiting them, also in this case, to the virtual space of the new media" (Bordignon, Diamanti, Turato 2020, p.392).

In the political communication carried out online by the party, the textual element is always central. This means that Italia Viva does not only use proprietary content, i.e., photos and videos created directly by the social communication team but also user-generated content, i.e., content created by other users, such as screens from newspapers or tweets produced on Twitter and then posted on Instagram. This is an interesting aspect as it highlights, on the one hand, the impossibility for a party configuration to communicate only through images and/or videos, to the detriment of the affordances (Hjavard, 2008, p. 119) of the digital platform; on the

other hand, it provides an input aimed at highlighting how the society of immediacy and speed manifests itself precisely through the propensity to use short and concise text-images.

Thus, on the one hand, digital evolution pushes politicians to do politics online and, on the other hand, political actors transform the affordances of one or more social platforms for the sole purpose of being able to continue to reiterate their habitus over time. For example, the politician's habitus is to communicate comprehensively about a state's issues. However, faced with the obstacles posed by some social networks, such as Instagram, which is a social network where only photos and videos are published, there is a need to acquire new dispositions that allow one to communicate concisely even through photographs by proposing the form of Image + Text. And so, thanks to mediatization there is a 'symbiotic relationship' in which the logic and purposes of media and politics interpenetrate (Mazzoleni, Schulz 1999, p. 252). Beyond these events, which show the cumulative effect of the virus' impacts on politics and communication, the pandemic represents "a symbolic terrain on which to build a discursive field for politics, and in terms of research, it constitutes an opportunity to focus on some of the problems of the relationship between politics and citizenship" (Boccia Artieri 2020, p.443). A particularly delicate issue inevitably concerned the relationship between political power and the media. Communication in emergencies involves striking a balance between transparency and control: between the citizens' right to be informed and the need to limit the proliferation of alarmist content and fake news. In this regard, the role of technical expertise has become central in the flow of communication, but also the unexpected effects that this has entailed. Virologists and epidemiologists have been called upon to support political decisions, sucking them almost automatically into the media circuit: infected, in turn, by the logic that characterizes it, made up of spectacle and immediacy. From the Civil Protection press conference at 6 p.m. to social networks and talk shows, science has been called upon to compare its own (often divergent) 'opinions' with those of commentators, politicians, and ordinary people. In this key, there was talk of a connection between pandemic and infodemia[4] (Bordignon, Diamanti, Turato 2020, p.392).

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[4] Excessive circulation of contradictory information. Often unscreened, unverified, making it difficult to find one's way around a particular theme, topic, or choice because of the difficulty of identifying not only reliable but also reliable sources.

Prohibitions, Pleasures, and Disasters: Entering the Online "Red zone" as an Experience of Digital Dark Tourism in Time of COVID-19

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Abstract

On February 2020, the Sars-Cov-2 reached Europe striking in Northern Italy. On February 21st, the police began to set manned checkpoints around quarantined towns: *Codogno*, *Vo'Euganeo,* and other 9 municipalities near Lodi district borders were renamed as "*zone rosse*" (*red zones*), and heavy mobility restrictions were applied". The situation consequently has shaped the social media discourse: Facebook groups originally describing the peaceful daily life of the red zone became privileged arenas to understand the *lockdown* experience. This paper aims at understanding if *dark tourism* activities, defined as tripping to «places that either witnessed or represent death, destruction, suffering, or calamity (McDaniel, K., 2018, p.2), took place on the Facebook pages of the red zone cities, by analyzing the online behaviors and the interactions of out-of-towner people who joined these groups at the beginning of the lockdown period. Research design adopts a Digital Ethnography approach usingunobtrusive techniques to test the paradigmatic application of digital methods. The results of our research aim to recreate the history of the action practiced through the Social Networks and will shed light on the culture and social implications of behaving and interacting online during an unforeseen event, like the COVD-19 pandemic.

Keywords: Digital dark tourism, Facebook group, Italian red zone.

1. Digital social groups in times of pandemic: philanthropic purpose or a renewed interest in the tourism of the disaster?

The Sars-Cov-2 reached Europe striking in Northern Italy in February 2020. In less than 24 hours, more than 300 COVID-19 cases were recorded in *Lombardy* and *Veneto*, forcing the Italian Government to adopt security and isolation measures to protect the areas and to prevent the spread of the virus in the Country. Consequently, on February 21st, the police began to set manned checkpoints around quarantined towns: *Codogno*, *Vo' Euganeo*, and other 9 municipalities near *Lodi* district borders were renamed as *zone rosse* (red zones). Heavy mobility restrictions were applied: Italians began to be familiar with the English word *lockdown*. From that moment, the national agenda setting narrowed in what was going in the Northern red zones and the media storytelling was focused on the quarantine experience and the virus' spreading. This totalizing communication centred on risk, perceptions and decision making processes both in Political and Health fields, and consequently shaped also the social media discourse: Facebook groups, named after expressions like "You are from (name of the place) if…", originally created to describe the peaceful daily life of the red zone towns, suddenly became privileged arenas to dive in the lockdown experience. The urge tounderstand how people experienced the forced isolation introduced by the

government measures is not just a journalistic curiosity. Facebook groups are social places that may expand the cognitive relevance and the understating of the lockdown experience. This was possible because these groups were born to narrate the daily life of town'speople in order to reinforce sense of community developing at the same time an idea of sharing feeling, emotions and points of view, which goes beyond the concept of spatial proximity/neighbourhood. These groups also allow to interconnect people in towns of slightly large dimension with respect to a classical neighbourhood because of these groups born on the net where special limitation becomes more and more irrelevant. And it is precisely the network, in our case, that becomes the central node: through it and through these social groups, the new daily life deriving from the forced quarantine has generated an interactive social knowledge based on a stream of perceptions, needs, concerns about the innovative ability to create mutual help orthe skill to do self-analysis on what happens and on the restriction measures taken. However, these Facebook groups are not an ordinary research object because they are usually closed, i.e.access is conditional on a registration request to those group administrators (access granted generally after confirming you live in the groups' town), thus, not all the knowledge produced in them is freely available to everyone.

However, when we stepped into these groups while analysing the social media discourse on COVID-19, we found that several out-of-towners joined some red zones' Facebook groups. This event has inspired ourresearch interest to discover who are the out-of-townerswho joined these groups at the beginning of the lockdown period and what drives them to enter these virtual spaces and if this process: a genuine and selfless sense of solidarity and closeness, or an unhealthy attraction to a place where there is suffering and pain, also known in literature as Dark Tourism.

2. Theoretical framework: places of pandemic as places of disaster and touristic interest

Today we are facing a critical challenge regarding the Covid-19 crisis: in the same way as floods, bushfires and earthquakes, the sociological perspective elects the pandemic as a disaster. According to Quarantelli (2000), in fact, disasters are not only an academic rhetoric exercise but respond to specific classification requirements that distinguish it from catastrophes or daily emergencies. The actual pandemic, that differs from an epidemic because does not involve only a country or a continent, but the entire world, can be elected as a disaster because of:
- the relation to more and unfamiliar groups as government department, public agencies, first responders, etc;
- the application of different standards of performance of the involved actors in the governance of the emergency;
- the protective operations taken by public and private sector;
- the consequent loss of autonomy and freedom of action related to the emergency powers assumed by local and national government (i.e. the restriction imposed to the mobility or the social distance with its implications on the possibility to give help to other people in the same situation).

This is how the pandemic creates places of disaster, similar to the places affected by other disasters, such as the natural ones, however with a noteworthy difference. The places of the disaster that classically have a physical practicability (think, for example, at a place involved in an earthquake and the fact that people

can walk through the rubble once they were made safe), during a pandemicgovernment restrictions to the mobility make these places physically inaccessible. Therefore, just as the places of the pandemic become places of disaster, the impossibility visits them leads people to find other ways of accessing them: the digital places.

Following the vision of Urry, this interest in visit disaster places could be conceived as a touristic form «not usually associated with leisure […], gazing at particular sites and conditioned by personal experiences and memories framed by rules and styles, as well as by circulating images of texts of this and other places» (2011, p. 2). Other scholars (see among Brown, 1996; Bruner, 2005; Cohen, 2007; Kaussen, 2015; MacCannell, 2011; Reisinger and Stetner, 2006) agree to this considering tourism as a practice that search for the authentic spectacle in 'other' places and concerning the tourist's experience diversified by mass communication in different vocations, i.e. educational tourism, ecological tourism and as well, the disaster and dark tourism. This entails the search for experiences, not definable *a priori*, unique and with strong emotions, especially if they involve places whose restrictions and prohibitions make the tourist experience exciting at the limits of pleasure.

Among the other scholars, McDaniel (2018, p.2) defines the theoretical frame of dark Tourism as the tripping in «places that either witnessed or represent death, destruction, suffering, or calamity»: places that can «include a wide variety of attractions, some intentionally created, while others appear spontaneously», and that can also not concern a physical travel because not physically connected to the atrocities.

The vocation of not physical tourism experience enhances the illusion of authenticity through techniques adopted by users and permits their interactions with environments (MacCannell, 1976): disaster and dark Tourists encounter with the interested places, but what about the interaction with suffering people who live in those places?

Respecting the assumption concerning the *Information Society* based on «shared knowledge and founded on global solidarity and a better mutual understanding between peoples and nations» (WSIS, 2003, art. 67), the studies of MacCannell argue about the tourism ethics focused on «the subjective, and plural experiences of 'sightseeing', a basic human desire to connect with someone or something 'other'» (2011, pp. 5-8), while Kaussen underlines the models of relationship between the self and the others associating progress with ethics for the development of a «common humanity whose relationships are based on mutual understanding, justice etc.» (2015, p.42).

Internet, in this way,has drawn spaces and languages for relations, actions and practices: the digital scenario without doubts has been very significant in last 20 years because of its power of identity building, information and knowledge sharing in the architectures of relations and network made by users via Computer mediated communication (CMC) adding the virtual power to the experience repertoire actually no more physical-exclusive.It is precisely for these reasons that we propose a new transition from disaster or dark tourism to disaster or dark digital tourism in pandemic era.

3. Tourism moves to the Net

The digital era enforces the idea of connection between internet and territories, thanks to tailor-made information produced by user's history, geolocate and available online. To better understand this change, and specifically if can be actually contemplated the online switch of the tourism experience, is necessary to adopt a methodological approach related to the Net logic and useful to retrace the users movements and their actions (Marres, 2017; Lupton, 2014). To this purpose,it is useful to adoptthe vision of Rogers (2009) that overcomes the idea of *cyberspace*and Virtual methods, because they are limited to the transposition of classical research actions and techniques on the web (in the way that e.g. the survey becomes the web survey, the interview becomes the web interview, etc.). Considering the Web also as a source of meanings in the only perspective of web native elements that, adequately analysed, permit to recreate a new internet story from the inside of the device and its own agency, «the digital context become so an additional and integrated social participatory place of people's daily life where the researchers take account not only of the web as the object of study, but as well the role they play in relation with it» (Rogers, 2013, p.14).

The digital experience can be so directly related to the places within the subjects move to discover the essences of disaster, its modelling, the way in which it changes, impacts and rebuilds the daily experience of people involved in the pandemic; these places now are on social media. Facebook, Twitter, and the other social platforms are capable to enlarge every relations not concerning the subjects only in a place as the virtual world (Consolazio, 2017, p. 81), but rather in a temporary association of strangers made for mutual purposes in a cooperation that will lose its properties also after few hours of its highest density moment of sharing (Arvidsson & Caliandro, 2016). On social platforms what individuals do is to leave traces of actions that can be analysed beyond the socio-demographic characteristics of individual users, which are not always known, clear and trustable. Not being able to focus on those who perform actions by leaving traces of them, but being able to develop a reasoning on what the actors do, the proposed research path goes into a post-demographic[1] perspective. The social practices and actions shown through multimedia platforms in terms of reactivity, behaviour and preferences become the objects of analysis themselves and, by proposing to observe them and understand their implications, the approach within which these affordances can be analysed becomes that of digital ethnography. For more scholars (Murthy, 2008; Postill & Pink, 2012; Rogers, 2013) the digital vocation of the ethnographic method is usually applied for social media analysis purposes referring to posted contents in a double categorization (Lupton, 2014; Marres, 2017). The collectible material can in fact be placed on a *continuum* featured by the users' role and contribution in terms of sense production: *provoked and user generated data*. The former concern all the information needed to understand a social setting in a fieldwork switched to online (web survey responses, web-interviews reports, non-participant observation fieldnotes and so on) or all those information that comes from any sources such as books, TV programs, movies which further become useful for online content analysis. The latter, also known as *digital native data*,

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[1] Post-demographics could be thought of as the study of the personal data in social networking platforms, and, inparticular,how meta-profiling (Rogers, 2004) is, or may be, performed with which findings as well as consequences (https://digitalmethods.net/Digitalmethods/PostDemographics#Post_45demographics_63).

concern traces left by users during their online activities which produce original empirical elements not attributable to previous approaches, but produced by the natural structure and dynamics of the net and thus connected to the new idea of grounded web[2] (Padricelli, Punziano and Saracino, 2021). In the case of our research activities we will adopt an unobtrusive approach for the collection of *user-generated* data that are «spontaneous and not forced by the researcher requests due to the lack of cooperation between observator and observed» (Cardano, 2011, p. 25).

Post-demographics and Digital Ethnography allow us to focus on contents rather than individuals, so the main research question aims at shedding light about how dark tourism is experienced online, considering the social media posting and interacting actions as the keys that can lead to understanding what attracts tourists to these sites, and which meanings they are looking for.The final aim is to understand if social media are places where the practice of dark tourism could be performed in its digital form in the way of «be in a place without being in a place» (MacCannell, 2011, p. 2)? In order to address our research questions, weselected three Facebook groups focused on daily life of two towns that on March become the first Italian red zones: "Quelliche a Vo'…" (Thosewho in Vo'…), "Sei di Vo' se…" (You are from Vo' if…), "Sei di Codogno se…" (You are from Codogno if ...).

4. Results and discussion

The observation of the selected Facebook groups began jointly when the first red zones were set-up (on March 10th) by requiring access to these groups, without revealing our identities as researchers, because we do not want to spread in the groups the idea of being observed. If this may pose some ethical concerns and has limited access to the various existing groups (initially the registration requests were made to many more groups - to be exact, a dozen - but only three accepted the registration of a person not resident in the towns), on the other hand, allowed us to carry out a first statement: even access to the digital tourists of the disaster could be inhibited by not belonging to those communities, unless they present themselves as citizens.

Tab. 1 – Research steps

Research steps	
1	Finding pages
2	Access request as soon as the red zone is established
3	Identification of out-of-towner subjects
4	Identification of practices/actions/tracks to be observed
5	Research questions formulation on digitaldark tourism

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[2] Richard Rogers (2013, p. 46) proposes a «research practice that can learn from device methods, reworking it for new purposes in order to confirm the assertions about cultural change and social conditions throughout web data and introducing the expression of online groundedness».

The subsequent phase of research consists of a first recognition of the presence of out-of-towner people who joined these groups at the beginning of the lockdown period attesting the plausibility to find people how practice digital dark tourism.

During the recognition we found and selected 37 users responding to these characteristics for the Facebook group "Quelli che a Vo'…", 32 for "Sei di Vo' se…" and 44 for "Sei di Codogno se…" for a total of 113 individuals duly detected inspecting the subscription lists of each group. The non-probabilistic samplinginvolved all the users who deliberately featured their profile with the dwelling information and who joined this group from the day Codogno and Vo' Euganeo qualified as *Red Zones*. Among the observed groups we found only 3 mutual out-of-towners simultaneously subscribed on at least 2 of them. All the users selected come from different Italian regions: in terms of spatial coverage, in fact, the out-of-towner subscriptions of each group are well balanced among North, Center and South of Italy.

The personal characteristics of identified profiles show an equal distribution for gender, with an age that usually is more than 35 years.

The identification of selected users and their characteristics has been profoundly necessary for the *post-demographical* approach in to identify traces, practices, and actions. The observed posting activity of the out-of-towners users is scarce. In 4 months, in fact, there are only 59 posts in total thatshow a*lurking* vocationwith apoor engagement from other users, mostly characterized by like reactions and few comments. The poor post features are distinguished as short in length and mainly regarding solidarity, support and charity topics as well the willingness for security supply donations as masks, sanitary lotions etc.

All these reflections together lead us to formulate precise questions that must direct our gaze as researchers in order to be able to understand if, where, how and in what way the digital tourism phenomenon of the disaster/pandemic is configured. Have the physical spaces been replaced by the digital ones, and have, in this case, the digital vocation of dark tourism been carried out? Which are the reasons that push users based outside the red zones to have a shared daily experience with locals? The study of the actions and interactions will be useful to reply to these questions but, in this case, the efforts of our further research steps must focus on the *non-action*. The lurking activity, intended as no (inter)action of out-of-towner in these groups, suggests the exclusion of philanthropic reasons of their tourism practice (as instead shown by few contents posted), and open to any other not yet evident reasons that stimulate their tourism experience. Sotiriadis and Van Zyl (2013) argue about the differences of people who lurk and post, acknowledging the role of not participant behaviour as no negative and unequivocal allowed, influenced and transformed by the rise of social mediaand its interactive power.

Thanks to Bishop (2007), in fact,, we know how non-actions are needs and goals driven on the base of the share values and beliefs among users. Following MacCannell (2011, pp. 5-8) for what concern Dark Tourism experiences, including the case of digital transposition outlined in this work, we can hypnotize the *lurkers* non-action featured by the desire of «connection with someone or something 'other'» in the way that«how inhabiting such digital shared social spaces impacts everything from decision-making to experience and shared experience within the realm of dark tourism» (Bolan and Simone-Charteris, 2018, p. 743).

The results of this first inspection highlight the assumption of this role also in dark tourism experiences and open to a reflection that aim to shed light about this practice, taking account of the authenticity concept in tourism, first introduced by

MacCannell in 1976. The authenticity question, attested in the sociological paradigm and tourism literature (see among Cohen, 2007; Reisinger and Stetner 2006), has been shaped in different vocations, among which the simulating authenticity. In his critique of post-modernity, Bruner (2005, p. 149) concerns a tourism reproduction that may be considered authentic either if it resembles in a credible and convincing manner a historical site or if it simulates such a site completely and immaculately. The Italian red zones can be included in the sites suggested by Bruner (2005) in a simulation that, following Brown (1996), can achieve the stave of hyper reality where emerges a genuine fake completely real. How is possible to understand if and how a lurking tourism experience is a genuine tourism experience?

Cohen (2007, p. 77) helps to reply this question with the description of the «constructivist approach to the empirical study of authenticity, focusing on the tourists' perceptions of authenticity, and rejecting any a priori, authoritative definition of the concept» in the way to «to understand why some people claim to experience something as sincere or authentic and others do not, ascertaining the view of the actors and to examine the concrete contexts in which such experiences occur'» (Mehmetoglu, Olsen, 2003, p. 151).

The web scraping tools at the service of digital social research does not allow the inspection of personal profiles of social media users because of privacy reasons. In this way the ethics topic related to the web shadowing of the individual's trough the adoption of an equally lurking behavior opens the next step to the hardest challenge for the deepening of the case.

In conclusion, this first explorative work tested the effectiveness of the exclusive application of the digital ethnographic method, outlining unambiguous limits for the research purposes.

For this reason, a follow-up of this exploration is duly required and needs to follow a complementary application of different ethnographic application both digital and related to the traditional or to the netnographic way as well.

For the latter, the right way to proceed forces the researchers in availing of the classical techniques related to the qualitative approach.

First of all, interacting with the groups admins to comprehend if and how they realized the Dark tourism occurrence in the online spaces they manageand then if and how they detected out-of-towner lurkers.

Later, availing of the admis as gatekeepers, by a snow-ball sampling procedure (Coleman, 1958), we wonder to directly approach lurkers through semi-structured interviews and shed light about needed analytical dimension helpful to reply our research questions as i.e. their most interested features to read, their visiting experience in the selected groups, if and to which other local users they get in touch bya direct interact and finally what they learn about the emergency situation attending this groups.

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The COVID-19 Pandemic through the Eyes of Italian Young Hikikomori

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Abstract

The health and socio-economic crisis induced by COVID-19 has upset the political structures of the worlds governments, which had to respond to an unprecedented health emergency. This shifted attention to the issue of internal control: the danger comes not only from outside but is related to the citizens compliance with social distancing norms and, more generally, with the various measures to prevent the spread of. COVID-19 is today pivotal for rethinking oneself, ones future, having acquired an immanent quality for the discourses on the meaning of reality. It is even truer for those whose self and actions have been highlighted with the pandemic moment, as the hikikomori, whose voluntary self-isolation and living mostly within media spaces is now a generalized condition. The first section of this contribution will discuss the Italian hikikomori phenomenon through a critical reading of Mazzettis essay: Hikikomori - Il viaggio bloccato dell'eroe. Un punto di vista sociologico (The Heros Blocked Journey. A Sociological Point of View). The second section will summarise the results of a netnographic survey on the psychological, social, and imaginary dimensions of young Italian hikikomori on COVID-19 containment measures during the first lockdown, between March and May 2020.

Keywords: Hikikomori, COVID-19, Identity, Coronavirus.

Introduction

On December 31, 2019, a new viral form of SARS – later called COVID-19 – was isolated and identified in the city of Wuhan, in the Chinese province of Hubei. Since then, with a worldwide effect, our perception of reality has undergone a major upheaval, changing many of the certainties on which we based our choices and behaviours. Besides affecting our health, this pandemic has substantially modified our relationship with society in general, marking this event as a key theme for contemporary sociology (Mangone, Zyuzev, 2020). At the *macro* level, the crisis induced by COVID-19 has upset the political structures of world governments. They had to set aside objectives and problems that had hitherto been priorities to respond to an unprecedented health emergency. This shifted attention to the theme of internal control: the danger comes not only from "outside" but is related to the citizens' compliance with social distancing norms and, more generally, the various measures aimed at preventing and containing the spread of the virus (Masullo, Coppola & Senatore, 2020). On the *micro* level, the theme of identity has also become critical due to the disappearance of the normative references that previously regulated social belonging and recognition. For example, work – a central aspect through which individuals identify themselves and are socially identified – has changed and moved largely online, whereas until now digital platforms had represented only leisure and transience. The same goes for sociality, which, thanks to new media, such as social networks, could continue to take place.

We will be dwelling on the *micro* level, examining the relationship between the individual and what some have called "digital society" (Caliandro, Gandini, 2019). The pandemic has been for many an opportunity to question the meaning of their lives and aspects previously taken for granted about themselves and the way they relate to others. Indeed, COVID-19 is today the most recurrent word in the discussions that take place on the most used social media (Facebook, Instagram, WhatsApp); an element around which individuals have carried out what William Thomas (1968) theoretically described as the "definition of the situation". Lacking opportunities for offline encounters, digital sociality vastly contributed to the definition of the events connected to the pandemic. This was especially true in the first phase, characterised by the lack of a clear horizon of meaning due to the uncertainties of the scientific community on Coronavirus-related risks.

COVID-19 is today a central topic in rethinking oneself, one's future, having acquired an immanent quality in the discourses on the meaning of reality- this is even truer for those whose self and actions have been highlighted by the pandemic. It is the case of the *hikikomori*, whose voluntary self-isolation and living mostly within media spaces is now a generalized condition.

Starting from the essay on *hikikomori* by Maria Luisa Mazzetti (2020), this article aims at examining the impact of the COVID-19 pandemic on the imagination, particularly for those young people for whom the web, and cyberspace in general, is an important area of signification and individual and social action. Mazzetti's text, more than previous ones, highlighted central aspects in reading and studying these young people and how they have faced (and are still facing) this health emergency.

The phenomenon, known by the Japanese term *hikikomori* ("stepping aside"), first appeared in Japan in the late 1980s and then spread with diversified and "hybrid" forms in the Western world[1] (Bagnato, 2017).

Hikikomori individuals implement a voluntary and conscious withdrawal from all face-to-face or direct social relationships, which damages their school performance, interpersonal skills, self-esteem, and perceived self-efficacy (Ricci 2009; Saito 2013)[2].

In our opinion, the sociological point of view is paramount to highlight how the pandemic was an opportunity for *hikikomori* individuals to reconfigure themselves, to emphasise that they are bearers of a specific point of view on reality, a subculture that is not merely an expression of malaise, marginalization, and discomfort.

Mazzetti's essay allows us to theoretically highlight their strategies to resist the outside attempts at "stigmatization" and "pathologization" – where the "outside" means the world of adults (parents, teachers, doctors and psychologists, journalists,

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[1] The term "hikikomori" is formed by the fusion of two Japanese verbs: hiku 引く which, among its many meanings, also has that of "back off" and "disappear" and komoru 篭る which means "to isolate oneself", "to confine oneself". It denotes a condition in which the only possibility of survival seems to be moving away from society and "disappear" by withdrawing completely into their room. The following criteria identify *hikikomori*: social withdrawal for at least six months, (partial or total), presence of social/school phobia sometimes in comorbidity with addiction to the internet and electronic devices (Saito, 2013).

[2] According to a 2014 survey by the World Health Organization, 67% of *Hikikomori* are also addicted to the Internet and electronic devices (Spinello *et al.*, 2015). Self-avowed *Hikikomori* individuals are obsessed with the resources of the web society and use the web to the point of jeopardizing work/school activities, up to cause a perceptual distortion on the time devoted to media consumption and a hyper-valuation of the tool as a vehicle of emotional and social regulation. All these prototypical characteristics taken together are attributable to addiction to the Internet and electronic devices (Parrella, Caviglia, 2014).

etc.) who express a vision of their condition in terms at odds with those of the *hikikomori* themselves. The social fact of COVID-19 enters the processes of signification and social construction of the reality of these young people, contributing to restructuring their sense of self and their culture of reference (Berger, Luckmann, 1997).

The first section of this contribution will discuss the Italian *hikikomori* phenomenon through a critical reading of Mazzetti's essay.

In the second section, we will summarise the results of a netnographic survey on the psychological, social, and imaginary dimensions of young Italian *hikikomori* on COVID-19 containment measures during the first lockdown (between March 9 and May 4, 2020).

1. The *hikikomori* phenomenon: A sociological outlook

Mazzetti's essay offers a sociological viewpoint on young Italian *hikikomori*. It highlights the limits and shortcomings of previous analyses focused on framing the phenomenon under purely psychological lenses. Such studies often dismissed the social aspects as a very generic set of recurring elements, referable to the idea of "a society that is generically narcissistic and overly competitive, exaggerated in its pressures, particularly on males" (*ibid.*: 8). The scholar dwells particularly on the superficial way in which these texts compare Japanese and Italian society, tracing common elements and differences, and placing a particular emphasis on the psychological discomfort and relationships that young *hikikomori* individuals express by voluntarily choosing self-isolation. The resulting image is that of a young person whose ability to act is strongly compromised; a subject shaped by external forces, by a society perceived as oppressive at both work and school level.

We will now clarify Mazzetti's theoretical premises. These allow us to frame the themes she focuses on in analysing the *hikikomori* phenomenon. She refers to Bourdieu's theory (1992) and his concepts of *field* and *habitus*, thus painting young *hikikomori* individuals as active and conscious subjects in evaluating the choice of voluntary self-isolation. This choice does not occur in a social vacuum but is co-constructed in a web of "meaningful" relationships that *hikikomori* subjects continue to entertain in and outside of their room. The habitus – the expression of beliefs and socially situated representations – is generated by investing in a specific field[3] (often coinciding with the spaces of online sociality) that produces codes, meanings, and languages typical of a subculture that is shared, participated in, and self-feeding with positive and negative references from Japanese and Italian society.

This analysis allows us to grasp the processual character of the self-definition of young *hikikomori*: identity – which always needs social recognition – does not appear as an acquired state, a product of external forces suffered unconsciously, but a process made of continuous self-definitions and redefinitions, adaptations, and readjustments (Mangone, Masullo, 2015), in a game in which the comparison with others and the overlap between online and offline realities are constant. Mazzetti's analysis, which considers the relationships that hikikomori entertain, highlights the

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[3] He specifies that "the field structures the habitus, which is the product of the embodiment of the immanent necessity of a field or of a set of intersecting fields […] it is a relation of knowledge or *cognitive construction*. Habitus contributes to constituting the field as a meaningful world, a world endowed with sense and value, in which it is worth investing one's energy (Bourdieu and Wacquant, 1992: 127).

plurality of forms that this condition can take in its Italian variant. Mazzetti starts from Bagnato's most current definition (2017) which describes *hikikomori* "as those subjects who do not reject society *a priori*, indeed they do everything to be able to be part of it, but because of both specific individual and contextual factors and negative emotional states consequently triggered, they do not succeed and come to mature the idea of not being suitable" (*ibid.*: 17). She then points out, first form a theoretical and then an empirical point of view, that "not all *hikikomori* individuals suffer from a sense of inadequacy, but it is possible to find cases, (…) in which confinement is not an extreme response to suffering, but a precise option, conscious and configurable as self-determined, which identifies living at home as preferable to participating in a life outside" (*ibid.*: 24). The strategy implemented by the Italian *hikikomori*, which Mazzetti defines as "a hiccup" – distinguishing it from the "extreme" strategy implemented by their Japanese counterparts – seems to find its distinctive space on the web. Unlike their Japanese peers, Italian *hikikomori* use technology not only pass the time but also to "interact with others, introduce new interests and maintain access to the outside world" (*ibid.*: 25). Italian *hikikomori* individuals also often manifest a strong need to maintain a positive relationship with their parents, "especially with the mother, defining a new type of withdrawing from the outside world but not necessarily from the family" (*ibid.*: 26).

Regarding this last point, Mazzetti brings forward some crucial observations on the characteristics assumed – in both a structural and relational sense – by the family as a social institution. The family is a much-explored area in the literature on *hikikomori*, particularly highlighting the typical features of Italian society compared to the Japanese one.

Japanese social organization is a classic example of a "collectivist" society that emphasizes the interdependence within the community and the priority of collective goals over individual ones (Sagliocco, 2011). Personal satisfaction, therefore, is achieved only when one's individuality and ideas are expressed at the service of collective ideas. For Bagnato (2017), the Italian society grants great importance to the personal interests of the subject, often at the expense of the interests of the group to which he belongs; these aspects bring the scholar to define it as a society with an "individualist" vision of social action.

As Mazzetti points out, the "family" context has undergone major metamorphoses since World War II, due to social progress. They transformed Italy, as well as Japan, from a predominantly agricultural/rural country to one of the main industrial powers. This aspect also determined the passage from the extended patriarchal family to the nuclear family (Saraceno, 2003). The contemporary family has been in recent decades characterised by a *child-centred* vision. In the past, the children sacrificed themselves for the broader objectives of the family. Today, conversely, it is the family that conforms to the needs of its youngest. This aspect has transformed the family system from an institution that carried out fundamental tasks of social and cultural reproduction, to a private system of relationships regulated by affection norms and codes (Di Nicola, 2017). If, in the past, the family institution was oriented by normative references and values, which stood alongside those that accompanied other vital areas in which subjects moved, today we are increasingly witnessing a fracture between the family and other institutions of society (including schools). Therefore, the condition of Italian *hikikomori* could be seen here also as an extreme view of the family that has become for contemporary individuals a preferential "refuge" in which to seek protection from the disappointments of the reference society.

2. Representations of COVID-19 among Italian *hikikomori*: A netnographic survey

We summarised above the critical issues highlighted by Mazzetti on the Italian hikikomori phenomenon. The following section will present the results of a netnographic[4] research investigating the psychological, social, and imaginary aspects of young Italian *hikikomori* individuals on COVID-19 containment measures during the first lockdown (between March 9 and May 4, 2020).

Specifically, the study aimed to examine the opinions and attitudes of young *hikikomori* about:
- COVID-19 containment policies, particularly self-isolation and social distancing;
- the massive and necessary use of online communication and socialization mediated by digital platforms.

We selected a specific community of Italian *hikikomori* as the virtual context of our study: a Facebook group that counts about 4590 members.

We observed the community from March 9 to May 4, 2020, and analysed 253 posts, particularly those touching on the COVID-19 emergency.

We adopted a hermeneutic process for analysing and interpreting the data. In other words, we sought to enhance the point of view of the subjects, the motivations driving them to self-isolation, its value at the level of identity in the light of the COVID-19 emergency, and the "definition" of their experience to distinguish their condition from the imagery and representations of the general population in this pandemic.

The analysis shows that the posts containing opinions, judgments, considerations, and representations about the COVID-19 containment measures, specifically home confinement and social distancing, are polarised on two dominant positions. One is *conservative* and attentive to the defining processes of the hikikomori phenomenon; the other is *critical* and predisposed to a de-stigmatization process of social isolation.

The first position emerges from the analysis of the posts that consider home confinement and social distancing *not superimposable* to the *hikikomori* condition. Indeed, the latter requires the subject's voluntary choice of self-isolation, unlike the compliance with the government dispositions during the COVID-19 health emergency.

This position, which we could define as *conservative*, strongly emphasizes and reiterates the clinical, social, and experiential characteristics of the *hikikomori* condition, demonizing the "out of place" juxtapositions often formulated by the mass media.

Another position that emerged within the complex and articulated set of opinions, beliefs, and judgments expressed by *hikikomori* individuals on COVID-19-related measures is the *critical* one. This viewpoint shifts the focus of the discussion to the moral, social, and cultural aspects of society as a whole, using them as arguments to support a process of de-stigmatization of social isolation[5].

The *hikikomori* individuals embracing this position consider social interactions and, more generally, the Western cultural system, the basis of the main "sociopa-

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[4] A qualitative method that adapts and reworks ethnographic techniques to the analysis of virtual contexts, online communities, and web society (Kozinets 2010; Masullo, Addeo, Delli Paoli, 2020).

[5] For a more detailed analysis of the research results in the article Coppola M., Masullo G. (2021), *Autoisolamento sociale volontario ed emergenza Covid-19: uno studio netnografico tra i giovani Hikikomori italiani durante la pandemia*, in «Cambio. Rivista sulle trasformazioni sociali», OpenLab on Covid-19. DOI: 10.13128/cambio-10399

thies" of the contemporary individual. They see the measures aimed at containing and preventing the coronavirus infection as a "godsend", a way to demonstrate to all the "others" how social isolation and deconstruction of face-to-face social relationships can be "solutions" to the personal malaise.

2.1. Online sociality during the Covid-19 pandemic: The opinion of young Italian hikikomori

The post selected for our investigation contained opinions, judgments, considerations, and representations about online sociality. Their analysis showed that many young people emphasized the characteristics of *functionality*, *speed*, and *non-corporeality* of virtual sociality.

As far as *functionality* is concerned, many posts underlined how, during the lockdown, the use of social media, chatrooms, and videocall platforms helped, supported, and channelled the social, relational, productive, and pedagogical needs of millions of people, in Italy as in the rest of the world.

These virtual social interactions have made it possible to reach places and spaces (as well as fill time) otherwise unreachable during the pandemic.

The characteristics of immediacy and speed have been reaffirmed as fundamental for preferring online over offline sociality. The possibility of directly, immediately, and quickly ranging over various virtual territories has allowed the diffusion and consolidation of forms of virtual social aggregation previously considered "peripheral" or only in terms of momentary *loisir*. This led to the formation of real articulated communities, which have developed and, in some cases, consolidated specific subcultures within which we have tried to understand the pandemic from the point of view of its meaning. This unprecedented opportunity has allowed *hikikomori* individuals to reaffirm the specificity of these virtual contexts, their sociality in some ways distinct and preferable to the offline one.

Another important parameter that guides the choice of *hikikomori* individuals towards an online versus face-to-face sociality is that of *non-corporeality*.

The analysis of the posts showed a strong tendency to a *bodiless* interaction conveying thoughts, opinions, psychological characteristics of the self. This contrasts with the centrality granted in offline interactions to the anthropometric features and aspects, which represent for most of the *hikikomori* individuals a strong source of frustration and anxiety.

Regarding the emotions, the analysis of the posts highlighted three main predominant emotional states: *anger*, *fear*, and *motivation to start anew*.

It is important to point out that the emotions that emerged from the analysis have a different motivational matrix than those experienced by other people.

For members of the broader society, the anger, fear, and motivation to start anew are centred on the pandemic and its social, health, and economic consequences. *Hikikomori* individuals experience the same emotions, but for different reasons.

Specifically, their *anger* takes the form of an *outburst* against society and the world of "adults" considered to be the real culprits of the health emergency and the ensuing global crisis.

Fear is not related to concerns for their health but to the anxiety of necessarily having to entertain relationships with family members, who are homebound by lockdown measures. This aspect shows the "ambivalent" relationship between young *hikikomori* and family members who, contrary to previous assumptions, from a "protective" factor can become a further cause of "discomfort".

A reversal of the typical condition of the *hikikomori* is represented by the *motivation to start anew*. The posts show that some *hikikomori* harbour an unexpected desire to "get out and go out". Thanks to stay-at-home orders, they can "break" their home isolation and use the exceptions envisaged by the rules to resume contact with the outside world. At a time when a large part of sociality is concentrated in domestic places while external places of sociality are becoming deserted, the latter ideally constitute preferential areas for shelter from encounters with others and wider social expectations.

Conclusions

The analysis of Mazzetti's essay, *Il viaggio bloccato dell'eroe: il punto di vista sociologico* (The hero's blocked journey: the sociological point of view) allowed us to highlight a typical feature of the Italian *hikikomori* phenomenon. The author linked it to the issue of self-determination rather than to the conditions of discomfort and marginality emphasized by most studies on the phenomenon. Without minimising the psychological and medical consequences of such a situation[6], Mazzetti provides a more complete outlook, accounting more clearly for the point of view of the young *hikikomori*. This viewpoint expresses neither discomfort nor complete isolation; on the contrary, it is the product of meaningful interaction with the other within relationships both offline (the family) and online (through a specific subculture expressed in digital platforms). These aspects also transpired by how the boys confronted the issue of COVID-19 on the Facebook group *"Hikikomori Italiani"* that we investigated through a netnographic survey.

The pandemic is an important moment for them to reach a clearer identity construction and a sharper definition of their subcultural references. The need to *de-pathologize* and *de-stigmatize* voluntary self-isolation and the choice of pulling back from sociality expresses a double wish. On the one hand, the desire to encapsulate the clinical, social, and defining criteria of the *hikikomori* condition within precise boundaries, without creating dangerous overlaps that could trivialize or create conceptual and interpretative distortions. This is especially true for a phenomenon already little treated and little recognized outside the scientific community. On the other hand, they took advantage of the "social fact" posed by the COVID-19 health emergency as an argument to de-stigmatize social self-isolation and exclusively virtual sociality, considered "dysfunctional", "pathological" and/or synonymous with malaise before the pandemic but suddenly became virtuous, necessary, and legitimate.

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[6] It is also necessary to consider the effects of the pandemic in reinforcing the choice of self-isolation, as pointed out by Marco Crepaldi (2019), psychologist, founder of *Hikikomori Italia*. See https://m.facebook.com/story.php?story_fbid=10161084137126151&id=179618821150&sfnsn=scws pmo.

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