

PERCEPTUAL THREAT, SOCIAL DISTANCING AND WELL-BEING OF PEOPLE DURING COVID 19 PANDEMIC

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Abstract

The study aimed at measuring the effect of perceptual health threat and social distancing on well-being of people. 357 respondents from four districts of a state of eastern India participated in the study. Factor analysis was computed to extract factors of two scales-protection motivation and social distancing. Step wise multiple regression analysis was computed to predict protection motivation on social distancing behaviour. In a separate set of regression analysis social distancing behaviour and protection motivation predicted three separate indicators of well-being. The result suggested that the perceptual health threat significantly moderated social distancing behaviour during COVID 19 pandemic. The findings revealed that people opted for more social distancing behaviour when they had potential health threat during COVID 19 pandemic. People had more experiences of loneliness and anxiety and had shown hostility during lockdown. The results are interpreted in the light of risk aversion management.

Keywords: Perceptual threat, Social distancing, Mental sickness, Risk aversion, Health, COVID-19

INTRODUCTION

For the last few months India has witnessed potential health threat and lockdown as a result of COVID 19 pandemic that has negatively impacted the well-being of people. Potential health threat when combined with the prolonged social distancing are presumed to have an impact on mental make-up of people. It has led to many behavioural changes in the society. Social distancing has suggested some preventive behavioural measures which are essential for health risk management. At the same time, social distancing has widened emotional and social gaps between people. These behavioural changes at the societal level are expected to stay for health risk management. The arousal of health protection motivation moderates

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social distancing behaviour. These two variables singly or jointly contribute to well-being of people. The study was designed to investigate their contributions to well-being of people.

Protection motivation behaviour is a tendency to assess the perceived health threat and an intention to perform for health management. Protection motivation triggers two cognitive processes-threat appraisal and coping appraisal. Threat estimates three cognitive processes: a. severity of events, b. the probability of occurrence of events and c. the efficacy of the recommended coping responses (Rogers, 1975). Coping appraisal is an estimation of individual's capacity to perform risk preventive behaviour. Risk preventive behaviours can be grouped into three broad categories; a. response efficacy, b. self-efficacy and c. cost efficacy. Response efficacy explains the perceived effectiveness of the recommended risk preventive behaviour. Self-efficacy response demands a strong belief in one's capabilities to organise and execute course of actions to avert potential threats. Coping appraisal also considers response cost that an individual estimate while performing the recommended practices. There exist no substantive studies on behavioural changes that stems from the need for protection motivation. Some basic models of risk aversive behaviour explain dynamics of behavioural changes during COVID 19 pandemic (Babcicky & Seebauer, 2019; West et al., 2020). At any given time, a risk aversive behaviour occurs when both the capability and opportunity are present and when a person is more motivated to enact that behaviour than any other (West et al., 2020a). Another plausible explanation to behavioural change is cognitive dissonance. People change their behaviour when the available information contradicts beliefs and values. They adopt at least three strategies to avoid dissonance (Greenwald & Ronis, 1978). Prospect theory of judgement argues that people make judgement after comparison of positive and negative consequences of any action available to them (Tversky & Kahneman, 1986). Conflict theory of decision making (Janis & Mann, 1977) lays emphasis on decision taken under stressful condition. PRIME theory narrates that behavioural change at any moment result from the competing impulses and inhibitions operating at that moment (West & Brown, 2013).

Social distancing as non-pharmaceutical preventive measure requires further research to scale its impact especially on individual and social behaviour. Social distancing is a cost-effective epidemic control strategy if it is applied with a high degree of caution (Maharaj & Kleczkowski, 2012). Many mathematical models have been formulated to predict the effect of social distancing on infectious disease control outcomes (Ringa & Bauch, 2018). Structure of social contacts specifies linkages among people across age, gender, income and other sociological variables (Singh & Adhikari, 2020). Wasdin & Prasad (2020) in a study noted that Bengaluru slum dwellers kept engaging in economic activities at the cost of social distancing. Adolescents in US were more socially responsible while complying with social distancing (Oosterhoff, Wilson & Shook, 2020). Adolescents, who stayed home, had less anxiety and less depression compared to those who stayed away from home. Stigmatization and doubts over the credibility of social-relationship are some of the negative consequences of social distancing which might co vary with COVID 19. At the same time, some positive

behavioural changes are expected to be assimilated in the lifestyle. In African society social distancing was a painful exercise (Adjei, 2020). The African sense of personhood and belonging to the community are so high that social relations move around it. In a study it was observed that isolation and social distancing were effective during short-term lockdown (Briscese, et al., 2020). The time line study disclosed that lockdown had adverse effects on mental make-up when period was extended. In Italy it was found that self-quarantine was not effective beyond a time limit (West et al., 2020).

Recent studies explain that social distancing and isolation though effective measure to control the pandemic, generate enormous cost to people's mental health (Alegado, 2020; Brooks et al., 2020; West et al., 2020). Many studies in the West (Ecole & Parr, 2020; West et al., 2020) confirmed that people of collectivistic culture experienced more loneliness when their perceptual deficit was more than the expectation. Hostility and self-isolation bear a significant relationship (Vella, Kama rack & Schiffman, 2008). Self-isolation for a longer period results in hostility (Alegado, 2020). In a recent study it was reported that quarantined and isolated individuals were more anxious and had post-traumatic stress symptoms (Roy et al., 2020). 28 per cent people were found anxious about non-specific symptoms and mutation effect of this infectious disease. People unwillingly modified their lifestyle and dietary habits.

High uncertainty and low predictability of COVID 19 threaten people's physical as well as mental health. People develop negative emotions and appraise poorly cognitive processes (Hamouche, 2020; Li, et al., 2020). Behavioural immune system explains that people tend to develop avoidance behaviour when faced potential health threat (Li, et al., 2020). Perceived risk theory (Slovic, 1987) explains that public emergencies trigger more negative emotions and thereby, affect cognitive assessment. Prolonged deprivation of social contacts produce negative emotions reduce immune functions and disrupt processes of normal physiological mechanisms. People overreacted to COVID 19 pandemic in absence of appropriate guidance from the state authorities. It led to avoidance behaviour and blind conformity (Li, et al., 2020). In another study it was found that people showed their negative emotions (e.g., anxiety, depression and indignation) and were more sensitive to social risks (Hamouche, 2020). They were concerned more about their health and family while less about friends. Social risk judgement was higher and life satisfaction lower after COVID 19 (Li, et al., 2020). Uncertainty about sources of disease and non-availability of vaccination made people more suggestive. People's fear of potential risk and lack of controllability caused by COVID 19 brought higher risk judgement (Zhang et al., 2020). Quarantined persons felt rejected from their neighbours. They were not invited on many social gatherings and were treated differently with fears and suspicion. Sometimes, they faced critical comments on health issues (Pfefferbaum & North, 2020). Studies in the west report that the quarantined persons had post-traumatic disorder (John, Natalie & Michael, 2013). Acceptability of such persons at job places was very critical while maintaining social distancing. The isolated persons during Severe Acute Respiratory Syndrome (SARS) epidemic experienced acute anxiety and fear after recovery (Pfefferbaum & North, 2020). A cohort study reported high post stress-traumatic disorder (PSTD) after SARS outbreak (John, Natalie & Michael, 2013).

Isolation and quarantine for a longer period resulted in mood disorder, guilt feeling, loneliness and insomnia (Hossain, Sultana & Purohit, 2020).

Hypotheses.

There exists paucity of researches on behavioural changes during COVID 19 pandemic in India. Based on some previous studies in the West a few hypotheses were formulated:

Hypothesis 1. When people perceive potential health threat, they will comply with social distancing,

Hypothesis 2. When people perceive potential threat and follow social distancing, there will be negative experiences of loneliness, hostility and anxiety.

Hypothesis 3. When people perceive less advantage of preventive measures, they will not follow social distancing.

METHOD

Participants.

The study was conducted on four districts of a state of eastern India where number of positive cases in the containment areas of red zone was high and people remained home-quarantined for more than two months. 357 respondents randomly selected for the study, resided in the containment areas. They were individually approached after lockdown. Of them 254 were male and 103 females. Their average age was 42.7 years. Their educational qualification ranged from higher secondary to post-secondary and income varied between 4.00 and 8.56 lakh per annum. 77 per cent participants resided in urban setting and the remaining 23 per cent in the rural areas.

Instruments

Initially it was decided to compute factorial properties of the multidimensional scales with the help of varimax rotation followed by orthogonal method. All scales followed standard operating procedures (SOP) of item analysis before final administration.

1. Protection Motivation Scale. It refers to the need for health management and an intention to cope with the critical situation. The study adopted Mac Donell's et al (2013) scale. Initially it had seven sub-components (severity, vulnerability, extrinsic reward, intrinsic reward, response-efficacy, self-efficacy and cost-efficacy) having 21 items. It was contextually modified and subject to factor analysis (appendix I). The factor analysis of the scale resulted in three interpretable factors accounting for 72.58 per cent of the total variances. These factors were: a. severity, b. reward and c. response efficacy. The Eigen values of the extracted factors were: 4.32, 4.18 and 3.78 respectively. The Cronbach alpha of each factor was: .78, .71 and .68 respectively. Items with loading of each factor are reported in appendix IV.

2. Social Distancing Scale. It refers to physical distance which is spatially defined between persons for breaking a chain of social contact. The scale was developed with the help of a panel of experts. It had 17 items covering mainly two broad dimensions: a. physical and b.

social. Each dimension constituted some behavioural strategies to counter potential threat (appendix II). The factor analysis of the scale yielded two major factors: a. health safety strategy and b. social distancing strategy accounting for 70.34 per cent of the total variances. The Eigen values of these factors were: 4.87 and 4.37 respectively. The Cronbach alpha of each factor was: .73 and .76 respectively (appendix V).

3. Well-Being Scale. It constitutes three negative indicators-loneliness, hostility and anxiety. Loneliness is an unpleasant experience while hostility is a reaction to the perceived situation. Anxiety is a mental state that prevails with some unknown reasons. The scale consisted of 12 items. Each dimension had four items. The intra-item and inter-item total correlation of the scale was fairly high ($p < .01$). The Cronbach alpha coefficient of each dimension was: .67, .72 and .69 respectively (appendix III).

Procedure

The study collected a list of the containment areas across districts from the state health department. This included a number of cases of isolated and recovered persons as well. A team of well-trained investigators approached the respondents in the sampled districts and established rapport with them. A focus group discussion (FGD) was organised in some places to elicit more information about COVID 19. The total time taken during data collection was about one and half months.

RESULTS

Proportional Mean and Relative Standing of Factors.

Since the emerged factors had varying number of items, proportional mean was computed for each scale and was further ranked to indicate the relative standing of each factor (Table 1). Severity was a prominent factor of protection motivation followed by response-efficacy confirming a perceptual impression of potential threat and an intention to avert it. It directed people to take some preventive measures as and when required. People insisted more on personal health safety measures than social distancing. They modified their behaviour to cope with the emerging situation.

Table 1: Mean, SD and proportional mean with rank of all factors

Factors	Range of mean scores	Range of SD	Proportional mean	Rank
Response-Efficacy (9)	3.34-4.07	.69-1.02	3.77	2
Severity (6)	3.79-4.21	.68-1.17	3.87	1
Reward (6)	3.12-3.36	1.12-1.24	3.23	3
Health Safety (8)	2.89-3.79	1.15-1.28	3.25	1
Social Distancing (9)	3.22-4.13	1.09-.1.16	3.21	2

Note. Figures in parenthesis against dimensions show number of items.

Inter Correlation among Variables

Table 2 shows inter correlation among variables. All variables by and large, were significantly related to each other. People adopted both social distancing behaviour and health safety measures ($r .19, p < .01$) when they had an intention to respond to the situation. People adopted both health safety and social distancing behaviours when they perceived severe health threat ($r < .01$). Response-efficacy significantly correlated with health safety behaviour ($r .28, p < .01$). Other than response-efficacy all factors were related to loneliness, hostility and anxiety ($p, < .01$). Reward, health safety and social distancing made negative relationships with anxiety. Respondents showed more anxiety when they did not perceive any advantage of social distancing. However, social distancing and health safety measures had positive relationships with loneliness and hostility. More they adopted social distancing, more they experienced loneliness and were hostile to the situation ($r < .01$). All dimensions of well-being were significantly related to each other ($r < .01$).

Table 2: Correlation Matrix among Variables

Variable	1	2	3	4	5	6	7	8
1. Response - Efficacy	-	.31**	.19**	.28**	.32**	-.07	.09	.04
2. Severity		-	.11*	.19**	.21**	.24**	.18**	-.06
3. Reward			-	.19**	.22**	.15**	.19**	-.23**
4. Health Safety				-	.19**	.25**	.28**	-.32**
5. Social Distancing					-	.26**	.30**	-.34**
6. Loneliness						-	.25**	.21**
7. Hostility							-	.18**
8. Anxiety								-

Note. ** $p < .01, df = 355$

Step wise Multiple Regression Analysis

Step wise regression analysis was computed separately at two levels. At the first level protection motivation was regressed on social distancing. At the second level both protection motivation and social distancing were regressed on each dimension of well-being. Protection motivation moderated social distancing which in turn, contributed to well-being. A set of eight predictors (three factors of protection motivation-response-efficacy, severity and reward and five background variables- age, education, income, area and gender) were regressed on social distancing. At the second level a set of ten predictors (eight previous predictors and two additional predictors of social distancing-health safety and social distancing) were regressed on each dimension of well-being. The purpose of stepwise multiple regression analysis was to eliminate some of the superfluous variables and also to partial out multi-collinearity effects separately on social distancing and well-being. Another analysis known as

shrunk **R** was computed to minimise biases in **R** and **R**². The obtained results are displayed in Tables. 3 to 7.

Altogether three predictors, namely severity followed by response-efficacy and age significantly contributed to health safety behaviour accounting for 44 per cent of the total variances. An overall **F (6, 350)** was found significant 3.64, **p < .01**. A sequence of variables revealed that severity of health threat was a prominent predictor followed by response-efficacy and age. The *shrunk* **R** was .39 showing less bias in estimation of health safety behaviour.

Similarly, four predictors, severity, response-efficacy, reward and income significantly determined social distancing behaviour explaining 48 per cent of the total variances. People, who perceived severe health threat, responded effectively to diffuse the health crisis. An intention to respond to the situation helped them protect from health risk. Income emerged as significant predictor to social distancing behaviour (*beta* .22). The *shrunk* **R** was .41 suggesting less bias in estimation of social distancing behaviour. The result supported hypothesis 1. The study confirmed that the need for protection motivation moderated social distancing behaviour. The arousal level of protection motivation was an important factor which determined appropriateness of social distancing behaviour.

Table 3: Regression Predicting Health Safety

Predictors	r	R	beta	Std. error of beta	F
Severity	.19	.48	.46	.33	10.67**
Response-efficacy	.28	.45	.35	.18	9.59**
Age	.19	.31	.26	.20	6.89**

Note. Multiple R .66, an overall **F (6, 350)** 3.64, ** **p < .01**; * **p < .05**

At the second level two factors of social distancing were added to a list of predictors to determine each dimension of well-being. Altogether 10 predictors were regressed on loneliness. Of them four predictors, severity, reward, age and social distancing behavioural strategy to prevent health risk explained loneliness accounting for 52 per cent of the total variances. Again, severity of potential threat emerged as prominent factor that caused loneliness (**F 8.65, p < .01**). An intention to respond to potential threat motivated people to keep away from social contacts. People across age experienced loneliness during health emergency. (table 1.5). An overall **F** was found significant (**p < .01**). The *shrunk* **R** was .36 showing less bias in estimation of loneliness.

Social distancing and personal health safety behaviour followed by reward component of protection motivation contributed to hostility. They significantly predicted hostility accounting for 46 per cent of the total variances (**F 3.36, p < .01**). Less social contact

and more personal safety measures made people more hostile. Reward was a negative predictor of hostility meaning that people experienced less promoting element in protection motivation (*beta* -.39). The shrunken **R** was .41 confirming less bias in estimation of hostility.

Sequentially, health safety behavioural measure followed by an intention to respond effectively to the situation and social distancing behaviour determined anxiety explaining 41 per cent of the total variances. The need for personal safety measures and a desire for responding to potential threat made people more anxious. They kept practicing social distancing to avert health risk. All these factors individually or jointly determined anxiety. The shrunken **R** was .40 indicating less bias in estimation of anxiety (table 1.7). An overall **F** was found significant ($p < .01$). All three results substantiated hypothesis 2. Protection motivation made its presence felt in all cases. Hence, the hypothesis 3 could not be substantiated. Findings made it obvious that protection motivation when conjoined with social distancing behaviour had an adverse effect on psychological well-being. All three indicators of well-being selected for the study substantiated the fact that the need for protection motivation and social distancing behaviour resulted in negative experiences of mental health.

Table 4: Regression Predicting Social Distancing

Predictors	<i>r</i>	R	beta	Std. error of beta	F
Severity	.32	.29	.22	.09	11.96**
Response-efficacy	.21.	.35.	.46	.12	4.21*
Reward	.22.	.33	.43	.18	7.11**
Income	.19	.21	.25	.22	3.98*

Note. Multiple R .69, an overall F (6, 350) 3.23 ** $p < .01$; ** $p < .05$

Table 5: Regression Predicting Loneliness

Predictors	<i>r</i>	R	beta	Std. error of beta	F
Severity	.24	.43	.32	.12	8.65**
Reward	.15	.38	.28	.09	3.92*
Age	.17	.29	.19	.07	3.97**
Social distancing	.26	.35	.39	.16	7.73**

Note: Multiple R .72; an overall F (6, 350) 3.59, ** $p < .01$; * $p < .05$

Table 6: Regression Predicting Hostility

Predictors	r	R	beta	Std. beta of error	F
Social distancing	.30	.42	.23	.11	9.65**
Health safety	.28	.39	.36	.07	11.56**
Reward	-.19	.31	-.39	.12	6.74**

Note: Multiple R .68; an overall F (6, 350) 3.36, **p < .01; *p < .05

Table 7: Regression Predicting Anxiety

Predictors	r	R	Beta	Std. error of beta	F
Health safety	.26	.47	.43	.11	7.22**
Response- efficacy	.31	.41	.38	.07	12.56**
Social distancing	.19	.28	.27.	.09	6.97**

Note. Multiple R .64; an overall F (6, 350) 3.22, **p < .01; *p < .05

DISCUSSION

The study attempted to capture some behavioural changes during COVID 19 pandemic. It was a resultant of forced-compliance and induced-fear of infectious disease. Both cognitive appraisal and coping appraisal processes accounted for behavioural modifications. People evaluated potential threat more seriously and expressed their intention to respond to the situation. Perceived threats either realistic or symbolic adversely affect well-being (Kachanoff et al., 2020). Realistic threat was a concrete attack on physical and material well-being while symbolic threat, an assault on socio-cultural identity. Both threats had a social significance in the society. The realistic threat caused by COVID 19 pandemic in US increased socially restrictive public health behaviour. Previous studies indicated that both formal and informal sources of information about health crisis influenced understanding of situational awareness. Based on the perceived awareness people decided to maintain social distancing (Quazi, et al. 2020). People often fall in “intention-action gap”. They may be aware of how to adapt behaviour to reduce risk and even from an intention to act on that knowledge, but still do not take any action needed to be useful. The need for protection motivation moderated social distancing both at individual and social levels. By the same token, both the need for protection motivation and social distancing behaviour yielded to negative experiences in terms of loneliness, hostility and anxiety. Previous studies lend support to the findings (Hamouche, 2020; Pfefferbaum & North, 2020). When people could not derive any reward from preventive health measures, they reacted to the restrictions imposed on them. The study could partly support hypothesis 3. People perceived severity and vulnerability of infectious disease at the cognitive level but followed more defensive strategies to neutralize health risk. Risk aversion behaviour offers a plausible explanation of

defensive behaviour (Courbage, Montoliu-Montes & Rey, 2020). Risk aversion refers to a preference for certain situation over a risky situation. Although an absolute risk aversion is not possible, people assess situational events and then, take risk accordingly. Potential threat to health did not allow taking absolute risk. Rather it was a perceptual impression and its appraisal which provides a space whether to comply with social distancing. People justified their behaviour to resolve dissonance at the cognitive level. Another plausible explanation is restraining forces that prevail during the critical situation. This restraining force inhibits social contacts and social relationships. At the cognitive level cohesive forces remain active to stimulate the processes of social networks from where people get their social energy. These two contradictory forces balance the social networks. In case restraining forces are greater than cohesive forces, social network becomes disrupted. Social distancing discourages catabolic processes of social contacts. Do people take risk in Indian society especially, when uncertainty exists? The previous researches (Courbage, Montoliu-Montes & Rey, 2020) suggest that risk aversion in health emergency was high. People did not hold risky assets in poor health condition. When risk vulnerability was high people opted for risk aversion strategy to portfolio management. People having high medical expenses averted risk behaviour (Edwards, 2008). Risk aversion tendency especially in poor health condition restricts selection of absolute risk behaviour. Probably, this was one of reasons to oscillate between the actual and desirable behaviour. Prolonged social distancing often leads to pandemic fatigue which in turn results in burnout symptoms. People tended to ease out of the situation. Whenever they found an opportunity to overcome the stress they violated the norms of social distancing. Probably, it was a plausible reason to release stress after lockdown. Previous researches (Adjei, 2020) confirm that social distancing leads to negative mental health. “Prevention is better than cure” needs to be incorporated in public-health system. Modern health system is more reactive than proactive showing a gap in public health system. They stoop to easy-going living and forget health discipline. “Investment in health is investment in future” will be a global issue to address public-health system across the world.

The findings may be applied to understanding public-health risk management programme. Many behavioural issues during COVID 19 pandemic need to be addressed. The emerging social situations are critical and challenging. People have gradually accepted it and have started living with the changing order of societal needs.

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Appendix I: Protection Motivation Scale

Some experiences during COVID 19 pandemic are stated below. Please read carefully one by one and judge it to what extent, it is applicable to your case. Please put the applicable number on the left side of each statement.

- 1 means not applicable
- 2 means least applicable
- 3 means some extent applicable
- 4 means great extent applicable
- 5 means very great extent applicable

Severity

- 1. COVID-19 is a severe infectious disease.
- 2. At the global level it is a severe health crisis.
- 3. I apprehend mutation effect of COVID 19.

Vulnerability

- 4. I may be victim of COVID 19.
- 5. I may die, if I become infected.
- 6. I am afraid of getting infected.

Intrinsic reward

- 7. I feel less disturbed because I have minimized my outer activities.
- 8. I feel relaxed because of less social contact.
- 9. I can focus on my inner world.

Extrinsic reward

- 10. To avoid public gathering is good for health.
- 11. I have learnt how to maintain social network during COVID 19.
- 12. I have learnt some new hygiene practices.

Self-efficacy

- 13. No one can persuade me if I do not follow preventive health practices.
- 14. Let others do not follow social distancing, I must not copy them.

-----15. I refuse to attend any party despite pressure.

Response efficacy

-----16. I feel good by taking precautionary measures during COVID 19.

-----17. Self-quarantine is a safe measure to prevent from infectious disease.

-----18. Less social contact is a good measure to prevent health risk.

Cost efficacy

-----19. Maintaining social relationship is more important than health management.

-----20. For me it is difficult to go out of social network.

-----21. I feel good to see my friends than being alone.

Appendix II: Social Distancing Scale

We have adopted some behavioural practices during lockdown We are still continuing to prevent risk. They are described below. Please read carefully one by one and judge it to what extent, it is applicable to your case. Please put the applicable number on the left side of each statement.

1 means not applicable

2 means least applicable

3 means some extent applicable

4 means great extent applicable

5 means very great extent applicable

-----1 (D) I avoid attending the crowded place.

-----2. (O) I often go to market without face mask.

-----3. (O) I often miss to wear face mask when I go out of home.

-----4. (D) I never miss to use sanitizer while washing hand.

-----5. (D) I often miss to maintain a distance while talking to others.

-----6. (O) I attend social gathering even today.

-----7. (O) I often invite my friends to home.

-----8. (O) I like cash transaction in the market.

-----9. (D) I do not handshake with anyone.

-----10.(D) I never spit on public place.

-----11.(D) I am suspicious to non-living objects which may be carrier to COVID 1

-----12. (D) I am suspicious to everyone who wants to meet me.

-----13. (D) I often avoid travelling because of getting infected.

-----14. (O) I often miss to follow guidelines of social distancing.

-----15. (O) I often go to religious place for prayer.

-----16. (O) I often miss to wear gloves when I go out somewhere.

-----17. (O) I often place online order for food.

Appendix III: Well-Being Scale

We have some experiences during COVID 19 pandemic. Please read carefully one by one and judge it to what extent it is applicable to your case. Please put the applicable number on the left side of each statement.

1 means not applicable

2 means least applicable

3 means some extent applicable

4 means great extent applicable

5 means very great extent applicable

- 1. (L) I feel my relationship with friends is now no longer meaningful.
- 2. (L) I feel alone in the society.
- 3. (L) I am no longer close to anyone.
- 4. (L) I feel people around me but not with me.
- 5. (H) I often react to those who do not stay home.
- 6. (H) I feel COVID 19 has diluted social relationships.
- 7. (H) I feel social distancing has distanced me even from the family.
- 8. (H) I often react to those who are spreaders of COVID 19.
- 9. (A) I feel sleep disturbance because of unknown fear of COVID 19 pandemic.
- 10. (A) I feel distressed because of fear of death.
- 11. (A) I am worried about my health problem.
- 12. (A) I am anxious about mutation effect of COVID 19.

Appendix IV: Protection Motivation Scale

Factor I: Response-Efficacy

Item	loading
1. No one can persuade me if I do not follow preventive health practices.	.78
2. Let others do not follow social distancing, I must not copy them.	.76
3. I refuse to attend any party despite pressure.	-.72
4. I feel good by taking precautionary measures during COVID 19.	.70
5. Self-quarantine is a safe measure to prevent from infectious disease.	.68
6. Less social contact is a good measure to prevent health risk.	.63
7. Maintaining social relationship is more important than health management	.62
8. For me it is difficult to go out of social network.	.61
9. I feel good to see my friends than being alone.	.58

Variance 72.54% Eigen value 4.87 Cronbach alpha .78

Factor II: Severity

10. COVID-19 is a severe infectious disease.	.78
11. At the global level it is a severe health crisis.	.74
12. I apprehend mutation effect of COVID 19.	.73
13. I may be victim of COVID 19.	.69
14. I may die, if I become infected.	.62
15. I am afraid of getting infected.	.61

Variance 69.78% Eigen value 4.8 Cronbach alpha .71

Factor III: Reward

16. I feel less disturbed because I have minimized my outer activities.	.77
17. I feel relaxed because of less social contact.	.75
18. I can focus on my inner world.	.71
19. To avoid public gathering is good for health.	.69
20. I have learnt how to maintain social network during COVID 19.	.65
21. I have learnt some new hygiene practices.	.63

Variance 68.45% Eigen value 4.37 Cronbach alpha .68

Appendix V: Social Distancing Scale

Factor I: Health Safety

Item	loading
1. I often miss to wear face mask when I go out of home.	- .77
2. I never miss to use sanitizer while washing hand.	.73
3. I do not handshake with anyone.	.71
4. I never spit on public place.	.70
5. I am suspicious to non-living objects which may be carrier to COVID 19	.69
6. I am suspicious to everyone who wants to meet me.	.64
7. I often miss to wear gloves when I go out somewhere.	- .61
8. I often place online order for food.	.60

Variance 71.47%

Eigen value 4.32

Cronbach alpha .73

Factor II: Social Distancing

9. I avoid attending the crowded place.	.75
10. I often go to market without face mask.	- .72
11. I often miss to maintain a distance while talking to others.	- .68
12. I attend social gathering even today.	- .66
13. I like cash transaction in the market.	- .63
14. I often avoid travelling because of getting infected.	.59
15. I often go to religious place for prayer.	- .57
16. I often miss to follow guidelines of social distancing.	- .55
17. I often invite my friends to home.	- .54

Variance 69.46%

Eigen value 4.8

Cronbach alpha .76