

Analysis of Youths' Perspective in India On and During the Pandemic of COVID-19

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Objective. In this COVID-19 pandemic, there are not many sound studies focusing on the extensive socioeconomic impact ushered in with this disaster. This work aims to understand the thought of the youth, their opinions and understanding of various aspects of the COVID-19 pandemic. *Methodology.* Using a combined qualitative–quantitative approach, Q-method, we tried to assess people's discernment from different perspectives. This was done through a questionnaire survey method during the national-level lockdown 1.0 in India. *Results.* We have differentiated the perceptions of youth respondents into seven factors, including six subdimensions, on COVID-19 pandemic (viz., science, society, environment, economy, politics, and religion). The choices and opinions have been segregated into two major groups: quantitative and qualitative. *Conclusion.* This work yielded a firsthand ground-level insight into the comprehensive yet diverse responses from youths regarding the COVID-19 pandemic in India. There are various topics that arise from this study, for example, misinformation, misinterpretation of science, dubious nature of faith in governance and policy, turbid understanding of strategy, polarization of opinion, and so forth. Following this work of identification, the next steps would be to understand how to mitigate the problems toward betterment in the COVID-19 pandemic situation or similar widespread crisis events in the foreseeable future.

The novel coronavirus (COVID-19) has created an unexpected stagnation around the globe. This third zoonotic human coronavirus (CoV) of this century emerged in December 2019 in Wuhan, Hubei Province, PR China (Zhu et al., 2020). The novel Wuhan virus comes under different names (2019-nCoV in the research literature, SARS-CoV-2 by the International Committee on Taxonomy of Viruses, and COVID-19 by the WHO). After COVID-19 cases were first reported to the World Health Organization on December 31, 2019, within three and a half months it was declared a pandemic by WHO. India reported its first COVID-19 case from Kerala on January 30, 2020. On March 24, 2020, the Government of India declared a 21-day nationwide lockdown (March 25 to April 14, 2020, lockdown 1.0), then a 17-day lockdown (from April 15 to May 3, 2020, lockdown 2.0), which was again decided to continue up to June 30, 2020 (lockdown 5.0).

Various popular and intensive research works are going on that are mainly focused on medical (vaccines), nature, and spread of SARS-CoV-2, and also governmental policies.

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SOCIAL SCIENCE QUARTERLY, Volume 101, Number 5, September 2020

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DOI: 10.1111/ssqu.12839

We could barely find any study on understanding the common people's sufferings during or after the lockdown period, either on a local, national, or global scale.

This study was conducted within the first phase (lockdown 1.0) of the 21-day lockdown period. The survey was conducted using electronic media only.

The Complexity of the COVID-19 Pandemic

The main objective of the study was to understand different perspectives and opinions expressed by Indians during the lockdown and their belief system, which characterizes their behavior. Historically, it has been seen that during different pandemics, several types of belief systems and conceptions emerged. According to the Greek historian, Procopius, during the Justinian plague in 541 AD, people believed that the plague was caused by demons. To prevent the demon from entering the home, doors were kept locked. Many Christians thought (not rare even today) that getting a virulent infection was the result of God's punishment for their sins (Stafford and Flatley, 2018). The plague was caused by *Yersinia pestis* bacteria in black rats (*Rattus rattus*) and oriental rat fleas (*Xenopsylla cheopis*). The transmission occurred mainly due to black rats, which used to travel from North Africa to Constantinople in grain ships and carts (Horgan, 2014).

The Black Death, which affected Europe in 1347 and claimed 200 million lives in four years, was caused by the same microbe, *Y. pestis*, which caused the Justinian plague. There was a lack of scientific understanding during that period, but people understood that it had something to do with proximity. So, newly arrived sailors at the port were kept in forced isolation in their ships for 40 days, which was known as *quarantino*, to prove that they were not sick. The word quarantine originated from this situation (Roos, 2020).

In the early 15th century, for the first time, plague-stricken London imposed laws for separation and isolation of infected people. Infected people and their homes were meticulously marked. There was also a belief that animals such as cats and dogs were the carriers of the disease and they were massacred ruthlessly (Roos, 2020).

There are also many stories and theories regarding epidemics and pandemics that occurred later, and currently COVID-19 is not an exception. A wide range of causes are being discussed on the Internet and social media about their origin, such as habitat destruction and wild animal contact, astrological reasons, a bioweapon, and so on. There are also diverse opinions on how to combat COVID-19, such as social isolation and proper sanitization, consumption of indigenous medicines, herd immunity, vaccination, and so forth. Naturally, a flood of information in electronic, social, and print media, and 21st-century information and rationality characteristics, are very different from the previous pandemics and also very chaotic. In such a situation, the WHO Director General was compelled to state: "We're not just fighting an epidemic; we're fighting an infodemic."

Q-Methodology

Q-methodology was first proposed in 1935 by William Stephenson. It is a combination of quantitative and qualitative methods capable of discerning existing subjective perspectives on a controversial area. It is based on a structured exploratory statistical approach to reveal stakeholders' viewpoints on a matter under investigation. It can be used in various fields for understanding stakeholders' perspectives on issues such as tourism, conservation research, linguistics, sustainability, medical research, and so forth.

Applying Q-Methodology

Research Design

The first step of the research is to develop a concourse containing all possible statements about different opinions on a subject under study. In this study, the focus was on people's perspectives on COVID-19 and their priorities on such issues while living with the crisis. Since main opinions and speculations in public perceptions are generally generated through the dissemination of opinions and theories on electronic media such as television, social media, and the Internet, the concourse is created using news items, magazine articles, blogs, WhatsApp messages, and rumors and speculations heard in conversations. Sixty-one of the most prominent and relevant statements, which represent the large concourse, were kept as the Q-set for conducting the study. A normally distributed response chart was prepared (Figure 1 in the Supplementary Appendix).

Data Collection

The respondents, or the P-sample, was taken from various parts of society and locations all over India. Snowball sampling was used for collecting the information. The questionnaires were sent in an editable document format to the immediate contact person through electronic communication (using WhatsApp and email) and asked for further dissemination. Apart from the Q-sort data, some information was taken for understanding the respondents' characteristics and their respective perceptions. A total of 90 participants located in 18 states in India were surveyed. Age, sex, education level, monthly income, current designation, and affiliated organization details of all the respondents were taken into account. Among the 90 respondents, 4 percent did not reveal their monthly income details. The demographic characteristics are depicted in Figure 1. The participants are characterized through (a) age, (b) level of education, (c) gender, and (d) income.

Analysis

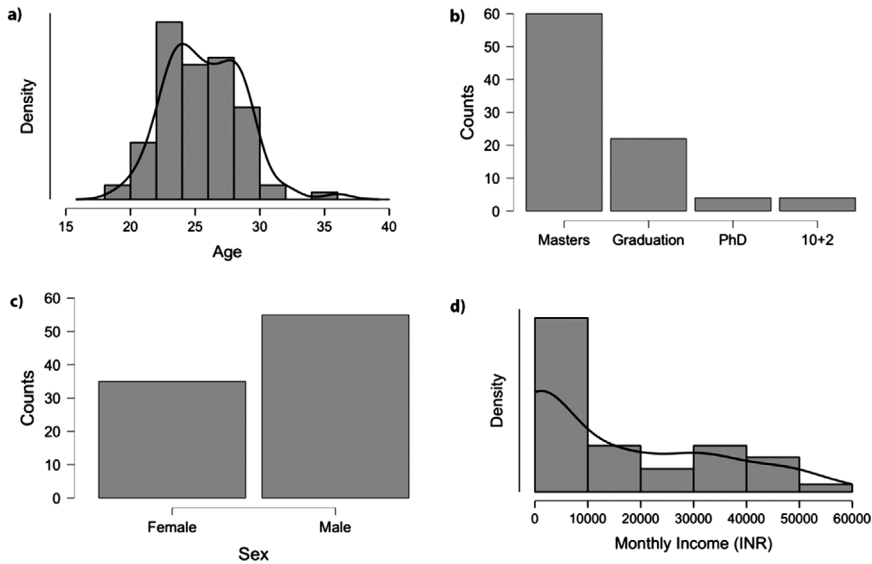
For analysis, the open-source software KADE (1.1.0) (Banasick, 2019) and the free R-package "qmethod" (Zabala, 2014) were used. Principal component analysis was applied to the extraction of factors. Seven factors or viewpoints were selected for an explanation, based on the following criteria: (a) in the first criterion, the eigenvalues of the factors were greater than 1, lesser values were used that were not significantly distinguishable for any more viewpoints; (b) in the second criterion, shared perspective was considered for at least two significant Q-sort loadings, which had to be retained in each factor (Brown, 1980); (c) in the third criterion, there were factors explaining the variance of at least over 50 percent. The intersection of the three criteria resulted in seven factors that were used in this study and are given in Supplementary Appendix Table 1.

Limitations

Conducting the survey using the Internet restricted the reach of the survey to a larger community. The survey could only be responded to by people having Internet connections

FIGURE 1

The Demographic Composition of the Participants



and computers, which are still absent in many parts of India. Although a query or problem posed by a respondent in the questionnaire guidance was answered over the phone, in-person and card-based physical Q-sorting could have captured relatively clearer opinions, which was impossible during the lockdown period. Also, as familiarity with technology was a prerequisite to answer the questions, this could have played an important role in excluding the older population from participating in the survey. All the above-mentioned factors were considered to limit the generalization of the study and can be regarded as major limitations of the conducted study.

Results

Among the extracted factors, F1 covers 36 percent of the total variance followed by 4 percent for both F2 and F3. For the rest of the factors explained, the variance was 3 percent for each factor. Forty-two percent of participants categorized significantly to factors 1–7, which had scores of 6, 3, 3, 4, 10, 4, and 8 for significant loadings, respectively. Factor scores for each statement are given in Supplementary Appendix Tables 2–4.

As per the basic philosophical purpose of Q-methodology, the results are described as a hybrid of quantitative and qualitative aspects. The major findings of this research are discussed separately in the “Quantitative” and “Qualitative” sections.

Quantitative

At the highest priority level (± 5 , innermost circle), among the seven factors (Fs), F2 gives (100 percent) weightage to all factors; F1, F3, and F7 give 50 percent weightage to

the “science” of COVID-19. However, F4, F5, and F6 give 50 percent weightage to the selection of statements related to “Economy,” “Religion,” and “Society” of COVID-19, respectively. Only F6 and F7 have given insignificant weightage (25 percent) to “Environment.” Among all of the seven Fs (Figure 2), none includes “Politics” of COVID-19 in their statement at any of the highest priority levels. For the second-highest priority level (± 4 , second circle from the center), F1 and F6 have given equal weightage to science and economy; F2 and F4 have given weightage to economy; F5 and F7 have given weightage to science; and only F3 has given weightage to the society. Regarding the choice of topic to be included in this level, F1 and F5 have the lowest coverage, while F3 and F4 have the highest coverage, among all factors. For the third-highest priority level (± 3 , third circle from the center), only F2 has given the highest weightage to politics, all the remaining Fs have given weightage to science. F2 has the highest and F4 has the lowest coverage of topics at this level. For the fourth highest priority level (± 2 , fourth circle from the center), F1 has given weightage to two subtopics (politics and economy); while all the remaining factors have given weightage to one subtopic only (economy, politics, politics, politics, science, and society, F2–F7, respectively). F3 and F6 have opted for religion and politics at this level. For the fifth highest priority level (± 1 , fifth circle from the center), F1, F2, F3, and F7 have given weightage to one subtopic only (society, science, science, and society, respectively), while F5 and F6 have given weightage to two subtopics and F4 has given weightage to three subtopics. Among the seven factors, only F4 and F5 have opted for religion and the environment, which is the lowest coverage at this level. The other four factors have included all six subtopics. For the lowest priority level (0, the outermost circle), F2, F4, F5, and F7 have given weightage to one subtopic only (society, society, environment, and science, respectively). F1 and F6 have given weightage to four subtopics and the remaining factor (F3) has given weightage to two subtopics at this level. F1 and F6 have the highest subtopic coverage ($n = 5$), while F2 and F5 have the lowest subtopic coverage ($n = 3$) at this level.

In Figure 2, seven diagrams represent seven factors. Six similar centered rims represent six layers of selection (± 5 to 0, from the center to periphery) for seven groups (i.e., factors). Each of the six colors depicted in the color code represents six subtopics related to the COVID-19 outbreak as per the statements.

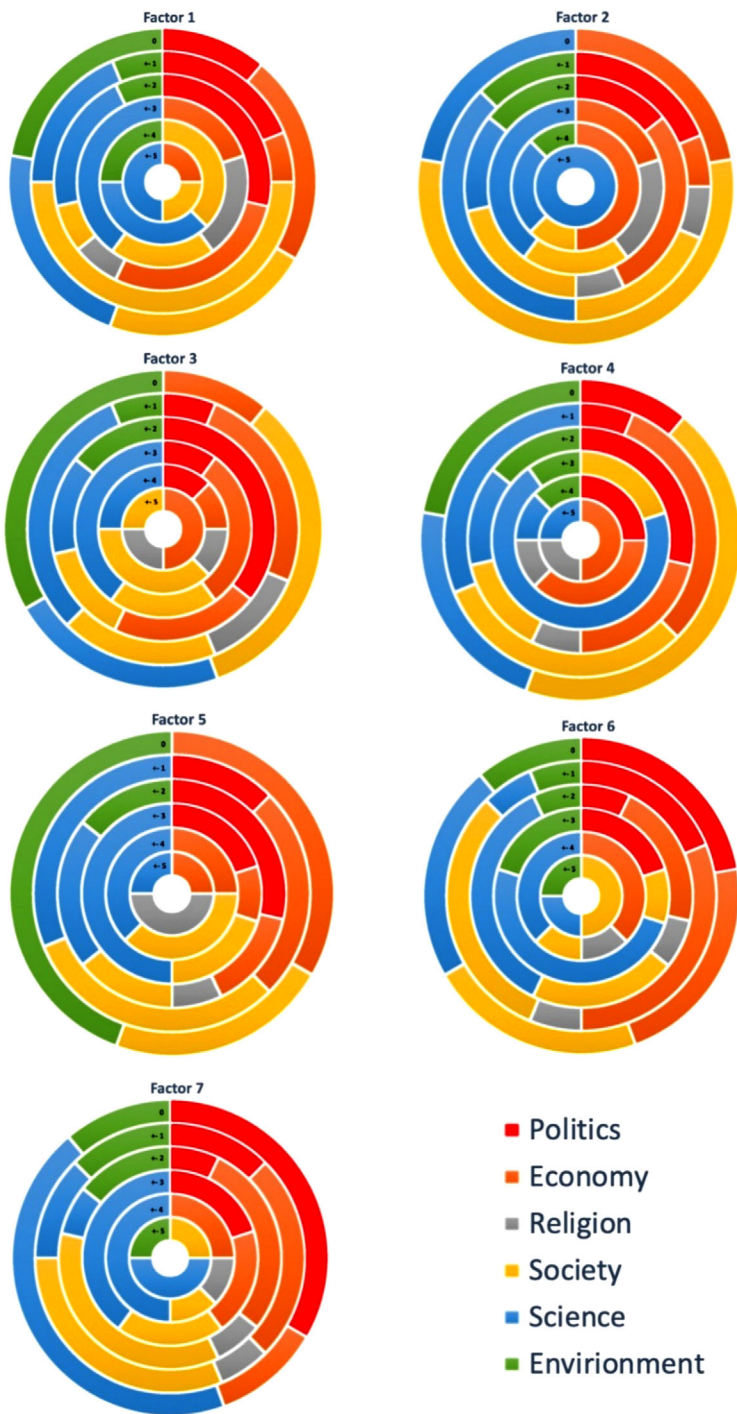
Qualitative

Factor 1: Bolstering the government’s responsibility but not sure about hampering the regular economic structure.

This viewpoint highlights the importance of government responsibility and proactiveness (44: +5; 33: +4; 54: +3; 26: +2; 48: +2; 26: +2; 50: +2); however, concerns were explicit over whether government should touch the existing economic structure or not (25: 0; 24: 0). This viewpoint strongly prioritizes youth’s safety in the future (61: –5; 29: –4). This group is well aware of public health information regarding COVID-19. However, it seems that they lack accuracy in this regard. Also, they do not keep pace with the fast-changing scientific developments on COVID-19. They also strongly support the use of centralized control of law and order along with sufficient utilization of modern science and technology to combat COVID-19 by minimizing damage. They are also unaware or undecided about the collateral problems that might arise with COVID-19 and the efficacy of indigenous materials (*totka*) for solving this problem. They are also dubious about the scientific solution to this pandemic.

FIGURE 2

Choice of Subtopics Related to COVID-19 Outbreak in India



Factor 2: Expresses the government's shortcomings and mismanagement of economic activities but also focuses on the positive sides of the pandemic.

This viewpoint strongly emphasizes on the complete lockdown, which is indispensable in this situation (like China) (10: +5), but worries about its feasibility from economic angles (16: +4; 41: +4; 22: +4; 58: +2; 25: +2). This viewpoint also underlines the government's mismanagement in combating the pandemic. One respondent stated: "This pandemic is a classic example of mismanagement. Doctors are not getting masks while the public is hoarding them." From this perspective, the viewpoint disagrees with the "lack of medical equipment" statement (54: -2) and strongly advocates proper and efficient management for tackling the pandemic (2: -5; 12: -2). This view also focuses on the positive sides of the pandemic (39: +3; 32: +3). This group is also well aware of public health information regarding COVID-19. They strongly support the use of centralized control of law and order and sufficient application of modern science and technology to minimize the damage caused by the COVID-19 pandemic. However, they are not sure about the scientific background and implementable methods that might control this pandemic.

Factor 3: Believes in government actions and transparency as well as an existing medicinal cure.

In this viewpoint, one respondent stated: "Govt is doing their best they can in this situation. And they must look after the daily wage earners and migrant laborers because if these people get infected, they can affect others." It reflects the viewpoint's support for government transparency and well-meaning actions (26: -1; 48: -2) as well as concern for migrant laborers for the sake of the whole country (28: -5; 27: 2). This viewpoint also believes that there is an existing cure (4: +3, 55: -3), and hence it is not an exceptional virus (31: +1). It also advocates aggressive government action to collect economic resources to control the situation (23: +4; 24: +4; 25: +2) and supply them to the necessary areas (44: +5). This group is well aware and in favor of abiding by the public health directives regarding COVID-19. This group is unaware or undecided about dietary recommendations and lockdown. This group is also in favor of the use of centralized control of law and order over sufficient utilization of modern science to minimize damage caused by COVID-19.

Factor 4: Skeptical about the natural origin of the pandemic.

This viewpoint is skeptical about the current pandemic, and believes that the pandemic was created as a bioweapon by China (13: +4); Western countries have underestimated the crisis (19: +4), and India is no exception (5: +5; 6: +5). It has nothing to do with wildlife habitat destruction and awareness about planetary health (60: -4; 43: -1). This view also believes that there is a medical cure for the pandemic (4: +3; 55: -3; 21: +2) and probably that was the reason for the disagreement on the insufficiency of the current infrastructure (54: -2; 56: -4).

Factor 5: Prioritize on what is observable and firmly against statements concerning divinity.

This viewpoint gives major emphasis on the current state of the crisis (55: +5; 5: +5; 59: +4; 37: +4) and believes that globalization is a reason for the spread of the virus (30: +3). This viewpoint also believes that economic stagnancy can also be detrimental (16: +4; 17: +4). Further, this view strongly disagrees with any association with divinity (45: -5; 52: -5).

Factor 6: Advocates strong action for combating the crisis economically and healthwise.

This viewpoint supports strong action by the government for combating the crisis (12: +5) of the economy, which will face severe loss in the future (16: +4), and there are chances of anarchy (49: +1). This viewpoint believes that indigenous natural material consumption can be one of the solutions to this crisis (11: +4), and vaccination alone will not be a worthy solution (59: -3).

Factor 7: Advocates strong control methods and victims of infodemic.

This viewpoint supports strong top-down control by the government against infodemic (33: +5). This viewpoint almost completely disregards any role of religion for the cause of this pandemic (15: -2) and is in favor of utilizing the resources to combat crisis (17: +4). This viewpoint is very sceptical about China, Western countries, and their role in this pandemic (39 and 5: +3; 2: +2).

Conclusion

From this work, many issues came up as problems during the pandemic, which need to be addressed. A segment of the youth is much worried and obsessed about the geopolitics of COVID-19. They are intent on blaming the country that is responsible for spreading the deadly virus intentionally. Some of the youth strongly believe in utilizing culturally inherited indigenous cures (*totka*) as a medicine instead of utilizing modern science optimally, which in turn might result in a lack of scientific temperament among the community. Some are very doubtful about the probable effects of this pandemic on a larger economy, from local to a global scale, part of which can be assigned to poor understanding of the present status of the global economy. Some respondents have mixed this awesome pandemic with their respective religious beliefs and biases. Some of them are even in favor of taking this situation as it is destined to happen or has happened as a boon toward minimizing anthropogenic damages to the global environment. There is also a significant void in the context of possessing basic understanding about wildlife habitat destruction, climate change, extreme weather events, ecological restoration, or fundamental know-how about pandemics. In general, out of the population of any country, youth are usually the most adaptive, well-connected, and well-informed hub of the total population. But unfortunately, in India, this biggest hub is not fully aware and has faulty understanding, bewildered interpretation, and baffled attitudes to tackle this grave situation. The reason might be wide socioeconomic disparities, lack of proper scientific education and attitude, an inaccessible and inadequate public health system, the prevalence of religious fundamentalism, hunger and food insecurity, unemployment, widespread poverty, lack of efficient governance, and so forth.

Scope of Further Research

In a broader perspective, regarding the utilization and applicability of this Q-methodology, the following suggestions are promoted, which can also be interpreted as drawbacks in this specific work and to be pondered upon for future research work.

First, for a geographically big country (like India), it is important to perform this method with a specific focus on different regions. This would result in a spatially distributed understanding that is focused on subnational levels (district or municipality to state level).

Second, as there are so many environmental or socioeconomic problems in modern times, it would be better to frequently and periodically assess scenarios (incidents or trends about what has already happened or might arise in near future) for better apprehension and mitigation of those probable situations.

Third, this should be customized to include all the actors of an incident (i.e., government, private sector, common public, etc.) to complement each of the actors with others' necessities and actions comprehensively, which would lead to better cooperation and cohesion toward solving a problem with efficacy.

Fourth, this should include all groups of actors in a hierarchical chain. This should be performed by taking both top-down and bottom-up approaches. Thus, each actor can be well aware of the actions of others at the level existing in that chain.

Fifth, this approach should consider occupational diversification or sector-specific occupations such as agriculture, business, industry, service, and so forth, so that understanding of the problems, requirements, and availability of respective sectors in terms of production, consumption, and distribution is comprehensive.

Sixth, this approach should be stage-specific to formulate the policies for different purposes and different stages such as before the incident (frequently, to understand what is needed and where), during the incident (to realize the efficacy of ongoing programs for adaptability), and after the incident (for feedback, toward solidifying more well-informed strategies for policymakers in the future), if and when something similar happens.

Seventh, this approach should include gender, demography, income, education, employment, inequality, and so forth. This will be helpful not only to judge the scenario with comprehensive appropriateness but also to understand different interactions, effects, and causative factors.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Figure 1: Q Response Chart.

Table 1: Criterion for choosing numbers of viewpoints.

Table 2: List of statements (Q-Set) with factor scores.

Table 3: Factor matrix with loadings and defining sort Flagged (light blue colored).

Table 4: Factor score with corresponding ranks.