Ethical dilemmas at the time of Covid-19

Dilemmi etici ed empatia ai tempi del Covid-19

Isabella Merzagora • Guido Travaini • Palmina Caruso • Andrea Toncini • Giulia Mugellini

Abstract

With the recent spread of the Covid–19 virus many questions are available, both from a health and economic point of view, and from an human point of view. The rapid spread of the virus and the rate of contagion forced health workers to make ethical and moral choices. We tried to see which choices a representative sample of the Italian population, including health workers, would make if confronted with an ethical dilemmas regarding this crisis and what emotional consequences might come. From the results more than 80% of the sample chose for utilitarian and impersonal choices, therefore moved by rationality to solve the problem. Despite the apparent detachment in the choice, these decisions still had an emotional impact, indicating that even the most rational choices are not exempt from empathy.

Key words: Covid–19, empathy, moral choices, ethical dilemmas, bioethic

Riassunto

Con la recente diffusione del virus Covid–19 molte domande sono sorte, sia di carattere sanitario ed economico, sia da un punto di vista più umano. La rapida diffusione del virus e l'alto tasso di contagio ha costretto gli operatori sanitari a dover compiere delle scelte etiche e morali. Ci si è dunque domandati quali scelte un campione rappresentativo della popolazione italiana, tra cui anche operatori sanitari, avrebbe compiuto se messo di fronte a dilemmi etici riguardanti questa crisi e quali conseguenze emotive ne sarebbero scaturite. Dai risultati emerge come più dell'80% del campione abbia optato per scelte utilitaristiche e impersonali, quindi mossi da razionalità per la risoluzione del problema. Nonostante l'apparente distacco nella scelta, tali decisioni hanno comunque avuto un impatto emotivo, indice del fatto che anche le scelte più razionali non sono esenti da empatia.

Parole chiave: Covid–19, empatia, scelte morali, dilemmi etici, bioetica

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What will we talk about/What are we talking about

The spread of Covid-19 has brought forth numerous questions to all of us as people and certainly as criminologists. The first question we asked ourselves as criminologists concerned the trend of crimes during a time of lockdown (Travaini, Caruso & Merzagora, 2020), but it is well known that criminology also deals with social reaction as well as social perception, thereby bringing forth other questions that are appropriate for the criminologist to ask himself: what ethical choices can or should be made when confronting a disaster like the one we are experiencing now?

Literature about ethical choices, including also the role of emotions integrated with them, is very broad. The well-known arguments addressed in the literature have also been recently scrutinized in light of the pandemic looking at the discrepancy between therapeutic needs and available resources, thereby defining ethical problems raised as not only concerning the medical class but society as a whole (Nicoli & Gasparetto, 2020).

Among the dilemmas analyzed within the literature, one that approaches our topic concerns the lawfulness of transplanting the organs of one patient, against their will, to save the lives of five patients (Gleichgerrcht & Young, 2013). This also introduces another important dilemma in the medical field which is that of limited resources.

Some ethical dilemmas of this type may, for example, face the difference between impersonal and utilitarian choices (i.e. I sacrifice one to indirectly save more people – Decety & Cowell, 2014; Thomson, 1976) and also personal and non–utilitarian choices (i.e. I do not personally harm at any cost).

A series of experiments in which several cohorts of people were asked to face moral dilemmas was carried out by Gleichgerrcht and Young (2013) who explored the predicament of empathy by observing that moral judgment is more strongly associated with empathy compared to demographic or cultural factors including gender, age, schooling, etc. In summary, the counterintuitive conclusion of their experiments was that it is possible that a person who is inclined to utilitarian choices is still capable of empathy; according to the Authors, this was understood as the ability to take the perspective of another person (Gleichgerrcht & Young, 2013).

If and how empathy contributes to moral judgment remains a subject of debate (Decety & Cowell, 2014), which also involves addressing the much–discussed issue of the relationship between rational factors, emotional factors and moral judgment (Nichols, 2002; Nichols & Mallon, 2006; Prinz, 2006). This is likewise linked to the idea that empathy shares both cognitive and emotional factors (Cuff, Brown, Taylor & Howat, 2016; Davis, 1983; Marshall & Maric, 1996). This is all as if to say: when I am faced with an ethical dilemma, do I decide only on the basis of utilitarian reasoning (the ability to suffer with and the other) or in tandem with emotions (fundamentally empathy)?

At this point it would be necessary to define the concept of "empathy", the use of which is frequent thus not unique (Van Lagen, Wissink, Van Vugt, Van der Stouwe & Stams, 2014; Decety & Cowell, 2014), and which is used indifferently to indicate: compassion, emotional contagion, sympathy, identification; the last of that list for example refers to being as sorry as the other, while empathy itself would rather be a feeling of sorry for the other (Hein & Singer, 2008).

These various emotions that commonly gather under the singular term empathy as implying how to recognize and comprehend the mood of others, are actually two different empathic modalities: knowing how to identify a mood concerns the "cognitive empathic ability", whereas being able to identify and fully understand from an emotional point of view the mood of others is called "emotional empathic ability". A study carried out using a test investigation tool, the *ACME* (*Affective and Cognitive Measure of Empathy*), proposes a more specific categorization. The study suggested the terms "cognitive empathy" (knowing how to correctly interpret the emotions of others) and then, with regards to the emotional side of empathy, distinguishing between "affective resonance" (a type of affective empathy that allows you to feel the same way as the person with whom you are empathizing, e.g. "I am saddened to see that he is bad") and "affective dissonance" (the empathy is discordant with what the subject with whom he is empathizing with is feeling, e.g. "I enjoy very much watching people getting angry") (Dryburgh & Vachon, 2019).

According to Decety and Cowell (2014) in the case of empathy we would be faced with a multidimensional construct in which affective, motivational, and cognitive elements interact in parallel. Furthermore, at least three components are identified: 1. Emotional participation, a sort of "contagion" emotion; 2. Solicitude, the stimulus to give help; 3. Knowing how to put yourself in another's shoes.

Cuff, Brown, Taylor and Howat (2016) write that there are as many definitions of empathy as there are authors who have dealt with concept itself. The authors present 43 examples that, rather than reiterating their findings, we will instead put faith in their conclusions and recommend their definition: "Empathy is an emotional (affective) response, which depends on the interaction between trait ability and

state influences. The empathic processes are aroused automatically but are also formed by superior control processes. The resulting emotion is similar whether it comes from subjective perception (direct or imagined experience) or consists of understanding the stimulus in recognizing that the source of the emotion is external (cognitive empathy) "(p. 150).

These authors therefore also ask themselves whether empathy is characteristic trait or state of mind (the authors lean towards this first hypothesis), while others believe that, at least with regards to gender, there is a greater level of empathy in women (Dryburgh & Vachon, 2019).

But coming back to our point

Research Questions and Methods of Analysis

From the literature review some questions emerged that could be answered with this research. The first concerns the difference between impersonal and utilitarian choices, compared to personal and non-utilitarian choices; which of these prevails in an emergency health situation like the one we are experiencing?

A second question concerns the ability or lack thereof that a person who is inclined to utilitarian choices can still feel empathy (Gleichgerrcht & Young, 2013).

A third question, which we asked ourselves after addressing the first two with our compatriots, concerned the potential emergence of latent feelings as a consequence of the Covid-19 health emergency.

With perhaps slightly unlucky foresight, in October 2019 we asked more than a thousand of our fellow citizens, thus constituting a representative sample of Italians, some questions that anticipated the theme of the ethical dilemmas we might confront if a situation like the one in which we currently find ourselves were to arise (Merzagora et al., 2020).

In April of this year, in addition to asking the same questions after the outbreak of the pandemic, we found it interesting to present new dilemmas more specifically focused on the Covid-19 predicament.

The research was carried out by the company AstraRicerche, between 25-27th April 2020 through 1,000 online interviews (web interviews) that constitute a representative sample of the Italian population between 18 and 65 years of age. The results were analyzed for the following classification breakdowns: gender, age, geographic area, educational qualification, socio-economic status, presence of 0-14 year olds in the home, and belonging to a healthcare profession (doctor, nurse, etc.); the last classification composed 10% of the sample.

It began with the phrase: "We are conducting research on a representative sample of the adult Italian population. The research does not have a commercial purpose, it does not deal with brands or products, but rather concerns some ethical dilemmas, some moral issues in the world of health and personal care, and without any relationship to pharmaceutical companies ".

The questions of the questionnaire, as previously presented in this article - our two dependent variables: the first concerning an ethical choice where we asked participants to put themselves in the place of the doctor and then choose which patient would receive the only available device for assisted breathing; the second question asks the feelings felt by the participant following such an ethical choice.

The answers to these questions were analyzed using various statistical techniques. Frequency distributions provided an overview of the response categories reported by respondents (paragraphs 3 and 4) and allowed us to answer the first research question. For each response category, an analysis of the contingency tables and chi-square tests was carried out to highlight any significant correlations with the demographic and socio-economic characteristics of the respondents themselves (paragraphs 3 and 4). Finally, a Principal Component Analysis (PCA) was conducted to summarize the information originally collected from questions 1 and 2, and to identify potential latent behaviors that underlie their distribution. The PCA aims to identify these latent behaviors (or variables) by summarizing the data provided by the starting variables and minimizing the loss of information. In particular, through this type of analysis it is possible to trace a set of variables to one or more dimensions common among the variables themselves (called main components), the number of which is less than the originally measured variables. These main components are independent on each other and reproduce gradually decreasing shares of variance (Bryant & Yarnold, 1995).

The following chapters report the results from the analyses described above.

A Difficult Choice

Table 1 reports the first question specifically addressing the Covid-19 problem and the frequencies (absolute and percentile) of answers provided:

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Question 1 –Let's talk about the coronavirus or Covid-19 pandemic. Imagine if you were or if you had been a doctor in a hospital with a large number of patients in serious condition due to or as a consequence of the coronavirus; now let's consider if you had only one ventilator able to provide assisted breathing for every three patients at risk of life, which patient would you have chosen to use that machine? Please indicate no more than 5 of the responses listed below. I would choose people ...		
N = 1009	Absolute Frequency	Percentile Frequency
high probability of recovering	445	44,1%
younger	339	33,6%
high risk of dying	268	26,6%
with children	264	26,2%
Each of the patients in turn, one after another	202	20,0%
Doctors	189	18,7%
Nurses	136	13,5%
Without comorbidities	107	10,6%
Longer hospitalization times	95	9,4%
Italians	76	7,5%
Women	74	7,3%
Non-criminals	69	6,8%
Employed	33	3,3%
Non-demented, without Alzheimer's	30	3,0%
Non-disabled, not handicapped	24	2,4%
Resident of area with a hospital	23	2,3%
Let others decide	15	1,5%
Individuals who can afford treatment	9	0,9%
Famous/Influential individuals	8	0,8%
Politicians and Public Officials	8	0,8%
Clergy, religious figures	6	0,6%
Select at random	5	0,5%

Table 1 – Frequency distributions of the categories from Question 1. Year 2020.
Source: data processing authors of AstraRicerche

The option "high probability of recovering" was the most frequently selected by 44.1% of respondents. A rationally understandable choice that falls within the category of utilitarian answers but that, with consideration of the definition from Gleichgerrcht and Young (2013), is not a reason without empathy. This answer is also ethically acceptable since "the clinical judgment, in which the absence of therapeutic alternatives, the technical feasibility of the intervention and the positive relationship between realistically reliable benefits and risks" – as stated for example in the "Charter of Principles" of the Northern Italy Transplant Program[1] – allows to quantify as objectively as possible those who have been effectively defined as "a series of credits per subject", on the basis of which it is possible to compose "a first list, which can already exclude some subjects" from the pool of beneficiary candidates (Cattorini, 1998). Having said that, it was a little surprising that the healthcare professionals from our sample chose the "high probability of recovering" option in a smaller percentage, which was statistically significant (30%), compared to those who do not work in the health sector.

It is found that college graduates were more likely to provide this answer (53%) than high school graduates (45%) and compared to those who did not graduate from high school (33%). There were no significant differences according to gender.

This response was provided more frequently in a statistically significant way by residents in northwestern Italy (51%), which is the area of the country in which the virus was the most rampant and also the area with the greatest lack of resources.

The choice to provide mechanical ventilation to those without comorbidities follows the same utilitarian criterion

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[1]   A collaborative organ donation and transplantation program operating between the Regions of Lombardy, Liguria, Veneto, Friuli Venezia-Giulia, Marche and the Autonomous Province of Trento. The Charter of Principles, currently under revision by the Board of Directors of the Association, was published in 2006 and can be consulted on the site: <https://www.policlinico.mi.it/AMM/nitp/area_paziente/altre-_informazioni/documenti /carta_principi.pdf>.

and was the response from 10.6% of the interviewees; of note, from healthcare professionals 12% (correlation not statistically significant). However, it depended on which specific comorbidity, because the percentage dropped to 3% for the "non-demented, without Alzheimer's" and 2.4% for the "non-disabled, not handicapped".

The "younger" answer, which ranked second in frequency (33.6%), could align with similar utilitarian considerations. The fact that it was given by a higher percentage of subjects in the 18-25 age group (43%) also makes one ponder about the dynamic effect of identification vs anonymity from older participants. Additionally, the lower propensity of healthcare professionals, compared to those not affiliated with healthcare, to provide this answer is significant (25% vs 35%). Interestingly, men also chose it more frequently than women (37% vs 30%).

The answer "high risk of dying" came in third, provided in 26.6% of responses; it seemed to be inspired by considerations opposite to the most common response ("high probability of recovering ") and certainly also contains emotional elements, such as pity. It is not ethically contradictory since it follows the criterion for allocating medical urgency, which is expressed as "the inverse of the allowed waiting time within which one must intervene if a therapeutic benefit is to be achieved" (Cattorini, 2001). The choice to provide medical intervention for the individual with "high risk of dying" demonstrated statistically significant differences with respect to the age of the respondents: 18% of 18-24 year olds and 34% of 55-65 year olds.

However, there are also those who did not want to make real choices: 20% of respondents would offer the device to "each of the patients in turn". It is the answer that signals ubiquitous empathy, with the laudable intention of not excluding anyone. It was chosen by 28% of healthcare professionals (statistically significant correlation). There was also a significant difference based on gender: 25% of female participants compared 16% of male participants. A similar disparity was evidenced with socio-economic class: those who define themselves as lower / middle-lower social class chose it more frequently than the others (21.9%). It was preferred by the elderly (24% of those over-fifty) over the youngest (18% among the 18-24 years), even if this difference was not statistically significant.

If we wanted to maintain a pessimistic perspective – recall that we are criminologists - it is perhaps also a sort of choosing by not choosing behaviour. Certainly, those who are not taking the responsibility of making a choice are the ones that would prefer to "leave for others" to decide, ultimately leaving the decision "up to chance"; these responses however were selected by very few, 1.5% for the former and 0.5% for the latter. From healthcare professionals, the percentages dropped to 1% for delegation of the decision and "select at random" was not chosen at all.

Some of the responses fall within the category of the so-called "social benefit", a criterion that relates to the relapse in the social sphere of medical acts, supported by the consideration that "the relationships between health, healthcare facilities and society are very close" as "the well-being produced from medicine contributes to the common good

(Cattorini, 2001). Regarding the responses "with children" (26.2%), "employed" (3.3%), and according to some participants "those who can afford treatment" (0.9%), were selected because those who can pay for the medical care themselves will therefore not drain available healthcare supplies, but rather will be able to expand the resources for healthcare. The latter is the vision of a certain form of liberalism, typically North American (Nozick, 1981; Engelhardt, 1991, 1996), but which has also recently found approval in the traditional welfare state, with the tendency to appeal for a reduction in public intervention in the supply of goods and services for the benefit of the private sector and the market.

The "with children" alternative received less selection by residents of the North West (20%) and more by those of the South (30%). Predictably it found greater and significant confirmation between those who have children who are minors (33%), and by those who reside in medium-large sized population centers (250.000/500.000 inhabitants). The "employed" answer was more statistically significant among 18-24 year olds (8%) and also among those in a higher social bracket (8%); women selected this response half as often as compared to men (2.2% vs 4.4%). Furthermore, we think the response given by 6.8% who would guarantee the ventilator to "non-criminals" falls within a perspective of social benefit as well as a sense of justice. In the rare likelihood of this situation, even the discredit of the delinquent/offender would probably intervene; this is actually a well-known phenomenon in social psychology for which there is more compassion for the suffering of those who consider themselves not guilty (Decety, Echols & Correll, 2009).

0.8% of the interviewees would provide the device for assisted breathing to "famous/influential individuals", 0.8% to "politicians and public administrators", 0.6% to "priests".

It could be appreciated that a certain consideration was given to belonging to a group from the fact that 7.5% of the interviewees choose "Italians"; this observation is further supported with a higher percentage, albeit not statistically significant, among those who are healthcare professionals (11%) and those who rank in the upper social bracket (12%). Men were twice as likely as women to choose "Italians" (9.9% vs 5.1%), which was statistically significant.

The choice to provide mechanical ventilation preferably to "women" was indicated in 7.3% of the answers, and rises to 10% from those with healthcare professions. It is curious that women chose this option in 4% of cases (men in 10%) and that this correlation is statistically significant; women must have understood that paternalism is not a good deal.

The choice to provide the device for assisted breathing in particular to "doctors" and "nurses" was probably strongly motivated by practical considerations - they must cure others -, but we also believe in the widespread gratitude for those among us who have battled the pandemic from the frontlines. To date (28 May 2020), 165 physicians have died from Covid-19 and at least 40 nurses. 18.7% of the Italians interviewed would supply mechanical ventilation preferably to doctors; while nurses were chosen by 13.5% of respondents. With regards to the response "doctors", the percent-

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age was almost the same among health professionals, and statistically higher in the regions most affected by the pandemic (23% in the North West, 26% in the Tri-Veneto), as well as among graduates (24%). Nurses were chosen slightly less by health professionals (12%), however slightly higher, and significantly so, in the regions most affected by the pandemic (16% in the North West, 18% in the Tri-Veneto).

A certain share of responses is with a sense of preference for formal justice: 9.4% would choose those with the longest hospitalization period; 2.3% for residents in the region where the hospital is located.

Do Not Faintheartedly Refuse

As we have seen, ethically complex choices can be made according to rational criteria, however this does not exclude potentially emotional distressing repercussions. In order to understand what emotions may influence the choice regarding who one tries to rescue, our second question and the frequency of answers provided are reproduced in Table 2:

Question 2 - Let's examine another specific case: an experimental drug that could save the life of only one out of seven COVID 19 patients hospitalized in a specialized hospital has been developed in very small quantities. If you were or if you are a doctor, which of the following feelings would you feel if you had to decide which patient to administer the drug to, excluding the other six? (more than one answer possible)		
N = 1009	*Absolute Frequency*	*Percentile Frequency*
Guilty for those who did not receive therapy	430	42,6%
Sadness, bitterness	400	39,6%
Happy to save at least one patient	255	25,3%
Anguish, Horror	201	19,9%
Tranquil, making the best possible choice	179	17,7%
Clear, rational	158	15,7%
Do not know/ Do not want to respond	74	7,3%
Religious, ethical constraint	72	7,1%
Detached, Not involved	66	6,5%
Pride, strength	48	4,8%
Do not know	45	4,5%
Do not want to answer	29	2,9%
None of these	13	1,3%

Table 2 – Frequency distributions of the categories from Question 2. Year 2020.
Source: Authors' elaboration of AstraRicerche data

43% of the surveyed Italians replied that if they had to choose who would receive the drug that could save that person's life, they would feel a sense of guilt for those who did not receive the therapy, demonstrating a strong feeling of empathy. The percentage drops to 37% from healthcare professionals, perhaps because they know that these choices are part of their professional task. 40% of those interviewed would feel sad and bitter, while a fifth (19.9%) reported likely feelings of anguish and horror.

With regards to positive feelings, those who would feel happiness at being able to save at least one patient was reported by 25.3% of the respondents. 17.7% say they would feel tranquil, trying to make the best choice. These positive feelings, overall, denote the presence of empathy.

On the other end of the spectrum comes the sensation of detachment, non-involvement found in 6.5% of cases, a response provided by a percentage which was given twice as often by healthcare professionals (14%).

The percentage of those who hypothesized feelings of pride or a sense of strength (4.8%) was small, while 7.1% of the interviewees reported that they would not make any decision based on an ethical or religious restraint.

The percentages of "sloths" are all rather low: 1.3% responded to none of these feelings, 4.5% do not know, 2.9% do not want to respond. Those who said they work as a healthcare professional and answered "I don't know" had a lower percentage compared to the overall sample (2%), which however was not statistically significant. We find more uncertainty among those who claim to belong to lower social classes (7%) and those who have less education (7% who attended until the lower middle schools).

In summary, the discomfort brought on by having to decide the fate of an individual can indicate one's ability to consider another no different from himself, how to "put himself in another's shoes". Clearly the choices are difficult, from the data we could collected one could even say dramatic.

Latent Choices and Feelings in the time of Covid-19

The two questions discussed in the previous chapters identify and measure numerous types of ethical choices and feelings related to them. Social researchers frequently need to measure attitudes that are not directly observable (so-called latent behaviors or variables) but rather are expressed through a series of opinions from the study participants (so-called original variables). This need emerges even more acutely in a unique historical period such as that of the Covid-19 health emergency, which triggered reactions and feelings that have not yet been studied in the "field".

Table 3 shows the results of the Principal Component Analysis conducted on the categories from question 1.

Choice – Question I	Latent Components							
	1	2	3	4	5	6	7	8
4_Nurses	0.880							
4_Doctors	0.859							
4_Withouth comorbidities		0.702						
4_Younger		0.666						
4_Higher likelihood of recovery		0.554						
4_Non-Demented, Without Alzheimers			0.777					
4_Non-disabled, not handicapped			0.683					
4_Women				0.813				
4_With Children				0.555				
4_Famous/Influential People					0.791			
4_Politicians and Public Officials					0.752			
4_Residents of the area near the hospital						0.774		
4_Italians						0.594		
4_Non-criminals						0.508		
4_Higher risk of dying							0.744	
4_Longer hospitalization							0.732	
4_Select at random								0.959

Determinant: 0.281; Kaiser-Meyer-Olkin measure of sampling adequacy : 0.595; Bartlett's Sphericity Test, Mr. 0.000; % of cumulative explained variance : 62,390.

Table 3 – Principal Component Analysis of Question 1.
Rotation method "Varimax with Kaiser normalization". Based on eigenvalues greater than 1.
Source: Authors' elaboration of AstraRicerche data

The analysis made it possible to summarize the information of 22 response categories in 8 dimensions. These dimensions group those responses with which they are strongly correlated.

In particular, 8 types of latent choices emerge, which we have defined as:

1. Practical - this dimension is related to those who would give the ventilator to doctors and nurses.
2. Utilitarian - this dimension is related to those who would give the ventilator to the younger patients, those without comorbidities, or with higher likelihood to recover.
3. Discriminatory Utilitarianism - this dimension relates to those who would give it to those who do not have specific diseases and / or disabilities.
4. Protective - this dimension relates to those who would give priority to more susceptible populations such as women and children.
5. Inclined to fame and power - this dimension is related to those who would give precedence to politicians and famous/influential people.
6. Favor formal justice - this dimension is related to those who would give priority to Italians, non-criminals and those who live in the region where the hospital is located.
7. Compassionate - this dimension correlates with those who would supply the ventilator to those who are most at risk of dying, or have been hospitalized longer.
8. Avoid Responsibility - this dimension relates to those who would select randomly and who constitute a separate category that does not relate to any of the previous ones.

The same procedure was carried out for the categories of question 2.

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Emotions – Question II	Latent Components				
	1	2	3	4	5
5_Sadness, Bitterness	0.720				
5_Do not know	-0.667				
5_Anguish, Horror	0.614				
5_Happy to have saved at least one life		0.698			
5_Tranquil, trying to do what's best		0.639			
5_Detached, uninvolved			0.821		
5_Clear, Rational			0.657		
5_None of these				0.953	
5_Pride, Strength					0.957

Determinant: 0.681; Kaiser–Meyer–Olkin measure of sampling adequacy: 0.562;
Bartlett's Sphericity Test, Mr. 0.000; % of cumulative explained variance: 66.824.

Table 4 – Principal Component Analysis of Question 2.
Rotation method "Varimax with Kaiser normalization". Based on eigenvalues greater than 1.
Source: Authors' elaboration of AstraRicerche data

The analysis made it possible to summarize the information of 12 response categories in 5 dimensions. These dimensions group those responses with which they are strongly correlated. In particular, 5 latent feelings emerged that we defined as:

1 Negative empaths - this dimension is correlated, in a positive way, to those who experience feelings of sadness, bitterness, anguish and horror. It is also related, however in a negative way, to those who do not know what to answer. In this way, one could say that "negative" empathy and lack of awareness are not associated.

2 Positive empaths - this dimension correlates positively with those who experience feelings of happiness when able to save at least one sick person, and tranquility when trying to make the best choice possible.

3 Detached and rational - this dimension correlates positively with those who experience detachment, non-involvement, clarity, and/or rationality.

4 Undecided - this dimension correlates positively with those who do not select any of the proposed feelings.

5 Omnipotent - this dimension correlates positively to those who feel pride, a sense of strength.

Finally, we tried to understand if there was a relationship between the decision of which patient would receive the ventilator and the feelings linked to the choice of only one sick person to receive the life-saving drug.

Choice	Emotion	
1_Practical	2_Positive Empathy (0,085**)	3_Detached and Rational (0,113**)
2_Utilitarian	2_Positive Empathy (0,099**)	
3_Discriminatroy Utilitarianism	Not correlated to any one particular emotion in a significant manner	
4_Protective	5_Omnipotent (0,153**)	
5_Inclined to fame and power	3_ Detached and Rational (0,110**)	5_Omnipotent (0,105**)
6_Formal Justice	5_Omnipotent (0,066**)	
7_Compassionate	Negative empathy (0,089**)	3_Detached and Rational (0,071*)
8_Avoid Responsibility	Not correlated to any one particular emotion	

★★. The correlation is significant to the 0.01 level (two-tailed).
★. The correlation is significant to the 0.05 level (two-tailed).

Table 5 – Pearson correlation between the factorial scores (regression)
deriving from the analysis of the main components of question 1 and 2.
Source: Authors' elaboration of AstraRicerche data

The correlation results show how practical choices, which tend to save doctors and nurses, are associated with feelings of positive empathy, detachment and rationality. Even utilitarian choices, which favor young people, those without comorbidities, or with higher likelihood to recover, are related to positive empathy (tranquility and happiness of saving at least one sick person).

On the contrary, those who make compassionate choices, thereby saving those who are at a higher risk of dying or those who have been hospitalized longer, reveal both feelings of negative empathy (sadness and anguish) as well as detachment and rationality. Protective choices towards women and children are linked to feelings of pride and a sense of strength, as well as those who favor Italians, non-criminals and residents in a region with a local hospital.

Those who would choose to provide politicians and celebrities with the last ventilator also show feelings of detachment and rationality, along with omnipotence by providing the life-saving drug to a single patient.

Rational and discriminatory choices, as well as those avoid responsibility, are not associated with any feeling in particular.

Conclusions

The fact that doctors and nurses are faced with such strenuous ethical dilemmas is not new. This point has long been a subject of debate in the bioethical field, and has recently been thrown into a harsh spotlight as a result of the Covid-19 pandemic; it is a current affair that has been acutely felt by those regions of Italy who contemporarily experienced the highest number of COVID-19 cases and were frequently confronted with insufficient resources.

What we hoped to understand from our questions was how people, including not only healthcare professionals but also ordinary citizens, would have solved the bioethical dilemma of choosing who can or should be treated with the resources available. We hoped to better appreciate the criteria used and moreover what emotions these choices might arouse with particular regard to the activation of empathy. This has further implications, from a criminological perspective, to try to investigate whether or not the factors of large and dramatic social influence intervene on empathic movements.

The first ethical dilemma and research objective, was intended to reveal the prevailing preference between utilitarian and impersonal choices versus personal and non-utilitarian choices. The analysis of the frequency distributions from question 1 of the questionnaire (Table 1) shows that more than 80% of the sample of respondents would make utilitarian choices based on the greater probability of recovery (44%), on the age of the population (younger, 34%) and the lack of disease (11%). The Principal Component Analysis further confirms this result, showing that the dimensions related to "utilitarian" and "utilitarian and discriminatory" choices explain the highest share (16%) of variance of the analyzed data.

Utilitarian but not lacking in empathy mindset can be deduced from the analysis derived from the second research objective (Gleichgerrcht & Young, 2013).

Interesting is the fact that 20% of the interviewees would offer the ventilator to each patient in turn, indicating ubiquitous empathy, namely: "no one excluded". Paradoxically, this data could also be interpreted in the contrary, as in a totally irresponsible sense, since this choice could affect the clinical efficacy of the proposed therapy. Typically, a more profound conclusion of this nature could only be reached by a qualitative analysis of the reasons underlying the choice of answers. As such, we are aware that this appears as a limitation of this research.

The analysis of the frequency distributions of question 2 from the questionnaire (Table 2), which addresses in more detail the theme of empathy, reveals a prevalence of feelings of negative empathy. For example, participants expressed a sense of guilt for the exclusion of the others who are ill (43%), sadness and bitterness (40%), anguish and horror (20%) - compared to those of positive empathy, namely happiness (25%) and serenity (18%). The Principal Component Analysis validated this result by demonstrating that the dimensions associated to feelings of negative empathy composed the highest percentage of variance (16%) of the analyzed data

The correlation between the factorial scores derived from the analysis of the main components of questions 1 and 2 (Table 5) allowed us to validate the second research objective, thereby demonstrating how utilitarian choices are associated with feelings of positive empathy. Similarly, the analysis showed how positive empathic feelings can also be associated with practical choices, in spite of the fact that detachment and rationality were still more pronounced. On the other hand, feelings of negative empathy and rational detachment also related to compassionate choices. These feelings, coupled with those of omnipotence, are correlated to choices dictated by the propensity for fame and power, as well as those of formal justice. Notably, there is no statistically significant feeling associated between utilitarian discriminatory choices and decisions made by an attitude of avoiding responsibility.

Finally, regarding the analysis of the third research objective, which was aimed at recognizing latent ethical choices, we identified two main categories of choices that had not emerged immediately from the analysis of the responses to question 1 (Table 3): those who are protective and those inclined towards fame and power. In an emergency situation, some people tend to protect more susceptible populations like women or people with children. This result may be rooted in a perspective of social benefit, as previously discussed. In another direction, there are some people who would prioritize saving those who hold fame and power, such as celebrities or politicians and public administrators. When considering the second case, we can speculate that the motivation is the maintenance of organization and public order, however the preference towards celebrities is overall complex to interpret. However, these dimensions explain only 8% of the variance of the analyzed data.

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In summary, our research shows that when faced with a complex period such as the current one, the predominant choices made by our sample of subjects - which recall is representative of the Italian population – demonstrates an appreciation of both pragmatic and empathic aspects.

Another potentially important consideration for our results is the presence of very high stress factors tightly linked to the fact that no one (at the time of completing the questionnaire) could feel entirely exempt from the risk of being infected with the virus then subsequently becoming a hospitalized patient themselves. We can only hypothesize this affect, but perhaps there was a greater manifestation of empathy under these conditions compared to the more frequent and widespread ethical investigations in a clinical setting. For example, consider the clinical features often proposed to study participants (e.g. ethical choices regarding a patient who needs an organ transplant): they could lead to a reduced identification in healthy subjects by the sample and it is therefore plausible that the empathic variable would be impacted by this issue, which however seems unlikely to happen during the present pandemic health emergency.

Furthermore, we are aware that both the ethical choices and the feelings connected to them are influenced by the demographic and socio-economic characteristics of the respondents. As this was not the main objective of our research and considering the complexity of those more profound analyses, we believe that these potential factors need to be better addressed in future studies.

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