Assessing the Attitudes and Behavioural responses of society towards COVID-19 Precautionary Measures: The Mediating effect of Risk Perception

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Abstract:

The pandemic of Covid-19 Novel Coronavirus is making bold headlines every day, claiming deaths and reeling the economy of each and every nation, ever since its emergence and potential outbreak. The effects of the pandemic has been such that it has stunningly brought a seismic shift in the attitudes and behaviour of the people in a short span of time. It has been observed as of late that people are trying their level best to create mass awareness amongst themselves, involving in practices to curtail the disease and evading any such risks that exposes them to the blood-thirsty disease. The objective of the current research paper is to examine and analyze the attitudes and behaviour of the people of West Bengal towards Covid-19 precautionary measures. For this purpose a framework has been developed by incorporating the construct of Risk Perception as a mediator. To this end, 453 respondents in different districts of West Bengal has been surveyed and their responses has been analyzed. The findings show that risk perception has a positive impact in influencing such attitudes and behaviour among the people of West Bengal.

Keywords: Covid-19; Precautionary Measures; Attitudes and Behaviour; Risk Perception; West Bengal

Background of the study

The current times has posed a plethora of challenges in the present times for people all over the world. The ongoing pandemic of Covid-19 Novel Coronavirus is like an anti-thesis to a hypercompetitive invincible global era. The aftermath of the pandemic has been quite disastrous with escalation in global mortality rates and unavoidable economic meltdown. The blood-thirsty disease has claimed myriad lives and sent the world economies into a ramshackle. Besides, it has also stymied all sectors like education, travels and tourism, hotels and restaurants, airlines, etc., thus jolting and plummeting the economic functions and pushing the world into the face of an inevitable global recession. Undoubtedly, Coronavirus has become a buzzword and is making broad headlines. The governments of all countries have also imposed certain precautionary measures to curtail the deadly virus, which the people

have been adhering to and following in large extents possible. Some such precautionary measures include wearing masks, sanitizing hands, following social distancing, restriction in large scale gatherings, etc. Talking in this context, there has been a noticeable wholesome metamorphosis in the attitudes and behaviour of the people displayed that of late. People in recent times, has been observed in veering away from their innate way of usual behaviour, like creating mass awareness about the pandemic and a bewildering perception towards minimizing the risk of the disease. Therefore, it becomes pivotal to measure such attitudes and behaviour of people. The present research endeavour in a novel attempt to delve into the perception of the Indian society towards the precautionary measures undertaken to curtail Covid-19 Novel Coronavirus. The present research study is purported towards to people of West Bengal where the essence lies in probing into their attitudinal and behavioural dynamics.

Introduction to the study

The pandemic of Covid-19 Novel Coronavirus is considered to be the most dangerous pandemic after the Spanish Flu which wreaked havoc across the world during the year 1918-1920. The pandemic after originating in China, in late November'2019, spread to other countries like wild fire. The pandemic is highly contagious and has affected millions of people in the word. India is no exception in this regard. India has recorded death in whopping numbers and currently perched as the second country with most Covid-19 cases in the world and the most dangerous hotspot, as the country has witnessed an inexorable upsurge in Coronavirus cases. The lockdowns imposed by the Indian government in the middle of March'2020, albeit played an instrumental role in curtailing the spread of the pandemic, but ever since the lockdowns were lifted in a bid to restore the "previous normal", the Coronavirus cases surged, affecting thousands of people in all states, which further resulted in the government enforcing harsh quarantine measures and strict Covid-19 protocols which the people now need to follow. As a result, the Covid-19 norms have intensified after a hurly burly amidst India, so is the case in West Bengal. The consequences saw the government of West Bengal

resorting to lockdowns coupled with tough precautionary measures which the people have been asked to follow to a gargantuan extent. In this light, there has been a seismic shift in the attitudes and behaviour of the people of West Bengal towards such precautionary initiatives. Thus, it is imperative to measure the perception of the society towards such Coronavirus precautionary measures. In juxtaposition to previous researches which have emphasized on probing into the attitudes and behaviour of people, the current research study aims at pioneering an integrated framework by embedding the construct of "Risk Perception" as a mediator which fits perfectly in the present scenario. This rudimentary idea forms the very essence of our purported endeavour.

Literature Review

The present topic of societal behaviour towards Covid-19 precautionary measures is a novel one. A closer introspection of existent literature would actually reveal that there are absolutely no studies existing deliberating upon the current issue at hand. Therefore, it is an arduous challenge for any researcher to undertake such a research study for the first time ever.

It has been noticed that there is massive awareness among people regarding Covid-19 precautionary practices which is quite commonly evidenced in the households, workplaces and public spaces. Awareness in simple term would mean "consciousness." Singh et al. (1999), emphasised on the assessment of awareness and prevention of Covid-19 disease in India. The findings of the study revealed that awareness is instrumental to help the prevention of the spread of Covid-19. Al Jasser et al. (2020), also conducted a similar study, wherein, the aim was the determination of the level of awareness towards Covid-19 among dental students. The results revealed that differences in awareness levels will have differences in attitudes displayed towards prevention of Covid-19 among the people.

The term risk perception is best defined by Weinstein (1989) assessing the probability of a particular kind of accident happening and the concern of people about the aftermath. It transcends beyond an individual and hence, is a "socio-cultural"dimension which reflects a concoction of

histories, symbols, values and ideologies. Roy (2016), used the constructs of awareness levels and risk perception to conduct his research which probed into the perception of consumers of Kolkata related to e-waste initiatives.

The peers, collegeaus, opinion leaders, social circle, etc. also play a prodigious role in shaping up the awareness, attitudes and behaviour of people towards Covid-19 precautionary practices. This is termed as "Subjective Norm."Study conducted by Todd & Taylor (1995), have evidenced the impact of subjective norm on the societal behaviour.

Attitude may be defined as"the degree or extent to which an individual has a favourable or unfavourable evaluation of the concerned behaviour."It is a no-brainer that display of a particular demeanour towards a phenomenon is the key to evaluate the responses towards the phenomenon. This is known as attitudes. In the words of Schiffman and Kanuk (2004), "consumer attitude is a learnt predisposition to behave consistently in a positive or negative manner rooted on feelings and opinions related to something."Attitudes play a mammoth role in influencing behaviour of people. The twin factors responsible for shaping up the integrity of consumer attitude are cognitive and affective factors. While cognitive factors shape consumer perception, the affective factors results in emotional attachment. Attitudes play a mammoth role in influencing consumer behaviour.

In fact, the Theory of Planned Behaviour (TPB), explicitly explains behaviour by the application of cognitive and affective models of attitude to analyze consumer behaviour. Blackwell et al. (2001), highlighted that behavioural intentions are determined by attitudes, representing the likes and dislikes of people. In the light, of the literature review, we shall establish our research model and frame our hypotheses likewise to give practical conclusion to our research objectives.

Since the pandemic of Covid-19 has struck the world, there has been an astounding change in the attitudes and behaviour of people. It is noticed that people have been spending most of the times at home adhering to strict quarantines during the lockdowns. Post lockdowns, the people are strictly following the various Covid-19 protocols at public places like wearing of masks, sanitizing

hands and maintain a minimum distance of 2 meters from each other (Javed, 2020). Thus, we observe certain unprecedented changes in the behavioural trajectories of the society which needs to be probed into (Hasan et al., 2021).

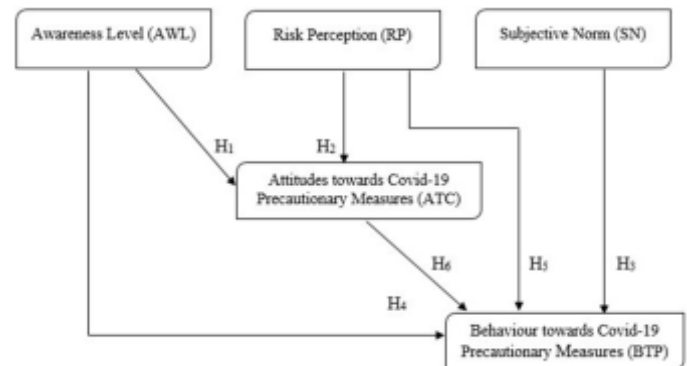**Research Model and Formulation of Hypothesis**

Figure 1: Research Model (Source of Image: Author's Own Conceptualization)

H1: "Awareness Level has a positive impact on Attitude towards Covid-19 Precautionary Measures"

H2: "Risk Perception has a positive impact on Attitude towards Covid-19 Precautionary Measures"

H3: "Subjective Norm has a positive impact on Attitude towards Covid-19 Precautionary Measures"

H4: "Awareness Level has a positive impact on Behaviour towards Covid-19 Precautionary Measures"

H5: "Risk Perception has a positive impact on Behaviour towards Covid-19 Precautionary Measures"

H6: "Attitude towards Covid-19 Precautionary Measures have a positive impact on Behaviour towards Covid-19 Precautionary Measures"

Data and Methodology

A healthy concoction of both primary and secondary data has been used to bolster the worth of the current research study. Secondary data sources has been used to get an in-depth understanding of the topic and accordingly a strong conceptual base has been developed to further conduct the research study. Various authentic and reliable databases like INFLIBNET, Google Scholar, PROQUEST, etc. has been accessed to get hold of previous researches related the present topic of discussions. For the purpose of primary data collection, a closed ended questionnaire has been used. The questionnaire consist of 15 questions distributed across

5 segments based on the research model. All the questions used in the questionnaire has been self-developed by the authors making it suitable to the present environment of study. Almost all the questionnaires were randomly doled out to various respondents while some of the remaining questionnaires to be surveyed were sent through emails. Few respondents in localities of Kolkata has also been interviewed directly.A judicious blend of both mailed questionnaires and randomly administered questionnaires along with face to face direct interviews is expected to give robust responses and reduce the biasness in the data collection process. The respondents in the study are all residents of West Bengal state. The various selected districts of West Bengal for the purpose of the survey comprises Kolkata, Burdwan, Howrah and Hooghly. The respondents belong to different age groups and are engaged in various occupations. Initially, the survey was conducted on more than 500 respondents but due to some erroneous and incomplete responses, a total of 77 responded questionnaires had to be rejected, thus, making the number of valid responses stand at 423. A "Five Point Likert" scale has been used to measure the concepts, where *"1=Highly Ineffective/Highly Unimportant; 2=Somewhat Ineffective/Somewhat Unimportant; 3=Neutral; 4=Somewhat Effective/Somewhat Important and 5=Highly Effective/Highly Important"*. The data collected has been meticulously processed by using AMOS version 23.

Analysis of Data and Results

• Demographic Profiling

The first part of the data analysis, would reveal about the consumer demographics. The data has been represented below in the form of a table.

Table 1: Demographic Statistics

Demographic Construct	Classification	Population Statistics	Percentage
Gender	Male	306	0.72
	Female	117	0.28
	TOTAL	**423**	**1.00**
Age	Below 18	59	0.14
	18-24	78	0.18
	25-34	86	0.20
	35-44	92	0.22
	45-54	63	0.15
	Above 55	45	0.11
	TOTAL	**423**	**1.00**
Current Occupation	Student	89	0.21
	Service	172	0.41
	Business	56	0.13
	Others	106	0.25
	TOTAL	**423**	**1.00**

As we can see from the above table, the number of male and female respondents is moderately balanced in the ratio 72:28, where male and female make up for 306 and 117 of the total population respectively. Most of the respondents in the study belong to a young age group, falling in the bracket of 25-34 years and 35-44 years. A major chunk of the population surveyed are engaged in various services.

• **Reliability Analysis**

For the purpose of testing the internal consistency of the variables, "Cronbach's Alpha Test" has been conducted. This will serve the purpose of measuring the scale reliability of the various constructs which has been taken into consideration in the current research endeavour. The table below displays robust reliable results as the Cronbach's Alpha values are all above the standard value of 0.7.

Table 2: Reliability Analysis

Construct	Cronbach's Alpha	Items	Total Correlation Value of Corrected Item	Cronbach's Alpha
Total	0.992	20	-	-
Awareness Level	0.986	AWL1	0.972	0.975
		AWL2	0.948	0.986
		AWL3	0.966	0.98
		AWL4	0.963	0.981
Risk Perception	0.989	RP1	0.964	0.984
		RP2	0.942	0.99
		RP3	0.975	0.987
Subjective Norm	0.978	SN1	0.912	0.977
		SN2	0.974	0.948
		SN3	0.971	0.956
Attitude towards Covid-19 Precautionary measure	0.982	ATC1	0.956	0.978
		ATC2	0.965	0.973
		ATC3	0.933	0.98
		ATC4	0.972	0.975
		ATC5	0.96	0.977
		ATC6	0.889	0.972
Behaviour towards Covid-19 Precautionary measure	0.972	BTP1	0.966	0.955
		BTP2	0.876	0.972
		BTP3	0.955	0.963
		BTP4	0.96	0.96

Source: Author's own computation.

• **Convergent and Divergent Validity Test**

The subcategories of construct validity are the convergent and divergent validity. The convergent validity has been estimated by their respective "factor loadings" (CFA), "average variance extracted" (AVE)and "composite reliability" (CR). It is evident from the table depicted below that the CFA for all items are above the ideal level of 0.7, while AVE and CR fall above their respective threshold criterion of 0.5 and 0.7.

Table 3: Convergent Analysis

Construct	Items	Factor Loading	AVE	CR
Awareness Level	AWL1	0.942	0.95	0.856
	AWL2	0.912		
	AWL3	0.963		
	AWL4	0.958		
Risk Perception	RP1	0.976	0.926	0.955
	RP2	0.966		
	RP3	0.972		
Subjective Norm	SN1	0.975	0.953	0.852
	SN2	0.968		
	SN3	0.966		
Attitude towards Covid-19	ATC1	0.956	0.978	0.986
Precautionary measure	ATC2	0.965		
	ATC3	0.933		
	ATC4	0.972		
	ATC5	0.96		
	ATC6	0.889		
Behaviour towards Covid-19	BTP1	0.966	0.955	0.992
Precautionary measure	BTP2	0.876		
	BTP3	0.955		
	BTP4	0.96		

Source: Author's own computation.

The usage of "square root of ACE" and the "correlation coefficient matrix" is important for testing the divergent validity of constructs. As per Fornell & Larcker (1981), "discriminant validity can be obtained by comparing the shared variance between factors with the AVE from the individual factors." The below matrix shows that MSV and ASV between factors are less compared to AVE and also the square root of AVE is higher compared to the correlations of inter-constructs, hence, satisfying the discriminant validity test.

Table 4: Divergent Validity Results

Construct	Inter-construct Correlations				
	AWL	**RP**	**SN**	**ATC**	**BTP**
AWL	0.972				
RP	0.985	0.973			
SN	0.912	0.927	0.972		
ATC	0.981	0.955	0.975	0.934	
BTP	0.99	0.969	0.98	0.942	0.983

Source: Author's own computation.

• **Test for Structural Equation Modelling**

SEM has been performed to probe into the relationships between five key variables, namely, AWL, RP, SN, ATC and BTP. The rationale is to test the fit between the research model and the obtained data. The first stage of making inference about SEM results encompasses a review of fit indices. All the fit indices when juxtaposed with their corresponded values which has been suggested will give a good model fit "Ratio of Chi-square to its Degrees of Freedom" $(\chi 2/df) = 2.086$, "Goodness of fit index"(GFI) = 0.956, "Adjusted Goodness of fit index" (AGFI) = 0.933, "Relative Fit Index" (RFI) = 0.968, "Comparative Fit Index" (CFI) = 0.981 and "Root Mean Squared Error of Approximation"(RMSEA) = 0.042.

Table 5: Fit Indices for "Goodness of Fit Measures"

Goodness of Fit Measure	Recommended Value	Actual Value of Measures	Result of Model Fit
CMIN/DF	⩽ 3.00	2.086	Good
GFI	⩾ 0.90	0.956	Good
AGFI	⩾ 0.90	0.933	Good
RFI	⩾ 0.90	0.968	Good
CFI	⩾ 0.90	0.981	Good
RMSEA	⩽ 0.05	0.042	Good

Source: Author's own computation.

To this end, the results of hypothesis testing have been obtained. The below table clearly represents the validation of all the hypotheses through the path analysis. It can be concluded that Awareness Levels(AWL) have a positive impact on both Attitude towards Covid-19 Precautionary Measure (ATC) and Behaviour towards Covid-19 Precautionary Measure (BTP), with reported figures of (β= 0.582, p<0.05) and (β= 0.672, p<0.05) respectively. Similarly, Risk Perception (RP) is also positively knitted with ATC and BTP, with each reporting figures of (β= 0.603, p<0.05) and (β= 0.749, p<0.05). It has also been observed that both Subjective Norm (SN) and Attitude towards Covid-19 Precautionary Measure (ATC) is positively linked with Behaviour towards Covid-19 Precautionary Measure (BTP), as figures of (β= 0.557, p<0.05) and (β= 0.612, p<0.05) have been reported.Hence, all the reported figures are positive, proving a positive and significant association between the variables. It is on the basis of these results that all the proposed hypothesis of our research study has been validated.

Table 6: Results of Path Validation (Hypothesis Testing)

Hypotheses	Path	Coefficient	Direction	Results
H1	AWL→ATC	0.582	Positive	Supported
H2	RP→ATC	0.603	Positive	Supported
H3	SN→BTP	0.557	Positive	Supported
H4	AWL→BTP	0.672	Positive	Supported
H5	RP→BTP	0.749	Positive	Supported
H6	ATC→BTP	0.612	Positive	Supported

Source: Author's own computation.

Findings & Discussions

The current research endeavour is a novel effort to unravel the attitudes and behavioural dynamics of society towards Covid-19 Precautionary Measures. The reason for selecting the state of West Bengal has been the stunning responses from the state's public towards reducing the spread of Coronavirus together by strict adherence to Covid-19 protocols and norms when juxtaposed with other Indian states and their respective residents. As a result, it is quite evident in the number of Covid-19 cases which has drastically decreased in the past few months after the second lockdown was lifted up, where the people became more cautious regarding the contamination of the menacing virus and its effective containment by adhering to strict guidelines. The present research study revealed positive relationship between awareness levels and Attitude towards Covid-19 Precautionary Measures. Awareness or consciousness is instrumental as it may bring to the forefront the current scenario of a plethora of challenges faced by the society because of the percolations of certain ramification, in the current study, the deadly Covid-19 virus. Subjective Norm has found to have a positive linkage with Behaviour towards Covid-19 Precautionary Measures. It was explored that Risk Perception has a positive linkage with Attitude towards Covid-19 Precautionary Measures. A reason for this could be attributed to the society and their frame of mind. The ongoing ramifications in the society and their personal life being subjected to havoc and disruptions have stirred a major change in the perception of the society towards precautionary practices which needs to be undertaken during these testing times. Subjective Norm has a gargantuan role to play as the social influences stemming from society (peers, colleagues, friends, etc.) does have an inexorable influence on the behaviour of people. The opinions and suggestions of the society do have a bearing on each and every person which is clearly evident in their attitudes and behaviour. It is a no-brainer, that the society and its response towards Covid-19 Precautionary Measures will certainly influence the common man which is expected to generate the required behaviour. Positive embracement of Covid-19 precautionary practices are expected to generate positive attitudes and behaviour among the society to accept such a noble endeavour. It was revealed that Risk Perception has a positive relationship with Behaviour towards Covid-19 Precautionary Measures. A possible explanation for this would be the period of "sensory adaption" where the stimuli has undergone changes due to the pertinent actions undertaken. In other words, the operant strategies has been remarkably put into practice to ensure positive reinforcement in the behaviour of the society towards Behaviour towards Covid-19 Precautionary Measures. It was also found that Attitude towards Covid-19 Precautionary Measuresis positively associated with Behaviour towards Covid-19 Precautionary Measures. Prolonged attitudes takes the form of behaviour which changes not only the modus operandi of the common man but also his mind set as well as

his demeanour. Undoubtedly, prolonged positive attitudes of the society towards Covid-19 Precautionary Measures may open the doors for a permanent behaviour towards such practices.

Conclusion

The present research endeavour was a novel attempt to unravel the attitudes and behaviour of the society towards Covid-19 Precautionary Measures. Truth to be told, the conservative practices to blunt the menace of the contagious disease is very much the need of the situation. The behavioural dynamics and the adeptness of society towards such initiatives could possibly deflate the conundrum of Covid-19 to a prodigious extent. It can be safely asserted that such precautionary initiatives cannot possibly eliminate the risk of spread of the deadly virusbut it can certainly reduce the contamination to a good extent. The various initiatives taken to curtail the infectious pandemic has been getting strong response not only among the residents of West Bengal but also in other states of India as well as across the globe. Unfortunately, many states of India including West Bengal still seems to be facing a long standing dilemma of unshackling itself completely from the stranglehold of Covid-19. A closer introspection would rather reveal that the precautionary practices need to be more keenly addressed and strictly managed by the government, local authorities and the society. There has been myriad debates and deliberations over the present issue at hand making it an intriguing area of research as well. But, it still remains to be seen whether such initiatives and the attitudes and behaviour of the society would actually be able to accomplish the ultimate objective of getting rid of the blood thirsty Coronavirus sooner.

Managerial Implications

Building an awareness among the society is a vital key for successfully implementing the precautionary practices towards combating Covid-19 virus. The government along with the municipal corporations, local bodies and the general public have the potential togenerate awareness among the society. Such awareness should be given a practical shape by encouraging the society and asking them to embrace the various practices triggered by various awareness programs. This initiative in fact has taken wings in the state of West Bengal, most notably, in the metropolitan city of Kolkata where each and every individual is playing a key role in adhering to the various Covid-19 precautionary measures, thereby, resembling the mantra of "think global, act local". Educational institutions in this light, are also expected to play an inexorable role in educating its students as well as its employees about the various Covid-19 precautionary practices which will act as a catalyst. Besides, many educational institutions and corporates have organized few webinars and e-conferences to address the present issue. This augurs well for the society and upcoming generations who could largely benefit from such positive behaviour displayed towards managing the menacing Covid-19 pandemic.

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