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ORIGINAL ARTICLE

Emerging attitudes of lay people towards lockdown during COVID-19 pandemic: an exploration of attitude types through Q-methodology

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ABSTRACT

The unprecedented coronavirus disease 2019 (Covid-19) pandemic has forced us to live in a constrained manner. The norms of social distancing and work-from-home in conjunction with severely reduced socio-economic activities have put psychological and behavioural burdens on lay people. This study explored the emerging attitudes of lay people towards the existing situation. The Covid-19 pandemic is unprecedented in its magnitude, and most citizens are not prepared to remain in a state of lockdown for a long period of time. The ABC model evaluated the affective, behavioural and cognitive aspects of lay people's attitudes towards lockdown. A quasi-experimental Q-sorting technique was used to explore the emerging attitudes towards the existing situation. Factor analysis along with textual analysis of submitted answers were conducted. In this study, 5 attitude types emerged based on the ABC model. The attitudes differed in terms of a person's threat perception towards Covid-19, locus of control, practical and work-place issues, information-seeking behaviour and community-orientation. Most respondents appeared psychologically adaptive to the existing situation and maintained an optimistic outlook. However, this attitude may be their knee-jerk reaction because very little is known about the pandemic. Some people are uncertain of how to handle the situation and are becoming pessimistic by the day, while there are others who are dismissive of the situation and continued to live as before. The emerging attitude types and their components are useful indicators for national and provincial governments in their communication about the pandemic. In addition, organizations can use this information to assess their employees' preparedness in a crisis and manage it accordingly.

Key words: pandemic, cognitive, affective, behavioural responses, Q-sort, Covid-19

INTRODUCTION

The Covid-19 pandemic is the largest ever recorded because it has brought the whole world to a virtual standstill. Although our civilization has previously witnessed pandemics (e.g., plagues, cholera, smallpox and avian influenza), and there have been recent viral outbreaks (e.g., Ebola and Zika), the magnitude of spread of

Covid-19 has not been previously observed. This situation has put the maximum possible strain on our civilization, which raises extremely urgent questions about our preparedness to deal with such situations.

Public health departments around the world are grappling with socio-economic consequences of prolonged lockdowns, and the increasing mental health problems are the main concern.[1,2] Recent studies on the Covid-19 pandemic highlight the importance of mental health management such as fear, anxiety, depression and panic attacks owing to the complete change of lifestyle [3,4] To manage these issues, we need to understand the behavioural patterns of citizens who probably have never experienced an outbreak, let alone a pandemic of this magnitude. It is essential to understand the types of attitudes that are developing towards the existing situation, which shape individual behavioural and psychological responses towards the pandemic, to allow effective management of these issues at all levels (e.g., personal, community, organization and national).

Typically, during a pandemic, there are pharmaceutical and non-pharmaceutical preventive measures. However, because the vaccines for Covid-19 have been developed at an accelerated rate, and clinical trials have been conducted on a small population, we also have to focus on the non-pharmaceutical strategies such as administrative control (e.g., case isolation, quarantine, school closure and restrictions on travel) and personal protective (e.g., social distancing or improved hygiene) measures.[5] Previous studies have evaluated certain coping mechanisms adopted by citizens during the pandemic[6,7,8] and their perceptions and opinions about the risks involved[9,10,11,12].

Previous studies have indicated that both individual and socio-cultural factors greatly affect the magnitude of the pandemic[13]. It boils down to the risk perception, social behaviour and the summation of individual's attitudes and beliefs as a response to the crisis. From the perspective of administrators and policy-makers, it is essential to survey the masses and determine the types of responses that collectively become the crisis management of that community.

Recent studies on Covid-19 and its effect on the mental health of individuals have shown that citizens are lonelier owing to the lockdown[14,15], and there is a significant reduction in mental well-being owing to changes in living and working conditions. Mukhtar[16], in her review of psychological health during the Covid-19 pandemic, states that cultivating coping and resilience mechanisms is challenging among the citizens owing to modified lifestyle, misinformation and disinformation about the situation and psychological pressures of productivity among other globally connected factors. Serafini et al.[15] specify the most relevant psychological reactions in the general population that are expected during the pandemic and also describe preventive strategies to cope with these reactions.

Factors shaping Psychology and Behaviour during a Pandemic

The review of relevant literature indicates that there are insufficient studies that explore the psychological outcomes of the pandemic, and most studies focus on health workers rather than on lay population. However, there are previous studies that specify certain factors that negatively affect the psychology of an

individual and report on the behavioural outcomes.

Poudel and Subedi[3] have suggested that various neuropsychological problems may arise owing to the pandemic such as fear, anxiety, depression, panic attacks, psycho-motor excitement, suicidal deaths and a general decrease in overall wellbeing. The government is responsible for implementing measures to control the pandemic and treating the patients, while the media has to control the infodemic, i.e., spreading of rumours and fake news.

In the studies on health behaviour, theories have been proposed at a variety of levels including the individual, interpersonal, group, organizational and community levels, i.e., Health Behaviour Model[17], Theory of Reasoned Behaviour[18], Theory of Planned Behaviour[19], Social Cognitive Theory [20] and Transtheoretical Model[21]. These theories vary in their focus on individual compared to environmental determinants of behaviour and in cognitive compared to affective determinants [22]. Most theories focus on the individual level, which misses the interplay between individual and environmental factors [23]; however, the bigger problem is that there are numerous theories with little consensus on their efficacy and applicability[24]. McLeroy's Socio Ecological Model (SEM)[25,26] is also useful for a study like this one.

Instead of using one theoretical framework, the author filtered out certain behavioural manifestations and mapped the relevant constructs and their implications (as shown in Table 1) to create the concourse of statements as mentioned in the next section. For the sake of completion, the manifestation of these concepts in terms of coping mechanisms of individuals is also explained.

Table 1 Relevant Concepts and Constructs

Concept	Construct	Implication (at what level)	Coping Mechanism
Attitudinal beliefs (behavioural beliefs and evaluation of those beliefs; outcome expectations/expectancies)	Beliefs and attitudes	Behavioural response to Covid-19 and subsequent lockdown (Individual)	Continuously monitoring one's health; attitude towards administration
Intention/commitment/planning (behavioural intentions; self-control/self-regulation; contemplation/ preparation)	Locus of control	Whether positive beliefs and attitudes outweigh negative or not (Individual)	Calming oneself by indulging in hobbies and creativity
Risk-related beliefs and emotional responses (perceived susceptibility/severity; emotional coping responses/expectancies about	Perceived threat	One feels at risk with regard to a negative outcome; behaviour towards information	Seeking and processing of information; opinion about the disease and its impact

Concept	Construct	Implication (at what level)	Coping Mechanism
environmental cues)		provided by government, media and social media; (Individual and Community)	
Normative and norm-related beliefs and activities (normative beliefs and motivation to comply; social support)	Community-orientation	One believes that people who are important to them want them to engage in the behaviour; person has the support of others (Community)	Supporting neighbours, helping administration

This tabulation of major themes allowed researcher to separate the exploration of factors impacting individual's behaviour into three levels, i.e., personal, family or organization and community or national. Table 2 shows this separation and provides a heuristic model, which is used to categorize statements in the quasi-experiment.

In addition, for better exploration and research design, the author separated psychological effects into different components, i.e., affective, behavioural and cognitive. This is derived from the ABC model of psychology, which is one of the most commonly used models to understand attitudes[27]. Affective component refers to the thoughts or perceptions of an individual on the situation or the issue; behavioural component relates to the actions performed by the person owing to the situation, and cognitive component is the person's understanding and attitudes towards the issue.

- Affective Component (Neural) = Feeling/Emotion
- Behavioural Component (Readiness) = Response/Action
- Cognitive Component (Mental) = Belief/Evaluation

All of these components describe the constructs shown in Table 1. Other studies on this subject also focus on similar factors. There is recent evidence indicating strong support for a causal relationship between cognitive factors and a number of behavioural outcomes in such situations[28,29]. The self-regulation model states that any perception of health threats incorporates structural factors such as nature, causation, consequences, control and fear. In this study, all of these factors are captured by the affective aspect of psychology. Previous studies have shown that the perceptions of an individual about a particular health threat considerably shape the individual's nature and magnitude of behavioural response to the situation[30].

In the case of Covid-19, because it is an unprecedented situation, which afforded short response time to the laymen, the abovementioned factors may impact an individual's psychology, shape one's behaviour and affect other characteristics that have not been previously studied. A lay person may or may not imitate his or her own historical behaviour during the current pandemic; because this pandemic resulted in an unprecedented halt to human activities, the behavioural manifestations might be very different than those established by health behaviour theories and SEM. Thus, while designing the concourse (a set of statements for the study called Q-set), the author not only borrowed from the literature, but also derived some new behavioural traits from his primary interviews (discussed in the Methodology section).

Thus, this study tries to elucidate factors that shape lay person's behavioural and psychological responses to the Covid-19 pandemic while working from home and being forced to stay under lockdown especially in the beginning of the pandemic. There are studies that propose that lay people make sense of the pandemic by relying on previous experiences and creating relatable concepts from symbols and gestures[11]. However, most people have never witnessed and experienced a lockdown during a pandemic. Thus, it prompted the author to explore how people view this crisis, what attitudes lay people are developing and how these attitudes shape their responses.

Brooks et al.[31] have identified five psychological stressors among people under quarantine, i.e., duration of quarantine, fear of infection, frustration and boredom, inadequate supplies and inadequate information. These stressors agree with the concepts identified by the author, which are shown in Table 1. The author used these concepts, along with the themes from primary interviews, to create the Q-set of statements.

RESEARCH QUESTION

This study explores the emerging attitudes of lay people that manifest into behavioural and psychological responses of being in a state of lockdown during the Covid-19 pandemic. This study aims to synthesize attitudinal factors that map a lay person's ability to handle the situation.

1. What are the different types of attitudes that manifest into psychological and behavioural responses to lockdown?

Research Design

The primary objective of this study is to explore the types of attitudes that lay people exhibit during this unprecedented pandemic. The attitude is captured in terms of affective, behavioural and cognitive aspects of attitudes shown by lay people. This approach is corroborated by similar studies during this pandemic[30,31,32].

To understand possible manifestations, in addition to using data from previous studies, the researcher performed 10 primary interviews of lay people from India, Singapore and the United States of America. This approach allowed to understand the manifestations. It is clear that individual's attitude is governed by whether the person has an internal or external locus of control. In addition, individual's perception of the health crisis shapes his/her opinions. It was also observed that individuals approached prevalent information differently, i.e., either by seeking accurate information on the situation and then sharing it or not paying much attention to any information pertaining to the pandemic.

The viewpoints were positive in terms of constructive ways to occupy oneself but also evasive when some people said they did not watch or read the news to maintain their sanity. There were some people who were perturbed by the bigger picture and thought that this pandemic was an indication that things were getting worse for the human civilization and that they were concerned about their children. These diverse views require a research design that captures variety of opinions and provides an in-depth glimpse into the respondents' psyche and behaviour. Then, the researcher sought a quasi-experimental research design that allowed clustering of viewpoints towards a situation or a phenomenon.

METHOD AND DATA

To achieve the research objectives, Q-method is adopted, which allows the researcher to capture the subjective opinions of a group of diverse people towards the phenomenon being researched, i.e., emerging attitudes of lay people and their behavioural and psychological outcomes under lockdown. Q-method has been widely used by social scientists to study human subjectivity, i.e., persons' viewpoints towards a particular phenomenon. Q-sort can be performed on a small sample size, i.e., typically more than 8 and less than 100 subjects[33]. The main objective is to let similar opinions or psychological profiles cluster together.

In this method, respondents are given a certain number of statements related to the phenomenon, which they are asked to sort and place on a grid moving from most agreeable statements to most disagreeable ones. An illustrative image of sorting is shown in Fig. 1. Each statement is compared with another, and the placement can be changed as many times as a respondent prefers. Unlike surveys that use pre-defined and scaled question items, subjects have more latitude to interpret the meaning of statements when ranking them[34].

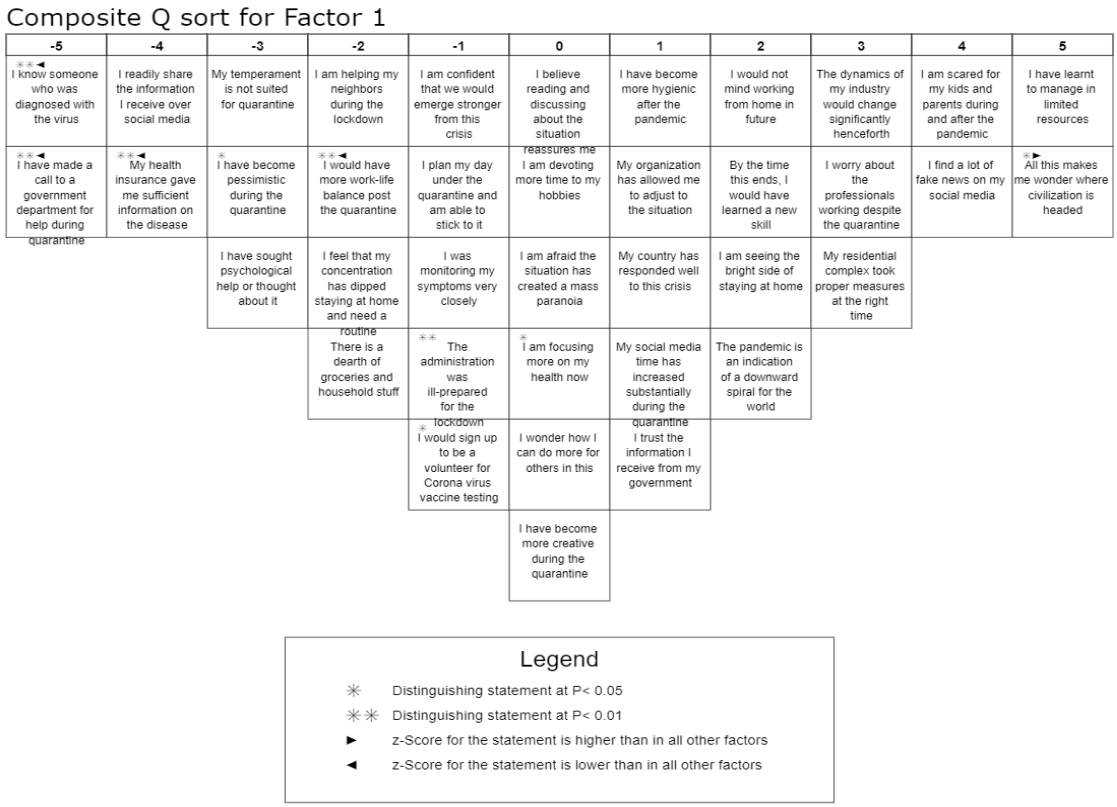

Figure 1 Illustration of Q-sorting

Initially, a concourse of statements is created in which statements from theories, interviews and articles are selected to describe all types of opinions and viewpoints. For this study, the author created a concourse of 54 statements from the literature and primary interviews.

Within the concourse, the author separated statements pertaining to the attitude and responses to the situation of the respondent at the personal, family, organization and community levels. The statements that reflect the attitude of an individual towards the pandemic situation were segregated in terms of affective, behavioural and cognitive components of the construct of attitude. By cross-tabulating these themes and types of statements, we formed a heuristic model of the concourse (see Table 2).

The final Q sample of 38 statements, which is referred to as Q-set, was selected with the help of the model by excluding repetition. The Q-set is shown in Appendix 3.

Table 2 Heuristic Model

Traits / **Unit**	Affective (a)	Behavioural (b)	Cognitive (c)
Personal (A)	Aa (6)	Ab (9)	Ac (5)
Family/Org (B)	Ba (3)	Bb (3)	Bc (3)
Community (C)	Ca (3)	Cb (3)	Cc (3)

METHODOLOGY

The author adopted Q-method to assess the attitudes of lay people towards the pandemic by separating it into affective, behavioural and cognitive components. Q-set was designed as mentioned earlier and was uploaded online on the website QsorTouch. These statements were presented to the respondents to sort on a Likert scale depending on whether they agreed (or not) with each statement. The Q-set is broadly representative of possible perspectives in relation to the research question[32].

All respondents were invited to follow a two-step sorting procedure: first, putting all items into three provisional categories (disagree, agree and neutral); second, putting items from each category in a grid. The sorting process increases the validity of responses although it requires more time (on average approximately 20 min) than questionnaire surveys. Then, the respondents were invited to comment on statements displayed at the extremes as well as in the middle of the distribution. Respondents were also invited to comment on two open-ended questions:

1. Why do you disagree with the statements that you sorted as most disagreeable?
2. Why do you agree with the statements that you sorted as most agreeable?

Participants

Convenience sampling was used in this study. A total of 75 lay people responded to the survey call between March 24 and June 24, 2020; out of these responses, 51 were usable. The respondents were from different countries but with similar levels of infection rates and lockdowns. There were 18 respondents from Asian constitutes, 14 from North America, 13 from Europe and 6 from Latin America. All of them were working professional who have never been in a pandemic lockdown. The countries where the respondents were from were at a similar stage of pandemic progression. This was ensured by checking the progression curve on the WHO website every week of the study.

Discussion: Emerging Attitudes

The responses were statistically treated, and factor analysis produced 8 factors that explained 69% of the phenomenon. However, there were strong correlations between few factors; they were eliminated, which left 5 factors (Factors 1, 2, 3, 5 and 8). The meaning of the factors are discussed in the following paragraphs and their z-scores are provided in Appendix 1. These factors were carefully studied for similarities and differences using the agreements and disagreements with the sorted statements. Finally, these factors were deductively aligned with certain attitude types about the pandemic lockdown and preparedness to endure it. The factor and textual analyses of the answers provided by the respondents allowed to capture the emerging attitudes. The factor characteristics are provided in Appendix 2.

The first factor that explains 29% of opinions indicates that people with an internal locus of control are adapting to the situation by engaging in hobbies and creative activities. They are using this opportunity to stay at home by indulging in hobbies and are able to see the positive aspects in the situation. However, they also have a low threat perception, perhaps owing to the lockdown, because they have not faced any shortage of groceries and

household stuff, and they also do not know anyone who has acquired the infection. These people have an optimist attitude towards the future despite the lockdown. Thus, this group is categorized as '**Adaptive and Optimistic**'. These people have higher adaptability towards the situation and can use their time creatively.

The next factor with 12% variance shows that people are feeling pessimistic owing to the lockdown, and they do not know how to deal with the lowered concentration at work. These people are very critical of the way the administration has handled the pandemic; these people are scared the most about their family's safety. This type of attitude is named as '**Uncertain and Pessimistic**'. These types of attitudes make people very unprepared to deal with the existing issues. These people require support from government agencies and from the employer to manage the work-from-home. In addition, these people need to be advised not to give in to fake news and to look at the positive aspects of this situation by spending more time with the family.

Compared to the second group of opinions, another set has emerged, which shows that people are well aware about their feelings and afflictions because they know that they are suffering from lower concentration and that their temperament is not suited for staying at home under lockdown. Despite this, they are feeling optimistic about the situation, and they can see its positive side. They are indulging in hobbies to some extent, and importantly, they feel that reading about the situation and discussing it reassures them. This indicates a better disposition to handle the situation and increased preparedness. This category is called '**Realists**'. They are the most grounded in the situation, and hence, their preparedness to see it through is also higher.

Another small cluster of opinions has emerged; these people have high threat perception and monitor their health. However, these people are not pessimistic, and they are able to manage their work well. Their concentration did not decrease, and they plan to acquire a new skill during the lockdown. However, these people criticize the country's response to the pandemic. Thus, this group is termed as '**Stoic and Critical**'.

The last cluster of opinions is very small and covers only approximately 3% of variance; these people are quite dismissive of the pandemic and exhibit extreme resistance to any change owing to the lockdown. These types of people are neither monitoring their health nor helping their neighbours. They believe that the pandemic created an unnecessary paranoia and that there are many fake news on the social media. Thus, this category is called as '**Dismissive and Resistant**'. Table 3 summarizes the attitude types and their characteristics in terms of affective, behavioural and cognitive responses to the existing situation. The last column highlights the key aspects of each attitude.

Table 3 Types of Attitudes towards the Covid-19 Lockdown

Attitude	Affective	Behavioural	Cognitive	Assessment
Adaptive and Optimistic	They believe that the world will emerge stronger from the pandemic; their temperament is suited for lockdown.	They focused on hobbies to manage time; they monitor their symptoms; they learned to manage limited resources.	They trust information on the pandemic and believe that their country responded well; they have a low threat perception.	**Internal locus of control** **Low threat perception** **Personal development orientation**
Uncertain and Pessimistic	They are pessimistic about the future, and they are most scared for their family; they are highly critical of the administration and residential complex.	Their concentration decreased during the lockdown.	This is the only group that does not perceive any fake news on social media.	**Cannot locate locus of control** **Lower preparedness to deal with the issues**
Realist	They are aware that their temperament is not suited for lockdown.	They are unable to adapt and have sought help.	Reading about the situation and discussing it reassures them.	**Information-seeking behaviour**
Stoic and Critical	Scared by the situation; personally, not pessimistic but wonder about the civilization	They are focused on acquiring a new skill rather than engaging in a hobby	Critical about the administration's handling of the situation	**High threat perception** **Practical and work-oriented behaviour**
Dismissive and Resistant	They do not find any positive aspects in staying at home; they do not think much of the pandemic.	They are not monitoring their symptoms; they do not plan their routines.	They believe that the pandemic has created a mass paranoia. They do not trust and share the information. They do not have any threat perception.	**No threat perception** **No community-orientation**

CONCLUSION

This study on the types of attitudes of lay people under lockdown clearly shows that people feel and behave differently as individuals, members of a family and community. In the absence of knowledge about the new pandemic and without prior lockdown experience, different and unique attitudes can be observed. Most people have a positive outlook and optimistic attitude towards the existing situation, which is part of their coping mechanism; such people engage in hobbies and personal development. However, in doing so, they do not pay attention to their health, do not take appropriate health precautions, and do not keep up with the current affairs pertaining to government advisories.

Some people are negatively affected by the crisis because they have a very high threat perception. Such people develop a negative attitude towards the existing situation and become pessimistic; thus, they lose confidence in their coping mechanism. Such people require help and community support along with the people who are not yet pessimistic but are aware that their temperament is not suited for them to be in lockdown for a long period of time.

RECOMMENDATIONS

The knowledge about five attitude types identified in this study is helpful for governments' communication, planning and preparation as the crisis unfolds. Based on the attitudes, the endurance of people under lockdown determines the fate of each community; for communities to endure, both the behavioural and psychological preparedness needs to be positive. However, the results of this study do not indicate that. Thus, communities need to regroup and support each other in looking at the positive aspects of the existing situation; technology has been very useful because numerous video-calling platforms are available. More importantly, if everyone is not at the same level of threat perception, there is always the risk of a pandemic. Thus, it is essential to identify the behavioural and psychological responses that culminate into attitudes and determine the trajectory for the society.

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CONFLICT OF INTEREST

None declared

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