

What Do Italians Think About Coronavirus? An Exploratory Study on Social Representations

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This research aims to analyze the structure and content of the social representation of the novel Coronavirus SARS-CoV-2, paying particular attention to socially constructed meanings, in order to understand in what way the Covid-19 pandemic is going to take form in the collective consciousness. The study involved 484 Italian citizens, recruited through snowball sampling. Data were collected using the free association technique and the inductive term “Coronavirus”, by an online questionnaire administered between April 17 and April 26, 2020. Participants were also asked to clarify the meaning of each of the three words elicited. The corpus of words was analyzed by using EVOC 2005 software, adopting a structural approach and following the prototypical method. The corpus of sentences related to the meanings of the words has been analyzed through an inductive content analysis supported by Nvivo10 software. The social representation of Covid-19 is structured around fear, which represents the shared emotion that revolves around the risk of contagion and the current pandemic state. Alongside these elements that constitute the central system, the representation is enriched with further terms located in the near peripheries, probably shared by certain subgroups and related to physical consequences, to the daily situation of quarantine, and knowledge about the virus. The other elements related for example to specific feelings, to the perception of

danger, or the protection are probably anchored to subjective experiences. Some relevant aspects, such as parallelism with other representations, the role of the media, and emotions, have been identified and discussed.

Keywords: novel coronavirus SARS-CoV-2, social representation, central core theory, content analysis, emotions' and media's role

INTRODUCTION

In late January, the novel Coronavirus SARS-CoV-2 (henceforth named Coronavirus) broke into our lives, radically changing our habits. Italian citizens, but not only, have been asked for sacrifices necessary to contain the spread of the infection, and the restrictions imposed have urged, among other things, a rethinking of the working and social sphere. For about two months, between March 10 and May 3 2020, in Italy all activities which involved gatherings have been prohibited, including meeting up with loved ones. These drastic measures were adopted by the Italian government in phase one of the emergency, with the aim of dealing with a dramatic situation, which, as of April 16, 2020 (the day before the beginning of the data collection), had a total of 168,932 infections and 22,237 deaths, with an increase of about 3-4,000 new infected people every day. Subsequently, in the period 17-26 April, both the daily curve of infections and the curve of deaths entered a phase of continuous and significant decrease compared to the previous period: on 26 April, the last day of the administration of the questionnaire, 261 deaths and 2,325 new infections due to Covid-19 were registered in Italy (Il Sole 24 ore, 2020). The numbers of infected people and deaths have kept roughly the same trend in the following weeks, ratifying the transition to phase two of the emergency, characterized by a slackening of restriction measures. The impact on our daily lives of the restrictions which marked out the most severe phase of this emergency has been significant and minimizing consequences on economy and health management is still an ongoing challenge for many States.

The world of research has begun to question itself about various issues: from the knowledge of the virus from a medical point of view to the knowledge of the mechanisms that favor compliance with the imposed restrictions; from the management of smart working during the pandemic to the psychological and relational consequences on our daily life; from the changes in family relationships to the changes in relations between citizens and institutions and

between citizens and Health System. In short, this period has seen an intensification of research and knowledge activities, in which researchers, each one with their specific sectorial skills, have tried to put their knowledge at the service of the institutions and of the society, animated by the common intention of contributing to overcome this crisis or in any case to better adapt to the ongoing change.

Among the different research approaches used in the case of past epidemics or infectious diseases such as SARS (Washer, 2004), Ebola (Joffe & Haarhoff, 2002; Idoiaga Mondragon, Gil de Montes & Valencia, 2017), Tuberculosis (Ascuntar et al., 2010) and AIDS (Rodrigues, Monteiro & Pereira, 2014), social representations are particularly useful to interpret a phenomenon and to identify intervention and management policies.

Social representations arise spontaneously when society deals with a new phenomenon, such as the Coronavirus pandemic, and are a sort of collective coping strategy through which organizing the new and unpredictable reality. By using social representations, individuals create shared thoughts that represent the lens used by social groups for interpreting phenomena (Vala & Castro, 2017), as it happens in the case of the latter Coronavirus pandemic. This process of knowledge building takes shape starting from speeches about the event, coming both from conversations between individuals and from information conveyed by social media and mass media (Pérez, 2004), representing a sort of synthesis of understanding and sharing of common ideas (Jodelet, 1984; Moscovici, 1989). In particular, the anchoring process of the social representations makes it possible to classify new and yet unknown phenomena through shared categories of thought, making known and more reassuring what is still unknown (Bauer & Gaskell, 1999; Moscovici, 1973; Moscovici and Duveen, 2000; Wagner, 2007). The anchoring process also allows establishing a link between the new pandemics and similar previous events, helping to understand the new phenomenon in continuity with the past ones (Joffe, 1999; Vizeu & Bousfield, 2009).

Since the concept of social representation was first proposed by Moscovici (1961) several methods have been developed to investigate social representations content (Wachelke, 2012); one of the most widespread is the structural approach developed by Abric (1976). This approach assumes that a social representation is a hierarchical and organized system, composed of two interacting subsystems: a central system and a peripheral system. Each system has a specific role in the formation and continuance of the representation (Castillo-Villar & Cavazos-Arroyo, 2020). The central system, the stabler and resistant to change, is the constituent element of the representation and determines its meaning and internal organization. It includes a limited

number of elements that constitute the common and consensual basis of collective memory and the system of norms, which a group refers to (Abric, 2001). The peripheral system is the more flexible part of the structure and includes elements not necessarily shared within a group; it integrates particular information to the structure, connecting it to environmental practices and modulations (Abric, 1994). It is formed by near peripheries (first and second zone) and a distant periphery. The first zone, according to Flament (1994), contains elements that would be involved in the transformation of a social representation, whereas the second zone can testify to the existence of sub-groups (Abric, 2003). The distant periphery contains more idiosyncratic elements, that are related to individual differences (Castillo-Villar & Cavazos-Arroyo, 2020; Melendrez-Ruiz et al., 2020).

Concerning the studies on the social representations of past infectious diseases, the research performed by Idoiaga Mondragon, Gil de Montes and Valencia (2017) analyses the social representation of Ebola, to understand how this epidemic has been embedded in people's everyday thinking. Results showed that Ebola has been described in the shared representation as an intrinsically "African" threat. People also blamed political authorities and the mass media for their failure to manage this crisis. Specifically, results showed two main clusters, the first one more closely linked to the West (containing the fear about the possibility that Ebola may reach the West, the accusations to the Spanish government for the bad management of the crisis, and the economic interests' of the pharmaceutical industry) and the second one, more linked with Africa (containing the description of the epidemic, the way of transmission, the deaths in Africa caused by the epidemic, the origin of Ebola in Africa and its symptoms).

The association between Ebola and Africa also emerges from the study by Joffe and Haarhoff (2002), an association that is highlighted both from the media perspective and from the lay perspective. Furthermore, in the lay perspective fear, worry, and horror are associated with Ebola, but without a sense of personal threat. Besides, references to how Ebola can be controlled appear in the media perspective, and in particular, procedures such as surveillance, quarantine, and isolation could facilitate control. In the lay perspective, however, belief in the power of western institutions, such as medical science, to control Ebola prevails.

Ascuntar et al. (2010) instead analyze the structure of the social representation of Tuberculosis in 3 different groups (health care workers, patients with Tuberculosis and their relatives, member of the general public); the study highlights five words in the central core which are common to the three groups: "cough", "contagion", "illness", "fear" and "sorrow". The peripheral elements shared by the three groups were instead "rejection" and "treatment".

These components are related to fear and its different meanings in the group of patients and their relatives.

The study conducted by Washer (2004) examines how SARS, Severe Acute Respiratory Syndrome, was represented in the UK newspapers and how its meanings have been anchored to the existing social representations of HIV/AIDS and Ebola. SARS was presented as a dangerous threat to the UK public, whilst almost immediately the threat was said to be 'contained' using the mechanism of 'othering': SARS was said to be unlikely to personally affect the UK readers because "the Chinese were so different to us, they represented the other". The authors highlight that the fear attributed to SARS shows common traits with other epidemics in history.

Rodrigues, Monteiro and Pereira (2014) studied the structure of the social representation of AIDS among young people, highlighting how this representation is characterized by negative factors related to the severity of the disease and its physical and social consequences. Specifically, elements such as "disease" and "serious illness" were in the core of the representation; in the first periphery, there were terms as "pain", "fear", "suffering" and "sadness"; the term "incurable" was highlighted in the second periphery; in the contrast area, the elements "danger", "blood" and "syringe" reinforced the significance of this disease and its transmission in the core meanings.

Considering the studies currently available on the social representation of Coronavirus, we have found just three research focused on this topic.

In particular, Paez & Pérez (2020) have explored how the social representation of the novel Coronavirus has been built, highlighting how has been emphasized the similarity aspects with the annual cycle of the influenza in the early stages of the epidemic, thereby "de-dramatizing" the phenomenon (anchoring process). Furthermore, Coronavirus has been anchored in the outgroup, as it has also happened in other epidemics (Smith, O'Connor & Joffe, 2015), being labeled as "Chinese virus" and being diffused in the rest of the world by Chinese tourists. According to the authors, the personalization process (part of the objectification process), which led to the identification of heroes, villains, and victims in previous epidemics, is also occurring in the case of Coronavirus. In particular, the heroes are the scientific experts and the health staff, who are mainly perceived as credible, trustworthy, and who carry the burden of treatments. The villains are, on the one hand, journalists and the media, who are accused of using fear for their interests and of being puppets for the lobbies, on the other hand,

businessmen and the pharmaceutical industry, which profit from the sale of health products. Even the common people, as they constitute an uncritical mass, are placed among villains.

Rosati and colleagues (2020), in their ongoing study, investigated the social representation of Coronavirus starting from the analysis of the readers' comments to the news on Coronavirus, in five Argentine online newspapers. The results highlighted 10 topics that describe the social representation of the virus, among these are: insults and critics to government; testing, domestic and international policy (with words such as quarantine, deaths, doctors, world, pain, cases, test); quarantine and policy measures (with words such as home, quarantine, people, viruses, work).

Jaspal and Nerlich (2020) referred to the theory of social representations to focus on how Coronavirus is communicated and with what effects on public awareness and understanding. They highlight that science communicators' use of familiar and culturally accessible phenomena to confirm their observations about Coronavirus (anchoring process). For example, Coronavirus has been anchored to HIV in media reporting (Yong, 2020), an aspect that could promote the erroneous perception that the two epidemics and the ways to deal with them are the same. Furthermore, they underline how particular visual and linguistic "tools" are used to describe the pandemic, making it more psychologically tangible (objectification process). For example, war-related metaphors, such as "combat", "fight", "defeat", used to reinforce governmental control, may foster a sense of collective action but at the same time justify fighting against the "enemy" at all costs (Sanderson & Meade, 2020).

As highlighted by the different studies mentioned above, among the various approaches to the study of epidemics in general and of Coronavirus in particular, the theory of social representations could be particularly useful because it allows understanding how citizens reason about the origin of the infectious diseases, their transmission and relative protective measures (Eicher & Bangerter, 2015). Furthermore, using social representations for studying the Coronavirus may well be crucial because most of the basic conditions for the genesis of a social representation, established by Moliner (1996) and Mariotti (2003), seem to be fulfilled. Indeed, this phenomenon has deeply attracted communication, both in the media and between common people; it is associated with social practices, such as those related to social distancing or to wearing masks; it is a phenomenon that implies social dynamic between several groups such as scientists and common people, and is a polymorph object, referring to the general class of infectious disease. Finally, knowing the citizens' representation could be important not only to

see how the representation of Coronavirus is being structured in the collective consciousness, but also to predict related behaviors, including those of adherence to norms.

AIMS OF THE STUDY

The present study aims to analyze the structure and the content of the social representation of the novel Coronavirus SARS-CoV-2, paying particular attention to socially constructed meanings, in order to understand in which way the SARS-CoV-2 pandemic is being shaped in the collective consciousness.

In such a delicate and unprecedented historical moment, in which the end of the “crisis” appears still far away, it can be interesting to reflect on the collective image that is being built around the Coronavirus. What do Italian citizens think about Coronavirus? How is this virus represented in their mind and what are the socially constructed experiences around this pandemic? What are the shared meanings?

In particular, an analysis of the structure of the social representation and of the meanings attributed by participants to each word of the representation itself will be proposed, combining a structural perspective with a processual one. Starting from these results, some relevant aspects, such as parallelism with other representations, the role of the media, and emotions reported by participants, will be identified and discussed.

METHODOLOGY

Sample and Procedure

The study involved 484 Italian citizens, recruited through snowball sampling. In particular, the questionnaire was disseminated through the network of researchers’ contacts, using Facebook (authors’ personal wall and some closed groups) and WhatsApp (authors’ contacts), but also emails (private messages and messages to mailing lists available to authors). Contacted people were then asked to share the questionnaire with their networks. This kind of snowball technique allows collecting data very quickly and fostering inherent trust (Johnson, 2014; Sadler et al., 2010), though not guaranteeing representativeness of the sample. Authors have chosen this sampling technique because their main interest was to know the Coronavirus social representation of the general population, in the specific period of the phase one of the emergency.

Participants were 71% female and 29% male, aged between 18 and 78 years ($M = 45$), mainly placed in the age group between 40 and 49 years (30%). The prevailing educational

level was quite high: more than half have a University degree (42%) or a post-graduate specialization (15%). 17% were health workers, while 24% lived in the regions most affected by Covid-19 at that time, namely Lombardy, Veneto, Emilia-Romagna, Marche, and Piedmont (Table 1).

Table 1
Characteristics of the sample

<i>Age (Mean=45)</i>	<i>%</i>
18-29	11
30 -39	23
40 – 49	30
50 - 59	21
> 60	15
Total	100
<i>Gender</i>	
Male	29
Female	71
Total	100
<i>Educational level</i>	
Middle school	9
High school	34
University degree	42
Post-graduate specialization	15
Total	100
<i>Healthcare worker</i>	
Yes	17
No	83
Total	100
<i>Region</i>	
Most affected	24
Less affected	76
Total	100

Data collection and data analysis

Data were collected with an ad-hoc questionnaire, administered between April 17 and April 26, 2020, upon authorization and adhesion of participants. The data collection was interrupted before the speech of Prime Minister, Giuseppe Conte, concerning the planning of phase 2.

In data analysis, in order to investigate social representation, we referred to the structural approach (Abric, 2001) and to the free association method (Vergès, 1992), using the inductive term “Coronavirus”. Specifically, each participant was asked to report the first three words that came to his/her mind thinking about the inductive term, then clarifying the meaning of each of the three words elicited. As characteristic to the free task association techniques for data collection, we initiated first a cleaning of the vocabulary by making all terms in the singular

and transforming all adjectives and verbs into nouns, and then a data narrowing activity by merging synonyms, guided by the meaning attributed to each word (for example, the “pandemic” label includes the term epidemic, the “virus” label includes the terms bacterium and germ, and so on).

To identify the structure of the social representation, the data were analyzed according to the prototypical method developed by Pierre Vergès (1992). This method consists of considering both the frequency (that is the number of times a word is cited) and the evocation rank (that is the spontaneous appearance ranking) of the elements generated during a word association task. The intersection of these two criteria constitutes an indicator of the centrality of an element (Abric, 1994) and in particular, allows locating terms in the central system or the peripheral system of the representation. Specifically, central elements are characterized by higher frequencies and lower ranks, while peripheral elements are characterized by higher frequencies and higher ranks (first zone or near periphery), lower frequencies and lower ranks (second zone or near periphery), lower frequencies, and higher ranks (distant periphery). The corpus of words was analyzed with the EVOC 2005 software (Vergès, Scano & Junique, 2005), which allows to perform a lexicographic analysis of the textual data and to attribute, through the combination of the two previously mentioned criteria (frequency and evocation rank) each evoked word to the components of the social representation.

In order to carry on an in-depth study of the content of the Coronavirus social representation, an inductive content analysis as described by Elo and Kyngäs (2008), was performed on the textual material produced by the participants, relating to the meaning attributed to each word of the representation. The NVivo10 computer software (QSR International, 2012) was used to ensure that the full text associated with each code/category remained accessible throughout the analysis. First, researchers defined, as a unit of analysis, a unit of meaning that generally coincided with a participant’s sentence. Second, the text relating to each word of the representation was read several times and encoded, creating a freely generated list of categories, and was labelled using the content-characteristic words. After this open coding, the list of categories was grouped under higher-order headings, to reduce the number of categories by collapsing those that are similar or dissimilar into broader higher-order categories. These subcategories were in turn grouped as categories creating a system of sub-categories and main categories for each word of the representation. The accuracy of this type of analysis was guaranteed by a categorization work carried out individually by each researcher,

who then discussed with the other researchers the system of categories emerged until a shared coding system was reached.

RESULTS

The structure of the Coronavirus's social representation

The terms elicited by the 484 subjects around the “Coronavirus” inductive term were 1448, and in particular, 389 different words were used to describe the Coronavirus; between these, there were 235 words quoted only once and a word quoted 93 times. After the lemmatization and the synonyms merging processes, the different words have become 179, 76 of which quoted only once and a word quoted 106 times.

Words quoted at least twenty-one times have been retained for the analysis. Then a frequency and an importance cut-off point were determined. Following Vergès (1992), the frequency cut-off point (that allows to differentiating words frequently cited versus words infrequently cited) was obtained by visually displaying the frequency of occurrence of categories in decreasing order. The cut-off point was taken to be the frequency at which the difference between two successive frequencies is maximal, and in particular we have selected a threshold equivalent to 26% of the overall sample; therefore, the terms cited by at least one quarter of the subjects of a sample were considered as the most frequent terms. This threshold is not far from the threshold suggested by Vergès, Tyszka and Vergès (1994). Following Lemoine et al. (2017), the importance cut-off point (that allow to differentiating words with low mean rank of appearance versus words with high mean rank of appearance) was based on the mean rank of the 17 kept terms, which is equal to 1.9. This implies that each term with a mean rank which is lower than 1.9 is considered as early mentioned, whereas the remaining terms are identified as not quickly mentioned.

Thus, the social representation of Coronavirus (Table 2) appears to be composed of 17 terms and includes the terms with frequencies higher than 20 (lowest frequency=21). The four quadrants have been delimited by the intermediary frequency 54 and the medium separation rank of 1.9.

In particular, the central system includes words related to the knowledge about the current situation characterized by the risk of diffusion and transmission of the virus (*contagion*) and by a global *pandemic*, and words related to associated emotions (*fear*).

The near peripheries are reinforced with terms related to physical consequences for the individual, more serious as *death* (first zone) or less serious as *disease* (second zone). The other

elements present in the second zone refer to words related to a daily life that has been turned upside down by the virus (*quarantine*) and to the knowledge about the *virus* itself.

As regard to the distant periphery, there are terms referring to others aspects of the daily life (*isolation, distance, restriction and reclusion*) that, in the same time, represent Government measures for contagion containment; to the knowledge about the *protection* measures which is necessary to adopt to protect oneself; to emotions (*anxiety*) and precise feelings that are probably anchored in experiences (*suffering, loneliness*); to the perception of *danger*; to other physical consequences for the individual (*pneumonia*).

Table 2
The Coronavirus Social Representation

<i>Frequency Rank</i>	<i>Frequency Rank</i>
Contagion 106 1,5 Fear 97 1,7 Pandemic 78 1,4	Death 92 2,2
CENTRAL SYSTEM	FIRST ZONE - NEAR PERIPHERY
<i>Frequency Rank</i>	<i>Frequency Rank</i>
Disease 53 1,8 Quarantine 46 1,7 Virus 42 1,3	Isolation 43 1,9 Protection 41 2,0 Distance 38 2,4 Anxiety 34 2,0 Restriction 27 2,4 Danger 26 1,9 Suffering 23 2,1 Reclusion 22 2,4 Loneliness 21 2,4 Pneumonia 21 2,0
SECOND ZONE - NEAR PERIPHERY	DISTANT PERIPHERY

The content of the Coronavirus's social representation

From the qualitative content analysis of the meanings attributed by participants to each word of the social representation of Coronavirus, 16 main categories and 22 subcategories as regards the central core of the representation emerged; 17 main categories and 18 subcategories regarding the near peripheries; 33 main categories and 32 subcategories regarding the distant periphery (Tables 3, 4 and 5). For each main category and for each subcategory, the number of references is reported in the Tables below. The sentences stated by the participants are shown in quotation marks.

Analyzing the content of the meanings associated to the words included in the central core (Table 3), it emerges that people speak about the *contagion* mainly in terms of diffusion and transmission (“high diffusion compared to other viruses”, “spreads exponentially”, “easily transmissible”), and as an aspect to which attention must be paid, also through respect for certain rules that can allow people to reduce risk. The contagion is perceived in terms of risk (“objective risk current and future”, but also as a “very high risk”, to which all are exposed indiscriminately and therefore “to be avoided”) and in terms of danger to which “those who have serious health problems” are more exposed to. It is seen as the consequence of the virus and as the cause of the current situation, associated with a feeling of fear. It is also “among the most popular words seen on TV or on social networks”.

Fear is seen in terms of emotional experience; in particular fear, which takes on nuances ranging from worry to panic and terror, represents “the first sensation felt”, but also “an emotion that seems to be perceived by people”, shared by most. Participants also report, as the principal cause of their fear, the lack of knowledge because they are faced with a new experience, “an extraordinary event for which nobody is prepared” and over which they have no control, but also the uncertainty due to “not knowing when and how we will get out of this situation”; they report their concern with the future, for the “fear of not being able to overcome it”, for “what will happen at an economic and social level” and with the present, for “a so different daily life” in which “the most normal things like a hug are scary”; they are also concerned with possible consequences, in particular of those related to death and to the effects on health and economic situation. This concern is directed not only towards oneself but also towards one's family and loved ones. In particular, people are afraid of contracting the virus, “of being infected or of infecting someone else”, and they are concerned about their health and the health of others.

The term *pandemic* describes the daily situation we are experiencing and refers to the state declared by the World Health Organization, but also to “the extent of the current situation”, which some respondent defines as a real “disaster”. It is a “serious problem that affects the

whole world”, “a health emergency on a global scale”, that for someone is “worse than a war”. Pandemic is also the word that often occurs in the media, as “each day newspapers tell us about the global and rapid spread of the virus”.

Table 3

Central system: a content analysis

Part of the representation	Words	Main Categories	Subcategories	N. Ref. Subcat.	N. Ref. Main Cat.	
Central system	Contagion	Propagation	Transmission	39	54	
			Diffusion	15		
		Perception	Risk	9	16	
			Danger	7		
			Fear	13	13	
		Experience	News	7	7	
			Rules	4	6	
		Communication	Attention	2		
			Daily situation	3	3	
		Fear	Cause	Covid Consequence		
	For who		Loved ones	16	29	
			Oneself	13		
	For what		Present	18	18	
			Future	6		
	Whose		Himself	14	24	
			Others	10		
	Cause		Forms of fear	Lack of knowledge/uncertainty	14	14
				Worry	7	12
	Pandemic	Features		Panic	3	
Terror				2		
World level				45	49	
Dangerousness				4		
Daily situation						10
Communication			News	7	7	
Definition					7	

Analyzing the content of the meanings attributed to the words of the near peripheries, and in particular to the first zone (Table 4), it emerges that the term *death* refers to one of the main consequences of the Covid-19 outbreak and describes what people are experiencing. In particular, death represents “the most atrocious consequence of this virus” and the most probable, especially in the presence of “concomitant pathologies”, described by some as “the symbol of defeat against the virus”. The price paid in terms of deaths is very high indeed, “it has caused more deaths than a world war,” someone says. The fear for yourselves or loved ones’ death represents not only a personal but also a collective experience. The association between death and Coronavirus is also linked to media reports and the frequency with which

the topic is discussed. “It upsets me every day to read the bulletins issued by Civil Protection and to see photos of the coffins carried by trucks”, someone says.

Analyzing the content of the meanings attributed to the words of the second zone (Table 4), it emerges that also the term *disease* refers to one of the main consequences of the Covid-19 outbreak, and sometimes Coronavirus is identified with the disease itself. The disease is perceived in terms of the risk of “becoming seriously ill” and in terms of danger “to personal integrity” and is associated with feelings of fear and of “hope to overcome the disease”. People speak also about the possible consequences at a health and psychological level and in particular, Coronavirus is identified as “an unpleasant thing, which brings suffering” and “makes all those who contract it being unwell”, causing death in some cases. Furthermore, the word disease “is a very common association of thought (to the word Coronavirus) influenced by the daily news. Every time the word COVID appears on TV, the image below is a hospital bed”.

Quarantine refers to the daily situation, “a time characterized by closure, distancing, and caution in behavior”. It represents “the most obvious consequence of the spread of Covid”, which “indiscriminately affected the whole population”. The consequences of the lockdown on individuals are felt not only at the working level but also mainly at a psychological and social level. In fact, it caused an “isolation from all that used to be a habit”, becoming a situation “psychologically heavy”. The experience concerning the quarantine is twofold: on the one hand, some considers it as a necessary condition, “the only way we have to stop the virus”; on the other hand, there are those who live it as a “big deprivation”, “a momentary limitation of our freedom”.

The term *virus* represents “the broadest category we are talking about” and “identifies what we are fighting, the war against whom”. People speak about its characteristics: it is an invisible virus, which can change, it is “aggressive” and “very strong and difficult to overcome”. The term is also “the most used in the last 2 months” and which is constantly being talked about: “every press, TV, social media, conversation between people, are now hinged on this word”; “Television and advertisements bombard us with the image of the spherical shape of the virus”.

Table 4
First and second zone (near peripheries): a content analysis

Part of the representation	Words	Main Categories	Subcategories	N. Ref. Subcat.	N. Ref. Main Cat.
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First zone	Death	Covid			59	
		Consequence				
		Experience	Fear	12	12	
		Daily situation			10	
Second zone	Disease	Communication	News	5	5	
		Covid			15	
		Consequence				
		Definition			11	
		Consequences	Health level	7	9	
			Psychological level	2		
		Perception	Risk	2	4	
			Danger	2		
		Experience	Fear	3	4	
			Hope	1		
		Communication	News	2	2	
		Quarantine	Daily situation		19	
			Experience	Deprivation	10	18
				Need	8	
			Covid consequence			7
		Consequences	Psychological/ social level	4	6	
			Working level	2		
	Virus	Definition			20	
		Characteristics	Dangerous	4	10	
			Invisible	3		
			Specific	2		
			Mutant	1		
		Communication	News	5	5	

Analyzing the content of the meanings attributed to the words of the distant periphery (Table 5), the word *isolation* refers to the daily situation, characterized by “the impossibility to spend time with loved ones”. It represents “one of the first and most serious consequences of Covid-19”. The consequences of the lockdown on individuals are felt at a psychological level, in terms of “stress” and “loneliness”, and socially, because lockdown hinders “living a normal social life”. The experience concerning isolation is twofold: on the one hand, some consider it as a “necessary condition, albeit demanding, to avoid the spread of the virus”, on the other hand, there are those who live it as an obligation, as an “excess of restrictions caused by fear and distrust”.

The term *protection* refers to the need and usefulness of using protective devices (gloves and masks), defined as “essential” or as “my best allies at work right now”. Protection represents “our only current defense”, people say. They also speak about the importance to prevent in order not to get infected.

Distance, understood as social distancing, as “stay away from everyone”, characterize the people’s daily life and represents the immediate consequence of the pandemic. The term distance refers to people’s experience of containment measures. Although “respecting the social distance” is seen a necessary and indispensable measure, it generates a lot of suffering and among the various restrictions it represents “the one that weighs the most”. Someone highlights the dimension of obligation/prohibition of the social distancing measure.

Anxiety represents one of the emotions that people are experiencing; people think "of Covid-19 with anxiety" and some say they "have had nightmares since March". Anxiety, which sometimes presents itself in the form of real anguish, is due to the current and worrying situation, as well as to the uncertainty due to "not knowing when and how we will get out of this situation" and to the lack of knowledge on the virus. People are afraid of contracting the virus, “of being infected or of infecting someone else”; they are also concerned both with the future because “difficult times await us in which we will have to face economic sacrifices”, they say, and with the possible consequences, in particular of those related to death. For some, anxiety is linked to their family situation, as they have children who live far from home.

Restrictions are experienced as “indispensable limitations in people’s social behavior”. Although people are aware that these are “vitaly important” measures, they feel the burden of the restrictions, experiencing them as real oppression and limitation of their freedom: “the fact that I cannot freely choose how to move oppresses me”. Some explicitly express their disagreement with the imposed measures, speaking of dictatorship and claiming that “they are acting against the Constitution”. Furthermore, the word restriction “is continually repeated”.

The term danger refers to the objective danger linked to the virus, because “it is aggressive”, “deadly” and “there is not a definite cure yet”. The danger is linked to an experience of fear and represents the daily perception shared by many people: “I feel the danger around me”; “I feel in danger every time that I go out or my husband does”; “It is the feeling I constantly have, I try to relax, but I feel it”. The danger's perception is “the most obvious consequence” of this situation and “is associated with the risk that this virus implies”.

The term *suffering* refers to the feeling experienced in daily life: “everyone is suffering, physically or psychologically”; “there is a lot of suffering in this period”. Suffering, a negative consequence of the Coronavirus, is addressed to the “thousands of people dead”, to the “old people in nursing homes”, “to those who are in intensive care and to their families”, but also to “many people who are living the difficulty of surviving without working or without having a house”. Suffering “contains various aspects, it is physical suffering, suffering from lack of

family and social contacts”, it is not only physical but also “mental” pain. It is associated with concern and fear “of being infected or losing someone close”. Finally, suffering is linked to “what the TV broadcasted”.

The term *reclusion* describes the reality experienced at the time of the administration of the questionnaire, characterized by “staying at home” and “blocking of all social activities”. Although some people recognize the need for this type of restriction “to avoid the spread of the infection”, staying at home is seen as “the only solution at the moment”, a lot of them feel “locked up in your own spaces”, “forced within the domestic walls”, deprived of their freedom as if they were in prison or “under house arrest”.

The term *loneliness* refers to the feeling experienced in daily life not only by oneself but also by many people. It is “the first consequence of forced isolation” and represents a condition that leads us to “not being able to hug and see the closest friends” and “to be alone even when we are sick”.

Pneumonia represents “the most dangerous indicator of the virus”, but also “the main complication” and “the most recognized expression”. Associated to it there is a sense of concern experienced especially by those people who, due to their specific health conditions, are most exposed at the risk.

Table 5
Distant periphery: a content analysis

Part of the representation	Words	Main Categories	Subcategories	N. Ref. Subcat.	N. Ref. Main Cat.
Distant periphery	Isolation	Experience	Need	9	16
			Obligation	7	
		Consequences	Psychological/social level	12	12
			Daily situation		11
	Protection	Through what	Covid consequence		4
			Personal protective equipment	26	26
		Experience	Need	4	8
			Usefulness	4	
	Distance	Prevention			5
			Experience	Need	13
Experience		Suffering	10		
		Obligation	2		
Anxiety	Daily situation	Covid consequence		6	
		For what		3	
	Anxiety	For what	Contagion	5	11
			Future	4	

		Death	2	
	Whose	Himself	10	10
	Causes	Lack of knowledge/ uncertainty	5	7
		Situation	2	
	Forms of anxiety	Anguish	4	4
	For who	Family	1	1
Restriction	Experience	Limitation/obligation	21	26
		Need	5	
	Communication	News	1	1
Danger	Characteristic	Dangerousness	10	10
	Experience	Fear	8	8
	Perception			6
	Covid consequence			2
Suffering	Experience	Pain	6	10
		Fear	2	
		Worry	2	
	For whom	Sick people	6	8
		Lonely people	2	
	Daily situation			6
	Covid consequence			1
Reclusion	Experience	Obligation	11	14
		Need	3	
	Daily situation			6
Loneliness	Daily situation			13
	Covid consequence			4
	Whose	Oneself	3	4
		Others	1	
Pneumonia	Covid consequence			14
	Symptom			4
	Experience	Worry	2	2

DISCUSSION AND CONCLUSION

On the whole, the social representation of Coronavirus appears, not surprisingly, to be characterized mostly in a negative way, in line with the seriousness of the situation that people involved in the research were experiencing. In particular, the representation is structured around fear, which represents the shared emotion that revolves around the risk of contagion and the current pandemic state. Alongside these elements that represent the collective and consensual image of Coronavirus, the representation is enriched with further elements, related to physical consequences, such as death and disease, to the daily situation of quarantine, and to knowledge about the virus itself. Whereas the more serious consequence, the death, could represent a potential source of change in the Coronavirus' representation, the other elements could only be shared by certain subgroups. For example, the word disease could mostly concern people who

were living in the most affected areas at the time of administering the questionnaire, or people who were working in the health sector. The other elements of social representation are probably anchored to subjective experiences. They are related to precise emotion or feelings such as anxiety, loneliness, and suffering, to the awareness of the importance of protective devices as a preventive tool, to the perception of danger, to the daily situation characterized by isolation, distancing, restrictions and reclusion, to other physical consequences such as pneumonia.

Some of the most interesting aspects that emerged from this research regarding both the words of the social representation of the Coronavirus and the content analysis are highlighted and discussed below.

Parallelism with Other Social Representations

The social representation of Coronavirus that emerged from this study seems to be in line, in some respects, with that of other studies focused on the representations of Coronavirus and other infectious diseases. In particular, the fact that the representation of this research has aspects in common with the representations of previous infectious diseases would seem to support what has been highlighted by the various theorists and scholars, namely that the representations of new pandemics are anchored in those of previous ones (Paez & Pérez, 2020; Idoiaga Mondragon, Gil de Montes & Valencia, 2017; Washer, 2004).

Furthermore, some terms of the representation of this study, that is *quarantine*, *viruses*, and *death*, are common to those of the social representation of the Coronavirus that emerged from the research by Rosati and colleagues (2020).

Fear that emerged in this study's representation is similar to the representation of Ebola owned by common people (Joffe & Haarhoff, 2002), even if in the case of this research, as emerged by the content analysis, it is associated with a sense of personal threat (probably due to the possible exposure to the infection of the participants of our research), which is absent in the case of Ebola. The words *contagion* and *death* associate this representation with the ones of Ebola and AIDS as well (Joffe & Haarhoff, 2002). Also, some terms of this representation, that is *quarantine* and *isolation*, are common to the Ebola's representation that emerged from the British tabloids.

Further similarities emerge as regards the social representation of Tuberculosis (Ascuntar et al., 2010), and in particular, they are related to the terms *contagion*, *disease*, and *fear*, present in the central core of both representations. Social representation emerged in this

research share also terms with the social representation of AIDS (Rodrigues, Monteiro & Pereira, 2014), in particular the words *disease, fear, suffering* and *danger*.

Role of the Media

On the whole, it is interesting to note that many terms included in the social representation of Coronavirus have become part of collective memory by the construction of the media discourse, as the content analysis allowed to observe. The participants point at the media as responsible for evoking various terms associated with the inductive term, such as the words *contagion, pandemic, death* and *virus*.

This aspect - which, although not directly investigated, emerges indirectly from the explanations given by people to the evoked terms - seems to confirm what Pérez (2004) highlighted, namely that the social representation defining process is also based on information conveyed by social media and mass media.

Therefore, the media seem to play an important role in influencing our collective vision of the current pandemic and in particular the definition of the representation of the Coronavirus in people's minds. This element leads to reflect on the importance that media correctly transmit information, mainly considering that in this period the media, although considered as less reliable than other sources of information, are those most used by the population (Falcone et al., 2020).

Role of Emotions

Looking at the representation of this study as a whole, we notice that from the emotional point of view it is characterized by *fear* and *anxiety*; in particular fear would seem to be well structured in the collective consciousness because it is included in the central system of the representation. This data is in line with this, and in particular with the polls that indicated, in the period relating to December 2019 for China and February 2020 for Europe, a marked increase in fear and concern related to the virus (Asmundson & Taylor, 2020a).

In particular, fear would seem to be a common aspect also to other representations, specifically those of Ebola (Joffe and Haarhoff, 2002), of Tuberculosis (Ascuntar et al., 2010) and of AIDS (Rodrigues, Monteiro & Pereira, 2014).

Fear also seems to be an emotion commonly associated with risk (Rissotto, Coli & Norcia, 2016; Velasco & Vecchio, 2012); fear is generated by the uncertainty inherent in any risk, and specifically the lack of knowledge when facing a new and still little-known virus. In

particular, from the content analysis it emerged that the contagion - and consequent disease - is the risk that generates the most fear, because of its ease of transmission and the speed of diffusion. People also report fear of death and of the effects of the Coronavirus on health and economic situation.

Fear, if properly managed, plays an important role as an adaptive mechanism, to warn against danger, and in the case of Coronavirus, it can promote adherence to the behavioral rules recommended by experts and the adoption of prudent behavior. However, the way of living and managing fear is very subjective, and at this still uncertain stage, fear took the form of panic or terror for some of the people who participated in this research, as the content analysis allowed to highlight. In these cases, fear can become a maladaptive response and, as Giannini (2020) points out, it can mislead the individual to generalize and broaden excessively the field of potential risks. Furthermore, excessive fear of Coronavirus can also delay the access to health services or treatments (Lazzerini et al., 2020).

Anxiety also plays a role in our social representation of Coronavirus, albeit is a less structured element, placing itself in the distant periphery, and is also present in the peripheries of other social representations of risk (Rissotto, Colì & Norcia, 2016). Like fear, anxiety would seem to be a rather widespread response to the current pandemic, a condition that, as Montemurro (2020) highlights, seems to rise even in those people with low risk of contracting the disease.

Once again, it is useful to underline the importance of the information conveyed by the mass media and by the media in general, because it plays a crucial role in disseminating correct information about the effectiveness of prevention behaviors. This information can also help make fear a functional emotion, favouring the implementation of correct anti-contagion behaviors and, at the same time, avoiding the spread of generalized panic and aggressive or irrational behavior (Giannini, 2020).

Even the advancement of scientific knowledge could have a leading role in containing anxiety and fear, reducing the uncertainty that revolves around the virus and that has been highlighted by the content analysis. In the same way, the consistency of the information conveyed by the experts could help people to better orient themselves and feel safer and less confused.

Contagion Containment and Related Experiences

An interesting aspect that emerges from the content analysis of the social representation of this study is related to the rather controversial way in which people are experiencing the period of quarantine and isolation, and the related restrictions (in particular social distancing and reclusion). If on the one hand the need for such restrictions to contain the infection and limit the spread of the virus is acknowledged - for example through compliance with the rules and the use of personal protective equipment, the appropriate use of which is demonstrated to be effective to reduce the risk of viral transmission (Cook, 2020) - on the other hand, they are experienced as an excessive restriction that excessively limit freedom. Some respondents explicitly express their disagreement with the measures imposed.

It is widely emphasized in the literature that measures of social distancing are needed to contain the epidemic (Anderson, 2020; Sjödin et al., 2020;), as well as voluntary individual quarantine (Peak et al., 2020), and it is demonstrated that these measures, even though some of them extreme, led to a substantial reduction in the transmission of Coronavirus in China (Azman & Luquero, 2020). So how can we explain the contradictory experience with which Italian citizens relate to the rules? In this historical moment characterized by a strong uncertainty regarding the possibility of coping with the virus, the rules imposed on the one hand give us security, removing us responsibility and reassuring us, on the other hand criticizing the same rules is useful to people for emphasizing their individuality and their decision power on whether or not to adhere to such rules (Maiello, 2020).

Suffering and loneliness are the experiences often connected to this situation characterized by restrictive rules and lack of social contacts, but also by death and illness. According to Banerjee & Rai (2020), loneliness determined by the reality of isolation that we are experiencing can lead to anger, intolerance towards the authorities and can induce people to challenge quarantine restrictions, with possibly disastrous consequences on public health. Besides, the social isolation prevents human beings from carrying out those integration and acceptance functions that underlie human behavior and help to provide a sense of protection, pleasure, and purpose in life. Such a situation could generate what some scholars have called the “solitude epidemic” (Sharma, Maheshwari & Bronsther, 2018).

In conclusion, this study highlights the significant role that social representations can play in the research field. Specifically, from a methodological point of view, underlines the possibility to combine a structural and processual perspective to the data collection and data analysis of social representations, in order to better and more deeply understand topical phenomena such as the Covid-19. It thus provides an understanding of how the Coronavirus

pandemic is structuring itself in the collective consciousness and provides a series of reasons for reflection that can be particularly useful for the management of both the current and future pandemics.

Firstly, being aware that the Coronavirus representation resulting from this study have some shared aspects with the representations of past infections, it could be useful in the first phases of a possibly future pandemic, when people who have a role in the management and communication could treasure the recursive aspects. Another aspect that should not be neglected is the importance of communication, because it emerged that mass media play an important role not only in the formation of social representation, but also in the influencing preventive behavior and in management of fear. Psychological support can also be considered in order to promote a good management of fear, an aspect that can promote complying with the behavioral rules recommended by experts and the adoption of prudent behavior. Finally, it could be particularly useful and interesting to evaluate the change over time of the social representation of Coronavirus in our country, in parallel with the different phases of the pandemic itself, and to investigate similarities and differences in the representation of different groups of stakeholders, such as healthcare professionals or scientists, but also similarities with the Coronavirus social representation of different countries.

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