# An Exploratory Study of Coping Strategies during Covid-19

**Dr Archana Bakshi**
Asst Prof in Economics
Mehr Chand Mahajan College for Women
Sector 36
Chandigarh

**Dr Kanwaljit Kaur**
Associate Professor
S.G.GS. College
Sector 26
Chandigarh

## Abstract

Coping with epidemics is an arduous task. The outbreak of Severe Acute Respiratory Syndrome Coronavirus 2(SARS-CoV-2) or popularly named COVID-19 in early months of 2020 was declared a pandemic by WHO. The virus had a multidimensional impact on the lives of the populace: economic, social and psychological. The present study aims to explore the coping strategies adopted by Indian citizens to manage this crisis. A cross sectional online observational study was undertaken to assess the coping strategies with a sample of 1003 responses. An Exploratory Factor analysis was employed to explore the coping strategies of the respondents. Furthermore a series of ANOVA tests were conducted using factor scores for the most prominent strategy and Tukey post-hoc tests were used to discern statistical significance of pairwise comparisons of factor scores across categories of socio economic characteristics of respondents. Results indicated that Cultivating Optimism, Focus on Economic stimulus, Priority to Sustainability of Life, Attention on Healthcare issues, Societal Protection and Managing Essentials of Life were the coping strategies adopted by the respondents. Unpredictably the study observed 'Cultivating Optimism' as a dominant coping strategy (in terms of maximum explained variance) and the respondents reported productive utilization of time. It clearly indicated a strategy aiming at good amidst the bad.

**Keywords:** Coronavirus, pandemic, coping strategy, Cultivating Optimism

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## Introduction

The world has witnessed several epidemics like the Spanish flu, H1N1, Swine flu, Ebola, SARS and Ebola but the recent outbreak of Severe Acute Respiratory Syndrome Coronavirus 2(SARS-CoV-2) or COVID-19 was declared as a pandemic by the WHO. The Coronavirus was first reported in Wuhan capital city of central China's Hubei province December 2019 but by November 2020 about 50 million cases were reported around the world, taking a toll of more than 12 lakhs lives. The virus tested the capabilities of the healthcare infrastructure of developed nations as well. The worst hit nations are U.S., Brazil, Mexico, Spain, Italy, Germany and France. India obviously has not remained unaffected. With 1.3 billion population she too was bracing the virus with 8.5 million cases and 1, 26,121 deaths.

In order to contain the spread of the virus a national level lockdown was put into force on March 24,

2020. Confinement to homes and restrictions on mobility of men was hypothesized to save as many lives from the virus. The impact of this crisis was multidimensional - psychological, physical, financial and social. Economies came to a standstill and disruptions in human routines surfaced in the form of unemployment blues, social isolation and psychological stress.

**Review 0f Literature**

A number of studies have been undertaken on the impact of epidemics in different Asian, North American and European countries. A few empirical studies explored for coping responses amidst such times of crisis.

**Zhang and Pan (2008)** used ethnographic research methodology to examine responses to fight against the Avian flu in Haining County of Zhejiang Province in 2006. They conducted interviews of health professionals in local bodies, hospitals, veterinary clinics etc. They observed the behavior of households, workers of restaurants and chicken farms during this testing time. They perceived that collective survival consciousness transformed into wisdom. Adaptive wisdom provided them maturity in handling issues like food shortage and other adversities peculiar to the epidemic.

**Shultz et al. (2016)** in their study during the outbreak of Ebola virus disease in 2013-16 observed widespread public fear and fear-induced emotional reactions. They focused their attention on fear related behaviors with respect to home care, cleansing or burial practices and migration to new areas etc due to disease spread. They perceived anxiety related to availability of medical services, psychological disorders, downstream phenomenon such as stigma and social discrimination during the uncertain times of the epidemic.

**Raven, Wurie and Witter (2018)** undertook a qualitative study to examine the coping experiences of health workers in four districts of Sierra Leone: Western Area, Kenema, Bonthe and Koinadugu during the Ebola Virus epidemic. A large number of health workers testified that their religious belief and praying together helped them cope with Ebola. Their research underlined the challenges faced by healthcare staff working in government facilities. The coping strategies documented by them included family support, sense of serving their country and community, training on equipment to do their job safely; social media platform and the risk allowance, which motivated staff to work in facilities and provided an additional income source.

**Cai, Ma, Chen, Jiang & Zhuang (2020)** also evaluated the coping strategies adopted by Frontline medical staff during the recent outbreak of Covid-19 in Hunan province of China during the first three months of 2020. In a questionnaire based cross sectional study they examined the psychological impact of epidemic on 534 medical staff-doctors, nurses and supporting staff. Their study revealed that the medical practitioners were suffering from anxiety due to safety concerns of family, long working hours and professional compulsions. They used chi square test statistic for comparison of strategies across age and gender professional groups,

**Brodeur, Clark, Fleche, & Powdthavee (2020)** evaluated the psychological effects of lockdown due to Covid 19 in Europe and United States of America. They opined that though the direct impact of lockdown is commonly measured in the form of shrinking GDP but the indirect impact like social isolation and constrained freedom, loss of jobs is no less. Making use of searches for loneliness, boredom and sadness on Google trends they found deterioration in mental well being of individuals during such stressful times. Using Difference in Difference approach they observed there was increment in search intensity of worry, boredom and sadness in the U.S. as well as Europe at 1% level of significance.

**Gerhold (2020)** studied the perception and coping behavior of German population amidst the coronavirus epidemic in March 2020. He explored for views of 1242 individuals above 18 years of age regarding risk of getting infected and coping with it through an online questionnaire. He observed that elderly population perceived lower level of risk of contracting Covid 19 and women were found to more concerned about it. Respondents expressed anxiety over visiting public places and using public transport. However he observed that the strategies adopted by them were highly problem-focused. The respondents indulged in bulk purchase and storage

of essentials. A few preferred to take advice from experts and tried to behave calmly.

**Chew, Wei, Vasoo, Chua, & Sim, (2020)** reviewed 24 papers out of the total 144 referred journals identified by them and reported psychological responses and coping strategies for epidemics occurring over last twenty years . Common themes in psychological responses included anxiety/fears, depression, anger, guilt, grief and loss, post-traumatic stress, stigmatization and also a greater sense of empowerment and compassion towards others.

**Rationale of the study**

Every individual, young or old, copes with adverse situations in a unique manner because of subjectivity in perception to risk and uncertainty. Coping strategies during outbreak of epidemics can be diverse and vary across age groups, gender, professions, geographies, level of education and income. Most of the empirical literature on coping behavior during epidemics focused on coping with mental stress and supported a high degree of anxiety or mental stress. In fact coping strategies during epidemics imbibe greater complexity and entail political, economic and psychosocial dimensions. The multifarious nature of issues and uncertainties related to pandemics can lead to diverse consequences. So the present study imbibes a comprehensive approach to observing coping strategies to manage coronavirus crisis and incorporates social, economic, political and institutional dimensions as well. The timing of this study was considered prompt to gauge social reality with respect to response actions during Covid -19.

**Coping Strategies**

The term coping refers to thoughts and actions which occur as a response to tackle a situation. Compas et al (2001) defined coping as "conscious, volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances**".** Coping strategies refer to the specific efforts, both behavioral and psychological, that people employ to master, tolerate, reduce, or minimize stressful events.

The Centre for Studies on human stress (CSHS), Montreal classified coping strategies into problem solving and emotion- focussed. Generally problem-solving strategies entail efforts to perform activities which alleviate people from stressful circumstances. On the other hand, emotion-focused coping strategies include regulation of emotional concerns of stressful events. Folkman & Lazarus (1980) suggested that individuals use both types of strategies to combat most stressful events. They pointed out that the former ones point toward preventive measures and cultivating healthy practices while the latter focus on seeking social support, avoidance, and positive appraisal of the situation such as meditation, social coping by seeking social support such as connecting with relatives and friends, minimizing stress through humor. Others like Scott (2020) considered the use of calming strategies like deep breathing in quite place, cultivating optimism, kindness meditation, time management, self-care, good sleep and good food in stressful situations.

**Research Objectives**

1. To study the coping strategies adopted by Indian adult population to manage Covid-19 crisis.

2. To study the differences in adoption of the most dominant strategy across various socio economic characteristics of respondents.

**Research Method**

An online survey was done using Google forms during the month of May 2020. Any Indian citizen above the age of 18 was eligible to participate in the survey and finally 1003 duly filled forms were received . A structured questionnaire was the research instrument of this cross sectional study and its link was shared through Whatsapp and email to the contacts of the investigators. For ethical considerations confidentiality of responses was ensured to the respondents.

The questionnaire comprised of 3 major domains:

1. Socio economic profile of respondents like age, gender, area of residence, marital status, type of family, level of education, occupation and monthly family income.

2. Individual coping behaviour – Engagement in spiritual, health seeking, financial management, immunity boosting and focus on productive work.

3. Perception of respondents with respect to Government measures undertaken to prevent the spread of Covid-19: Imposing lockdown, economic stimulus, Arogya setu etc.

The questionnaire contained 29 statements for observing the coping behaviour of respondents. Respondents were asked to give their responses on 5-Point Likert scale. Data was coded and statistical analysis was done using SPSS.

**Statistical methods used**

Exploratory factor analysis was performed to identify the major coping stategies adopted by the participants of the survey. This is a widely used technique in social sciences for reduction of data. 'Principal Component Analysis' method was used for factor extraction and 'Varimax' approach for rotation of factors. Further ANOVA tests was applied to compare the means of factor scores of dominant coping strategy (maximum variance explained) across age, gender, marital status, family status, education, area of living and occupation. Tukey post hoc analysis was done in cases where means were statistically significantly different ($p<.05$) so as to identify the differences across categories of various socio-economic characteristics.

**Findings and Discussions** The respondents of the present study represented diverse States of India, ranging from Assam to Gujarat and from Jammu & Kashmir to Kerala. The **maximum participation was from the state of Punjab (17.85%), followed by the Union Territory of Chandigarh (16.45%), Maharashtra (15.75%), Haryana (12.16%) and Uttar Pradesh (11.96%).**

**Table 1: Socio Economic Profile of Respondents**

| Socio economic Characteristic | Category | N | %age |
|---|---|---|---|
| Gender | Male | 431 | 43 |
| | Female | 572 | 57 |
| Age | 18-30 | 419 | 41.8 |
| | 31-40 | 236 | 23.5 |
| | 41-50 | 177 | 17.6 |
| | 51-60 | 138 | 13.8 |
| | 60 & Above | 33 | 3.3 |
| Family status | Nuclear | 599 | 59.7 |
| | Joint | 383 | 38.2 |
| | Extended | 21 | 2.1 |
| Area of Living | Rural | 216 | 21.5 |
| | Urban | 684 | 68.2 |
| | Metropolitan | 103 | 10.3 |
| Education Level | Upto Class 12 | 120 | 12 |
| | Graduate | 150 | 15 |
| | Post Graduate | 356 | 35.5 |
| | Doctorate | 332 | 33.1 |
| | Professional | 45 | 4.5 |
| Occupation | Student | 327 | 32.6 |
| | Selfemployed | 55 | 5.5 |
| | Government Service | 302 | 30.1 |

| | | | |
|---|---|---|---|
| | Private Sector Job | 289 | 28.8 |
| | Housemaker | 16 | 1.6 |
| | Retired | 14 | 1.4 |
| MonthlyFamilyIncome | Rs11000-25000 | 180 | 17.9 |
| | Rs 26000-50000 | 184 | 18.3 |
| | Rs 51000-100000 | 239 | 23.8 |
| | Above 100000 | 400 | 39.9 |

Table 1 reveals that about 42% of respondents were in the age group of 18-30 years, another equal proportion were 30-50 years old and only 3.3% were above 60 years. Among the participants, 57% were females and nearly 68% were from urban area and 22% from rural areas and the remaining 10 % had their residence in metropolitan cities. Nearly two-third of them had nuclear families and rest belonged to joint or extended families. More than two thirds of them were postgraduates and doctorates, 15% were graduates and 12% had passed senior secondary examinations. As far as occupation status is concerned nearly 33 % of them were students, 30% had government job and 29% served in the private sector. The aggregate family income was higher than INR 100,000 per month for 40% of the participants and another 24% had income in the range of INR 50,000 to 100,000.

Coping behavior of respondents was inferred by performing the statistical technique of Exploratory Factor Analysis. The participants were asked to give their response on 5-point Likert Scale on 29 statements as given in Table 2.

**Table 2 : Description of Variables for Factor Analysis**

| | |
|---|---|
| V1 | Becoming more health conscious for improving immunity |
| V2 | Witnessing social distancing in your locality and in market place? |
| V3 | Do you appreciate reduced expenditure on social and cultural functions due to |
| V4 | Are you feeling mentally stressed out due to social distancing |
| V5 | E-commerce facility has helped for fulfilling your daily needs during lockdown |
| V6 | Are you optimistic about revival of Indian Economy within one year of the current |
| V7 | You have an easy access to nearby chemist shops, ration shops and fresh fruits |
| V8 | Online classes can be as effective as classroom teaching * |
| V9 | The app 'Arogya-setu' introduced by the Government to control coronavirus can be helpful in controlling the disease * |
| V10 | You are able to utilize this lockdown period in productive work |
| V11 | Your family has given donations for underprivileged sections of society amidst this crisis |
| V12 | Special attention has been given by you to old and children in the wake of economic crisis |
| V13 | Sanitizing of house has taken great priority during this coronavirus crisis. |
| V14 | Networking with friends and relatives |
| V15 | Coping to enhance health expenditure for family |
| V16 | Meditation and spiritual activities help you in coping the stress of Lockdown * |
| V17 | Being occupied through enhanced creative activities and hobbies by different members of family |
| V18 | Pondering on financial investment of the household |
| V19 | Upskilling yourself during lockdown * |

| | |
|---|---|
| V20 | Feeling more connected to nature and admiring its beauty |
| V21 | Exercise, yoga, proper sleep has been our daily routine |
| V22 | Hygienically prepared home food for the family has become the top priority * |
| V23 | Feeling satisfied with the economic stimulus provided by Government of India |
| V24 | The MSME sector will be worst affected due to lockdown |
| V25 | Life is more important than livelihood |
| V26 | Good possibility of invention of vaccine by Indian scientists |
| V27 | Mentally prepared to sustain a life |
| V28 | Reverse Migration by labourers in this time of crisis will adversely affect Indian economy in the short run |
| V29 | You are aware that the Government of India introduced Gareeb Kalyan Yojana to rescue the poor affected by Coronavirus Lockdown. |

In order to check the suitability of Factor Analysis, Kaiser-Meyer-Olkin (KMO) test of Sampling Adequacy was applied. The test values for the sample data were significant ($\chi 2$=7534.38, df =406, p=.0001) which indicated that the sample was adequate, and the responses gathered to the situation were apt and acceptable.

**Table 3: Total Variance Explained**

| Components | Initial Eigen values | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % of variance | Cumulative %age | Total | % of variance | Cumulative %age | Total | % of variance | Cumulative %age |
| 1 | 7.564 | 26.083 | 26.083 | 7.564 | 26.083 | 26.083 | 3.1 | 10.689 | 10.689 |
| 2 | 1.96 | 6.758 | 32.842 | 1.96 | 6.758 | 32.842 | 2.628 | 9.061 | 19.751 |
| 3 | 1.376 | 4.744 | 37.585 | 1.376 | 4.744 | 37.585 | 2.599 | 8.963 | 28.714 |
| 4 | 1.179 | 4.065 | 41.651 | 1.179 | 4.065 | 41.651 | 2.528 | 8.718 | 37.432 |
| 5 | 1.086 | 3.746 | 45.397 | 1.086 | 3.746 | 45.397 | 1.903 | 6.561 | 43.993 |
| 6 | 1.049 | 3.618 | 49.015 | 1.049 | 3.618 | 49.015 | 1.456 | 5.022 | 49.015 |
| 7 | 0.985 | 3.397 | 52.412 | | | | | | |
| 8 | 0.915 | 3.155 | 55.566 | | | | | | |
| 9 | 0.879 | 3.032 | 58.598 | | | | | | |
| 10 | 0.852 | 2.939 | 61.538 | | | | | | |
| 11 | 0.845 | 2.914 | 64.452 | | | | | | |
| 12 | 0.803 | 2.768 | 67.22 | | | | | | |
| 13 | 0.727 | 2.507 | 69.726 | | | | | | |
| 14 | 0.713 | 2.459 | 72.185 | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 15 | 0.706 | 2.434 | 74.619 | | | | | | |
| 16 | 0.652 | 2.249 | 76.868 | | | | | | |
| 17 | 0.646 | 2.229 | 79.097 | | | | | | |
| 18 | 0.625 | 2.155 | 81.252 | | | | | | |
| 19 | 0.597 | 2.057 | 83.309 | | | | | | |
| 20 | 0.586 | 2.021 | 85.33 | | | | | | |
| 21 | 0.55 | 1.898 | 87.228 | | | | | | |
| 22 | 0.55 | 1.896 | 89.124 | | | | | | |
| 23 | 0.535 | 1.845 | 90.969 | | | | | | |
| 24 | 0.483 | 1.666 | 92.635 | | | | | | |
| 25 | 0.476 | 1.641 | 94.276 | | | | | | |
| 26 | 0.445 | 1.533 | 95.809 | | | | | | |
| 27 | 0.436 | 1.504 | 97.314 | | | | | | |
| 28 | 0.395 | 1.363 | 98.677 | | | | | | |
| 29 | 0.384 | 1.323 | 100 | | | | | | |

Table 3 clearly depicts that out of 29 dimensions only six had Eigen value greater than unity (Eigen>1). These six components were responsible for explaining 49.015% of the total variation in coping behavior by the respondents. After extracting the factors, Varimax rotation method was selected for rotating the factors. It is an orthogonal rotation method that minimizes the number of variables that have high loadings on each factor (Malhotra, N.K., 2007). So, the variables of this study were loaded on six factors and subsequently the factors were labelled. These factors along with factor loadings are presented in Table 4.

**Table 4: Factor Loadings**

| S.No of Factor | Factor Label | Variable Description | | Factor loading |
|---|---|---|---|---|
| 1 | Cultivating Optimism | v21 | 0.675 | 10.689 |
| | | v19 | 0.662 | |
| | | v10 | 0.626 | |
| | | v2 | 0.62 | |
| | | v17 | 0.507 | |
| | | v1 | 0.436 | |
| 2 | Focus on Economic stimulus | v23 | .737 | 9.061 |
| | | v9 | 0.664 | |
| | | v29 | 0.572 | |
| | | v6 | 0.545 | |
| | | v8 | 0.435 | |
| 3 | Priority to Sustainability of Life | v25 | 0.587 | 8.963 |
| | | v27 | 0.572 | |

| | | | | |
|---|---|---|---|---|
| | | v3 | 0.557 | |
| | | v22 | 0.545 | |
| | | v26 | 0.534 | |
| | | v7 | 0.492 | |
| 4 | Attention on Healthcare issues | v15 | 0.668 | 8.718 |
| | | v14 | 0.654 | |
| | | v13 | 0.593 | |
| | | v16 | .53 | |
| | | v12 | .471 | |
| 5 | Societal Protection | v24 | .655 | 6.561 |
| | | v28 | .643 | |
| | | v2 | .455 | |
| | | v11 | .446 | |
| 6 | Managing Essentials of life | v4 | .658 | 5.022 |
| | | v18 | .488 | |
| | | v5 | .476 | |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 4 reveals the diverse coping strategies adopted respondents of the survey were as follows

1. **Cultivating Optimism:** The most dominant factor, which emerged from this analysis, was aspiration for bringing positivity in life. During the lockdown period the respondents engrossed themselves in physical activity, exercising at home, which included yoga. They were able to engage themselves in creative activities or hobbies as well as productive activities. Further they tried to up skill themselves through online mode. They were more conscious of their health, tried to boost their immunity, maintained social distancing and slept well. They also found time to enjoy nature's beauty and calm their mind during this stressful time. It implies that the respondents made conscious efforts to involve themselves in constructive actions.

2. **Focus on Economic stimulus for revival of economy**: The next apprehension amongst the participants was inclined towards economy. They were concerned for economic stimulus to business enterprises, Government schemes for various sections of society-farmers, unorganized workers and the quarantined. Education through online mode became another cause of concern.

3. **Priority to Sustainability of Life:** Saving one's life became the most significant task of life. Sustenance of life at any cost-finances, vaccine and hygienically prepared food became an obsession for the respondents.

4. **Attention on Healthcare issues:** Health of individuals, specially children and senior citizens was a severe cause of concern. Families tried to save funds for healthcare needs, sought advice from friends and relations and indulged in sanitizing of their houses and workplaces. Hand washing and sanitizers became essential routines. Mental healthcare through meditation and spiritual endeavors was an ultimate aspiration of the participants.

5. **Societal Protection:** Respondents expressed concern for the workers who sought reverse migration to their rural households during the economic distress caused due to loss of employment in cities. The Micro Small and Medium Enterprises (MSMEs) suffered due to labour shortage caused by reverse migration and lack of demand. This was a major source of tension among the non government sector employees. Respondents also engrossed themselves in philanthropist actions- made donations, served free food and distributed packets of daily needs. Maintenance of social distancing was the need of the hour due to highly infectious nature of the contagion. So adequate attention was paid to protect the interests of various sections of society.
6. **Managing Essentials of Life** : Scarcity of cash crunch, food items, sanitation products and essentials of life led to worry and nervousness among the people. Adherence to social distancing also led to loneliness and made the masses anxious over social relationships.

So the most dominant factor (maximum explained variance) was observed to be cultivating optimism or infusing positivism. The respondents diverted their energies towards productive pursuits like exercising, up skilling and maintaining health through social distancing. The participants used active coping strategy to combat stress arising out of unfavourable situation of pandemic. This strategy maybe an outcome of suitable awareness about the issue and motivation on its resolution (Good Therapy, 2016). It may involve behavioural changes especially spiritual awakening so as to find ways of emotional strength like praying, meditation and practicing gratitude. It may include activities as simple as spending quality time with nature or pursuit of hobbies like gardening, writing poetry, listening to music etc. Ackerman (2020) also supported active coping to deal with stressful situations in the long run. Productive activities like writing for a journal, acquiring skills and attending webinars could be good options. Markaway (2014) focused on self care activities and elaborated seven types of strategies to cope positively with stress. Lazarus, R. S., & Folkman, S. (1985, p150) opined that "coping was a complex process…and problem focused coping emphasizing the positive were more prominent during stressful situations" Changing Works. (n.d.) also referred to adaptive and behavioural mechanisms that offer positive help to cope with stress like altruism, substituting weakness with strength and using the energy of trauma for good.

To deepen the roots of the present study, factor score values for this crucial coping strategy were selected for further statistical analysis. In order to discern the disparities arising in it across various categories of socio economic characteristics of respondents a series of One-way ANOVA tests were conducted. These tests ascertained the statistical significance in difference of means across categories of socio economic variables and subsequently in case of significant differences, Tukey post hoc tests were used to discern statistical significance of pairwise comparisons.

**Table 5: ANOVA Tests for Factor Score 1 (Cultivating Optimism)**

| Between Groups | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Age | 29.321 | 4 | 7.330 | 7.503 | .000 |
| Gender | .225 | 1 | .225 | .224 | .636 |
| Marital status | 11.638 | 2 | 5.819 | 5.861 | .003 |
| Family status | 8.260 | 2 | 4.130 | 4.145 | .016 |
| Area of Living | 9.484 | 2 | 4.742 | 4.766 | .009 |
| Education | 17.801 | 4 | 4.450 | 4.502 | .001 |
| Income | .539 | 3 | .180 | .179 | .911 |
| Occupation | 32.288 | 5 | 6.458 | 6.624 | .000 |

Results of ANOVA test as shown in Table 6 divulged that there were no statistically significant differences between group means for Gender (p = .636) and for Income (p=.911). We can infer that gender differences in coping strategies could hint at ways in which men and women differ in managing such situations but this study did not show significant presence of it. Similarly differences in income across different groups was not statistically significant in pursuit of this strategy.

Nevertheless it was found that there was statistical significant difference between the group means across Age (p=. 000), marital status (p=.003), Family status (p=.016), Area of living (p=.009), Education (p=.001) and Occupation (p=.000). This means there is a statistically significant difference between the group means of these socio economic characteristics. In order to know between *which* of the various pairs of means the difference is significant, post hoc Tukey HSD tests were conducted. The findings of these tests were as follows:

**Age:** There was a statistically significant differences between categories as determined by one way ANOVA( F (4, 988) = 7.503 , *p*=.000) . A Tukey post hoc test revealed that the score for cultivating optimism was lower for age group 18-30 (-.176 ± 1.1 min, *p* = .006) as compared 41-50 (.126 ± .97 min, *p* = .006) and 51-60 (.247± .84min, *p*=.000) and Above 60(.404 ± .89 min, *p* = .012). However, there was no statistical difference between scores of 18-30 and 31-40 years (*p* = .0145). It implied that the higher age groups were more optimistic and able to use this time more productively as compared to 18-30 years.

**Marital Status**: There was a statistically significant differences between categories as determined by one way ANOVA ( F (2, 990 )= 5.861 ,p=.003) . A Tukey post hoc test revealed that the score for cultivating optimism was significantly different for married (.073± .93 min, p = .011) ) and unmarried (-.113± 1.08 min, p=.000) . There was no statistical difference between scores of married and separated individuals (p=. 295).The married cohort exhibited higher positivity traits than their counterparts.

**Family Status**: There was a statistically significant differences between categories as determined by one way ANOVA (F (2, 990) = 4.145, p=.016). The Multiple Comparisons table divulged that there were differences in the level of optimism across joint families and nuclear families. Nuclear families had higher positivity score (.069 ± .94 min, p = .011) than joint families (-.116± 1.08 min, p=. 011). However there was no significant difference across extended and joint and also between extended and nuclear (p=. 979) and also between Joint and extended families (p=. 574).

**Education:** The present study observed that different education levels significantly affected positivity differently (F (4, 988) = 4.502, *p* = .001). The Tukey post hoc test in this case revealed that there was a statistically significant difference in positive outlook between graduate and doctorate (*p* = 0.001) and the score for doctorate (.167± .91 min, *p* = .001) was much higher as compared to graduate (-.222± 1.2 min, *p* = .001). However, there were no differences between the other groups.

**Area of Living:** Different areas of a country (rural and urban) seem to affect this optimistic strategy differently (F (2, 990) = 4.766, *p*=.009). Urban areas witnessed higher means (.061± .96 min, *p* = .011) as compared to rural areas (-.178 ± 1.06 min, *p* = .011). It can be explained in terms of better infrastructure for engagement in productive activities like online classes for formal education, hobbies, competitive exams etc. Metropolitan areas did not show any significant difference in factor scores across rural or urban areas.

**Occupation:** Professional pursuits also seem to display difference in this particular coping strategy (F (5, 987) = 6.624, *p*=.000). Pairwise comparisons divulged that the differences were statistically significant for Student and self-employed (*p* = .013), Student and Government service (p=. 000) and Student and Private sector jobs (*p* = .010). Mean of factor score for self-employed (.240 + .82 min) were higher as compared to Government job (.160 + .87 min), followed by Private sector job (.028 + 1.min) were significantly higher than that of student (-.242 + 1.1 min). It implies that engagement in productive activities is the mainstay of self employed persons. While students were less optimistic to keep themselves busy with mindful practices.

To conclude we can infer that mature, highly qualified and married individuals were found to be more optimistic. Self employed individuals in the urban areas also remained positive in this time of distress.

**Futuristic Policy interventions**

Analysis of coping responses of respondents threw light on probable solutions to deal with stressful situations during epidemic. The information can prove to be particularly fruitful for future public intervention as positivity arising out of distress situations during pandemics have transformed lives in the past too. The cholera epidemic of the 19 century had led to evolution of urban sanitation system in Europe. Similarily a conservancy lane between two rows of houses was the outcome of plague epidemic. The contemporary coronavirus crisis led to serious challenges for Indian policy makers. With a 1.3 crore population, the Indian Government faced multitude of problems relating to sustaining economic development, health and well being of citizens. The present study is suggestive of the following efforts:

1. It is the primary role of the Government to infuse optimism into every aspect of human life-social, economic and political. Consistent efforts should be made by the Government to instruct public instituitions to encourage people to engross themselves into mindful practices or gainful employment in constructive activities as healthy body can reside only in healthy mind. Community knowledge and wisdom imbibed in traditional customs should be encouraged for cultivating optimism. Practices like yoga, meditation and traditional healing techniques should be promoted as a coping strategy .
2. Focus on healthcare should definitely occupy the first place in agenda of the Government because it is the single most cause of anxiety and fear among the masses during an epidemic. Protecting human lives through better health infrastructure, research for invention of vaccine and protection of healthcare workers should be of primary significance.
3. Scarcity of food items and essentials of life is the biggest worry during such situations. E-commerce should receive great impetus from the Government so as to remove any kind of inconvenience in the supplies.
4. Education is the key to deal with adversities in life. Knowledge and wisdom leads us to be more balanced and allows us to remain progressive in life. Learned people aspire to remain tolerant during lockdowns. So enrolment in higher education should be encouraged by the State.
5. Individuals in the rural areas can also be inspired to occupy themselves with skill development activities. The Government can play a proactive role in developing online skill development courses during such times.
6. The second most prominent coping strategy that evolved from the analysis was concern for revival of economy so economic stimulus package is the most awaited strategy during such times. The Government must plan to help the industrial enterprises to pay for salaries of wage earners. This will promote well being of the proletariat class during this difficult time.

**Limitations**

Since this survey was conducted online, a majority of the participants belonged to the educated strata of society. There is a high probability that they had better awareness regarding the Covid crisis in India and also had a better safety setup. Regardless to say, such respondents exhibited high level of optimism during testing times of an epidemic.

**Conclusion**

The present study aimed to observe the multidimensional coping strategies adopted by Indian adult population during the pandemic. Unexpectedly, the dominant strategy in terms of maximum explained variance was Cultivating Optimism. It exhibited a positive picture as the respondents were perceived to be engrossed in aiming towards greater productivity, creativity, upskilling the and better immunity. The other coping strategies were: Focus on Economic stimulus, Priority to Sustainability of Life, Attention on Healthcare issues, Societal Protection and Managing Essentials of Life. Post hoc analysis for the dominant strategy scores was done to discern the differences across categories of socio economic characteristics of respondents. It was observed that optimistic attitude was greater in case of higher age group , married ones, nuclear families . It was also higher for urban people, self employed and highly educated ones.

**Conflict of Interest** Dr Archana Bakshi and Dr Kanwaljit Kaur declare that they have no conflict of interest.

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