

Covid - 19 Pandemic and its Impact on Labor Force: A New Model Based on Social Stress Theory and Prospect Theory

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Abstract

Human beings across the globe irrespective of caste and creed, culture, economic and geographic distances, are facing a very strange time, struggling and fighting against a pandemic COVID-19. On analyzing the literature, it is understood that most of the research scholars have confined their study to the clinical and therapeutic aspects of COVID-19 and there are a lesser number of studies related to the impact of COVID-19 on economic, psychological, social and behavioral perspective. This study is carried out to propose a new theory that can integrate the social and financial stress of the labor force during the pandemic situation. For this purpose, we have taken lessons from the social stress theory and prospect theory. The research extensively covers 420 samples duly collected from the labor force working across Kerala State, India. In this study, we have identified three major social stress constructs viz., Governance, Personal and Societal among the labor force through the Common Factor Analysis (CFA) method. We have also observed three major stressors using Cohen's effect size; they are difficulty in diagnosing the disease, worry of the disease that it will get affected to the dear ones, and the fear of using public utilities. The general presumption of our theoretical model was identified stress constructs can create social stress among labor force, which was reconfirmed through the Covariance Based Structural Equation Modeling Approach (CB-SEM). The risk and benefit of the pandemic situation were further examined mathematically. It is interestingly observed that during COVID-19 pandemic the labor force across Kerala will value health and wellness as the most important gain than financial benefits.

Keywords

COVID-19, Social Stress Theory, Prospect Theory, Behavioural Finance, CB-SEM.

JEL Classification

C12, G4, I12, J08.

Introduction

By the early beginning of 2020, this contagious virus spread across the globe. It is reported that there are not scientifically tested and proved therapies for this disease. The only prevention mechanism suggested by medical practitioners for tackling this disease is 'social distancing'. On the other hand, economists across the world believe that countries that have remained relatively open during COVID -19 period have managed to escape at least some of the economic harm. However, this suggestion does not seem to be practically possible for a country like India with a total population of 1.3 billion. As a result, the country has declared a lockdown with effect from 22nd March 2020 onwards. The employees working at various establishments closed on account of lockdown were asked to work from home. The Government of India has issued advisories and orders stating that even if the place of business has become non-operational due to COVID-19, its employees shall be deemed to be on duty and the employer should not terminate any employees. Somehow there are practical difficulties in following the above instruction during the phase of an economic slowdown. Reports said that for the industrial sector major driver of costs can be the lost production due to high worker absenteeism, amounting to about 28 percent of total costs (Jonas, 2013). COVID-19 pandemic and the allied lockdown has hit at its worse among the labor force in private sectors, daily wage workers, migrant workers, contractual workers, etc. as the lockdown and consequent decline in business have affected their earnings. In this context, COVID -19 pandemic has created two kinds of stress among the labor force viz. social stress and financial stress. Social stress can be explained as the fear of workers on COVID-19 disease and its malicious effect. The financial stress points towards the economic slowdown and its after-effects may influence the financial earnings of the workers. Here the workers are in a tug of war as they have

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to decide either to protect their financial interest by ignoring COVID-19 pandemic or should follow social distancing practices for saving their health. The above query has motivated us to research this topic. This work is also intending to propose a new conceptual model for addressing the dilemma between money and health during the pandemic situation.

For developing the theoretical model, we have integrated two well-established theories viz. stress theory and prospect theory. Social stress theory is a social theory that explains observations about stress, an aspect of social life. It examines how social conditions can cause stress for members of a social group (Aneshensel, Rutter and Lachenbruch, 1991). In prospect theory, it is believed that an individual makes decisions based on perceived gain rather than perceived losses (Kahneman and Tversky, 1979). This theory was further redefined in certainty angle (Tversky and Kahneman, 1992), as people prefer only certain outcomes by ignoring the possible outcomes. By taking lessons from the above theory we have developed a hypothesized model.

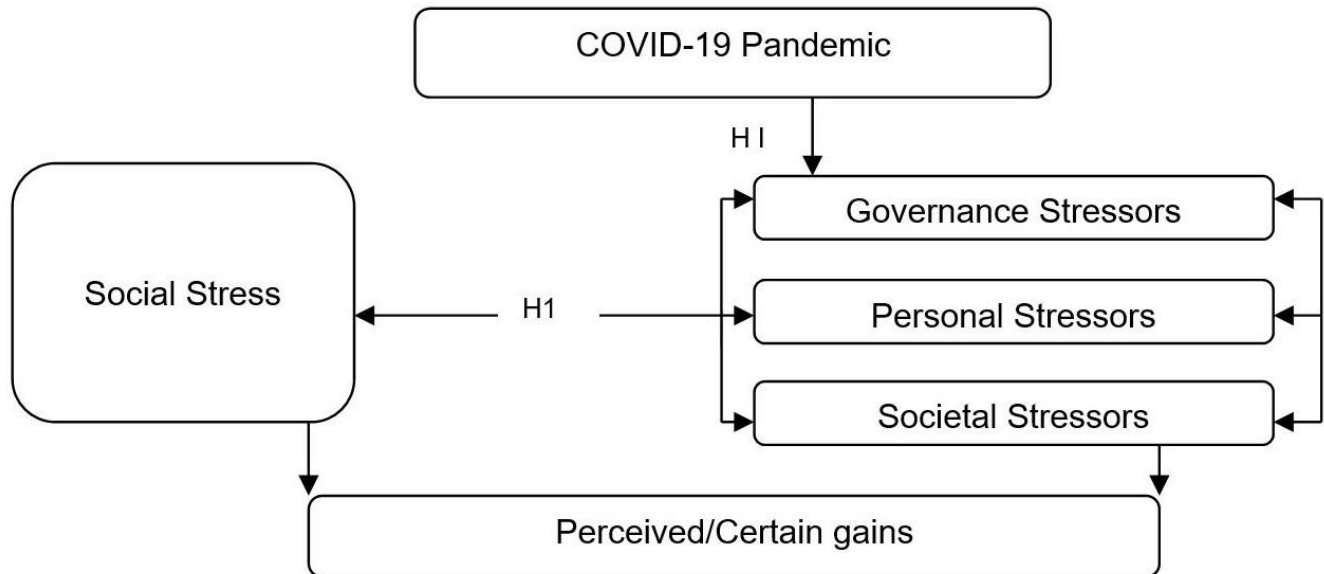


Fig 1: Hypothesized model integrating social stress theory and prospect theory

Fig 1 explains the initial hypotheication for developing the theoretical model. COVID -19 pandemic can generate three kinds of stress among the labor forces. They can be classified as Governance, Personal, and Societal. Governance can be explained as to whether the authorities have adequate facilities for addressing this pandemic, and anxiety on the above can generate some stress among the general public. Personal stress explicates various worries caused by persons living in a society during a pandemic period. The societal stress can get escalated on various stages of social interaction by the public. We have pooled the above factors as a reason for causing stress for members in a social group (labor force). The major hypothesis of this model is that governance, personal and societal factors are fundamental elements in causing social stress among the work force. At this stage, the labor forces have two choices. Either they can opt for immediate financial benefits or can value social benefits. For immediate financial gain, the labor forces will have to operate by neglecting the disease- preventing measures such as lockdown, self-quarantine, etc. Financial benefits are less certain during the period of lockdown as the labor forces are strictly controlled and prohibited in engaging their routine activities. Social measures like quarantine, lockdown, etc. can prevent widesread of the disease thereby ensuring stable working conditions for the labor forces in the future. In the context of prospect theory, the workers will consider social distancing and health protection measures are more profitable rather than looking for immediate financial benefits. The practicality of the proposed theory was tested through various statistical measures.

Literature Review

Coronavirus gets its name based on the outer peripheral, crown-like, or “corona” consisting of the embedded envelope protein. This virus is supposed to emerge in 2002 in human beings and it is believed to be from the horseshoe bats (Rasool and Fielding, 2010). In 2012, another version of the Corona Virus was found in the Middle East which caused respiratory diseases, this was named MERS. In 2019, a virus that was almost similar to SARS Corona Virus was identified. This virus was re named as SARS Covid 2 and the disease as COVID- 19.COVID 19 is a zoonotic virus pointing out that they are spread among animals and then to human beings like the earlier SARS and MERS Viruses (Kothai and Arul, 2020).At present, there is no existence of antiviral drugs for the treatment of CoV infections. And there are not scientifically tested and proved therapies for this disease (Yethindra, 2020). It is also pointed out that isolating the patients; infection control and hospitalization are the possible solutions for the time being (Orly and Richard, 2020). However, there are basic symptoms that might enable you to understand if you are infected with COVID-19 (Goothy, et.al. 2020).

Jani(2020) opines that businesses across the globe have been recovering after the economic slowdown in 2008, but the recent COVID-19 crisis will affect all sectors of the economy which may result in the shutdown of many businesses perhaps. He also says that recovering from the recent COVID-19 crisis will be tough. Applying heuristics, we have to understand where we can and cannot make an impact thereby leading us to effective control. Thus, optimizing the way, we spend our limited resources will enable us to an effective and efficient recovery from COVID-19. Aravind and Manojkrishnan (2020) examine how COVID-19 outbreak has affected leading pharmaceutical stocks listed with the National Stock Exchange of India. Their study states that the momentum effect is persisting with pharmaceutical stocks since it moves along with the general benchmarking index. This paper strongly urges the need for backward integration and enhanced research and development activities to the Indian Pharmaceutical sector for ensuring their sustainable long-run operations.

The COVID-19 outbreak has created severe financial and mental stress among workers. The health workers are exposed to high-risk situations and when contracted with the disease they go into quarantine leaving their families behind. The study also says that many research works have proved that such workers experience mental conflict, boredom, exhaustion, and loneliness during the quarantine. Post quarantine they may be either eager enough or disinclined to return to their respective works (Walton, 2020). A study conducted among health workers during SARS epidemic has reported that the staffs were significantly more likely to report exhaustion, detachment from others, anxiety when dealing with febrile patients, irritability, insomnia, poor concentration and indecisiveness, deteriorating work performance, and reluctance to work or consideration of resignation (Brooks, 2020). Tan (2020) compared the prevalence of depression, stress, anxiety, and posttraumatic stress disorder among medical and nonmedical health care workers. The study reports that the prevalence of anxiety was higher among nonmedical health care workers than medical personnel.

According to Day (2004), companies should be concerned about how their workers are affected by the epidemic in terms of health, safety, and even emotion. It is well established that the epidemic condition prevailing in the economy can create stress among the labor force mainly stress related to personal injury, stress on future workload, stress on account of low job control, lack of job security, stress on account of splintering social relations, etc (Wainwright and Calnan, 2000). The pandemic situation creates significant shortages of labor supply among working-age people, decreased productivity, increased production costs, and promotes new migratory movements (Espinosa, 2006). Lee and Cho (2016) points that older workers are facing a higher possibility of unemployment than younger workers after a pandemic outbreak and the middle-aged and old-aged groups had a high likelihood of falling under the vulnerable group in the labor market. This situation will lead to social polarization.

During the period of pandemic people values the following personal attributes as important viz. support from friends, support from family members, sharing feelings with other family members, sharing feelings with others, and caring for family members' feelings (Lau, 2006). Zhang and Ma (2020) took an earnest effort to assess the pandemic mental health of incumbents in China. In this study the following domains were assessed, they are changes in stress from work, financial stress, and stress from home, horrified feelings due to the COVID-19 pandemic, apprehensive due to the COVID-19 pandemic and helpless feelings due to the COVID-19 pandemic. The workers are concerned about the impact of this pandemic on their quality of societal life maintained at present (Qiu, 2020). Blake (2010) has reported that the inability to work from home, lack of paid sick leave, and income are the key social stressors associated with working adults' during an epidemic outbreak. COVID- 19 has created severe mental stress among the labor forces. However direct counseling is not possible at this stage. According to Letie (2019), telehealth can be used in providing mental health support for patients and frontline health workers who may be psychologically affected by the impact of the COVID-19 pandemic, as a consequence of self-isolation, anxiety, staff "burnout" and fear of cross-contamination.

COVID-19 has created a greater amount of social stress among labor forces. It is reported that the presence of anxiety is universal among the workers. However, the intensity and cause of stress may vary from person to person. The major social stressors are dealing with poverty, unemployment, and other psychosocial issues. In this context we have integrated two major theories viz. social stress theory and prospect theory in this study to examine how these theories are psychologically working on the labor force.

Social stress can be defined as the disorder attributed to restricted group access to social, economic, or personal resources used to combat the life circumstances (Dohrenwend and Dohrenwend, 1969). Different thinkers have defined social stress in different contexts. According to Avison and Turner (1988), social stress is all about the difficulty in discharging interpersonal roles. In the words of Pearlin (1989) stressors also include difficulties associated with participation in institutionalized roles. Whereas some other thinkers like Wheaton (1983) defined social stress as barriers in the achievement of life goals. According to Ilfeld (1976), social stress arises as a result of circumstances or conditions of daily social roles which are generally considered to be problematic or undesirable. Social stress theory is a social theory that explains observations about stress, an aspect of social life. It examines how social conditions can cause stress for members of a social group (Aneshensel, Rutter and Lachenbruch, 1991). As an impact of social stress several psychological or health-related worries can be developed among the members in a society. Possible stress-related reactions in response to the coronavirus

pandemic may include changes in concentration, irritability, anxiety, insomnia, reduced productivity, and interpersonal conflicts (Vinkers et.al.2020).

Prospect theory has applied psychophysical principles to investigate a judgment or decision choice. Prospect theory is useful when an individual has to choose between two alternatives during the period of risk or uncertainty. In behavioral finance, the general hypothesis is that the people are risk-averse. The general perception is that individuals dislike losses more than equivalent gains, and they are more willing to take risks to avoid a loss (Kahneman and Tversky, 1979 and Kahneman, 2011). Kahneman and Tversky's behavioral model suggests that people's choices are based not on dollar values but the psychological values of outcomes (Morrison and Clark, 2016). In this context, it is quite interesting to observe how individuals especially the labor force reacts on financial losses when a threat of pandemic exists in society.

Objectives and Methodology

The primary objective of this study is to integrate two theories viz. social stress theory and prospect theory in the context of the COVID-19 pandemic and to propose a new theoretical model. This study is also intended to examine how various factors such as governance, personal and societal stressors can cause stress among the labor force in Kerala State in India. This work is also intending to mathematically test the proposed theoretical model and to formulate necessary strategies for the policymakers to restore the normal working situation during post-pandemic period.

A survey was conducted among labor force working both in government and private sectors across Kerala State, India. Kerala is the thirteenth largest state in India with an estimated population of 35 million. As per the census report in 2011, the total working population in Kerala is approximately 9.33 million. Based on a report submitted by the state planning board in 2017 the total labor force in the organized sector has remained only 1.173 million among which 0.56 million (48 percent) are in the public sector and 0.613 million (52 percent) are in the private sector. We have selected Kerala state as the location for our survey because of several reasons. Kerala is the Indian state reported to have the highest Human Development Index in 2018. The literacy rate of Kerala is 93.91 percent; it is much above the global literacy rate. The "Kerala model" of addressing COVID-19 is already being held up around the world as a success story (The Guardian, 2020).

We have surveyed working groups in the organized sector across Kerala. A duly validated questionnaire was used for this purpose. The questionnaire designing and validation process was detailed in the data analysis part of this study. The questionnaire for the survey was designed in English and the researchers have used the simple random sampling technique for data collection. A duly designed questionnaire in Google forms was circulated among WhatsApp groups of different organizations. We have employed this method for collecting the data as the Nation has declared to lockdown from 22nd March 2020 onwards. The period of the survey is ranging from 10th April 2020 to 19th April 2020. We have received 427 filled responses of which seven responses were found to be inadequate and duly eliminated. Finally we have retained 420 valid responses for further study. We have used Krejcie and Morgan (1970) measure for determining the sample adequacy. Based on Krejcie and Morgan (1970) criterion a sample size of 384 is required for a population of 30 million at 5 % level of significance. In our study, we have taken 420 as the sample size. Considering Kerala's total working population of 1.173 million in the organized sector the sample size of 420 is much above the rule of thumb. Kerala being a state benchmarking with global standard, we presume that a theoretical model framed based on this economy can be applied in various contexts across the globe. The characteristics of the sampled data are presented in Table 1.

The respondents who have participated in this survey were mainly residing in Kerala State, India. While observing Table 1 it can be inferred that 59.55 percent of the respondents are Male. 45.2 percent of the respondents are having an experience of below 5 years and that shows the quality of the data selected for testing our proposed theoretical model. The major portion of the respondents earning a monthly income between INR 20001-40000 is much above the per capita monthly income in India. The per capita monthly income in India for the year 2018-19 is reported to be INR 10534 (Business line, 2020). The age groups of the respondents were fair enough for this study as 43.8 percent belong to the age group of 21-30 years. 14 percent of the respondents were working in the government sector and 86 percent of the respondents were working in the non-government sector.

Initially, we have surveyed 20 variables from various perspectives befitting to our theoretical postulations. Four-point Likert's scale was duly employed for collecting the responses. However, it is quite understood that a large pool of variables needs to be reduced to a smaller number for detailed analysis and inferences. For this purpose, we have used the Confirmatory Factor Analysis (CFA). Factor analysis is useful to focus on some key factors rather than considering too many variables that may be inconsequential (Yong and Pearce, 2013). According to Comrey and Lee (1992), the recommended sample size for factor analysis is at least 300 participants and should have at least ten observations. In this study, we have used 420 responses and 20 variables and can very much justify the threshold data suggested for factor analysis by Comrey and Lee (1992).

Table1: Sample Characteristics (N=420)

Variable	Category	Count	Percentage
Gender	Male	250	59.5
	Female	170	40.5
	Total	420	100.0
Experience	< 5years	190	45.2
	5-10 years	79	18.8
	10-15 years	47	11.2
	15-20 years	41	9.8
	More than 20 years	63	15.0
	Total	420	100.0
	Monthly Income	Less than INR 20000	32
INR 20001-40000		168	40.0
INR 40001--60000		68	16.2
INR 60001-80000		51	12.1
INR 80001-100000		33	7.9
Above INR 100000		68	16.2
Total		420	100.0
Age	21-30	184	43.8
	31-40	122	29.0
	41-50	68	16.2
	51-60	32	7.6
	<20	2	.5
	61-70	7	1.7
	>70	5	1.2
	Total	420	100.0
Nature of Job	Government	59	14.0
	Non-Government	361	86.0
	Total	420	100.0

Source: Surveyed Data

Table 2 represents the summary of Confirmatory factor analysis. Initially, we have performed the KMO test, KMO is a measure of checking whether the sample is adequate for factor analysis. It is generally inferred that if KMO values are greater than 0.50, then the sample is considered to be adequate for factor analysis (Kaiser, H., 1974). In this study, we have obtained a KMO value of 0.848 and high values (close to 1.0) generally indicate that factor analysis is useful with the collected data. We have also examined at Bartlett's test results for sphericity (Bartlett, 1951). This is a test used to measure how the correlation matrix has significantly differed from the identity matrix. The test results reported a chi-square value of 1807.81 and the probability value of the test statistics is 0.00 falling within the critical limit of 0.05 at 5 percent level of significance. Indeed these test results show that the variables do have a patterned relationship among them. A commonly used criterion for the number of factors to rotate is the eigenvalues-greater-than-one rule proposed by Kaiser (1960). In this study, we have obtained eigenvalues of 4.070, 1.399, and 1.273 respectively under three different dimensions. Based on the nature of observed variables we have named the above constructs as Governance, Personal, and Societal. The details of observed variables under latent constructs are presented in Table 3.

Table 2: Confirmatory Factor Analysis Summary

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy.				
Test Score		Inference		
0.848		KMO values>0.50, the sample is adequate for factor analysis (Kaiser, H., 1974)		
Bartlett's Test of Sphericity				
Approx. Chi-Square	df	p.value	Significance	
1807.81	190	0.00	Significant	
Eigen Values				
Dimension	Name	Eigenvalue	Rule	
1	Governance	4.070	The factor is retained if Eigenvalue>1 Kaiser, H.F. (1960).	
2	Personal	1.399		
3	Social	1.273		

Source: Data Analysis

From Table 3, it can be realized that the factor 'Governance' can be measured by using three variables viz. diagnosing the disease, controlling the spread of the disease, and the availability of medicines. The construct 'Societal' can be measured through variables such as fear to use public transport, fear to use public facilities, and fear to participate in social functions. The variables viz. worry on self infection, worry on infection to the dear ones, and worry about job cuts form as a basis for the factor 'Personal'. In the words of Baumgartner and Homburg (1996), a single indicator per construct tends to ignore the unreliability of measurement. Therefore, the use of three items is the minimum threshold as a general rule for the number of items per construct. However, in covariance-based (CB)-structural equation modeling this can stand as a major drawback when all factors in the overall model are measured with three items each (Hair et al., 2014). Given the above argument, we have made a sincere effort to use more than three variables for all major constructs of our model.

Table 3: Description of Study Variables

Dimensions	No. Variables	Observed Variables Retained	Source
Governance	3	G1: Diagnosing the disease	Kang, et.al. (2020)
		G2: Controlling the spread of the disease	Orly and Richard (2020)
		G3: Availability of medicines	Yethindra (2020)
Personal	3	P1: Worry on self infection	Wainwright and Calnan (2000)
		P2: Worry on infection to the dear ones	Lau (2006)
		P3: Worry about Job cuts	Wainwright and Calnan (2000)
Societal	3	S1: Fear to use Public transport	Self derived
		S2: Fear to use Public facilities	Self derived
		S3: Fear to Participate in Social functions	Qiu (2020)

Note: the observed variables were shortlisted based on CFA

Data Analysis

The classical Cronbach's alpha (Cronbach, 1951) model has been used to test the reliability of the developed constructs. The alpha values of the constructs were computed using the estimates of the residuals and its standard error. The general rule of thumb is that a Cronbach's alpha of 0.70 and above is good (Shemwell, Chase and Schwartz, 2015). From Table 4, it can be inferred that the obtained Cronbach's alpha values of the constructs are 0.709, 0.701, and 0.700 respectively; it is much above the critical level ($\alpha > 0.7$). Likewise, composite reliability of the constructs is 0.788, 0.711, and 0.700 (approx) respectively. It is obtained by combining all of the true score variances (λ^2) of the observed variables related to constructs, and by dividing this sum by the total variance in the

constructs. If the composite reliability of the factor loadings is above threshold 0.7 indicates internal consistency (Hair et al., 2014).

Table 4: Construct Reliability and Validity

Dimensions	Cronbach's alpha	Composite Reliability	Average Variance Extracted (AVE)
Governance	0.709	0.788	0.553
Personal	0.701	0.711	0.501
Social	0.7	0.700	0.5

Correlation among Constructs(Fornell and Larcker criterion)			
	Governance	Personal	Social
Governance	1.000	0.580	0.579
Personal		1.000	0.602
Social			1.000

Source: Surveyed data analysis

Content validity analyses whether the questionnaire has included the most important aspects for collecting the required data. Face validity refers to the degree to which the respondents or laypersons judge the questionnaire items. In this study content of the draft, the questionnaire was validated through focus group discussion among experts. For this, we have conducted online meetings with five experts in the relevant field via Zoom platform. The jargon and some terminologies required detailed explanations were duly eliminated before finalizing the questionnaire. The average variance extracted of the factors used in this study is closer to the generally accepted point of 0.5. If the AVE is 0.5 or more (refer to Table 4) confirms the convergent validity of the factors (Anderson and Gerbing, 1988). We have also examined the discriminant validity of the factors by using the criterion suggested by Fornell and Larcker (1981). If the square root of the AVE is higher than the correlation between the constructs, then the discriminant validity can be confirmed. In this study initially, we have confirmed the reliability and validity of all the identified factors. Thereafter we have conducted path analysis via IBM SPSS Amos 26. Fig.2 will provide an outlook on path analysis.

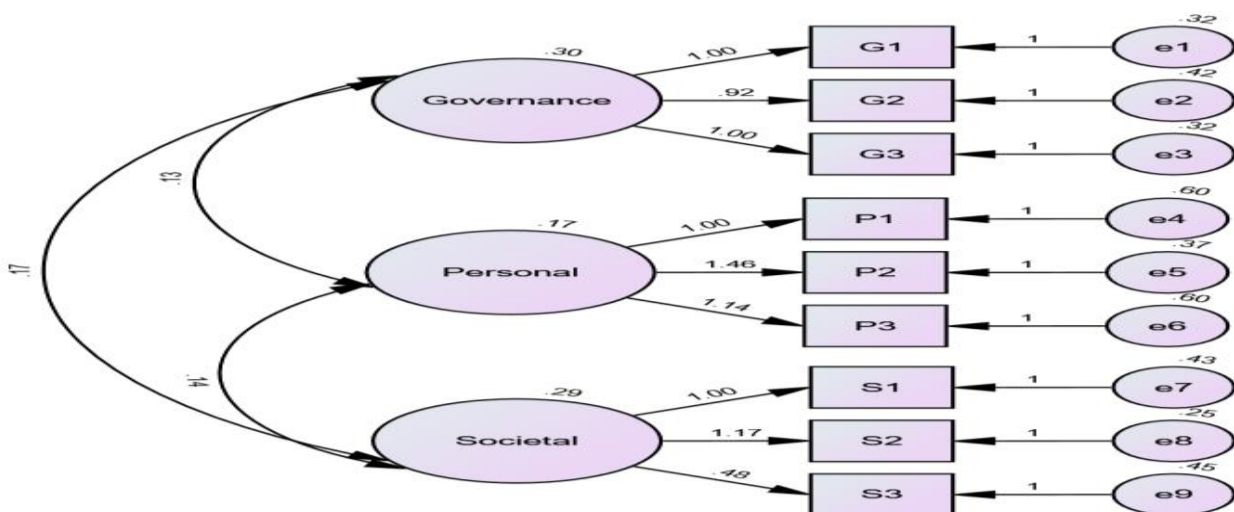


Fig 2: Path Analysis

Fig.2 represents the drawing used in the Amos platform for generating the results. The constructs governance, personal and societal were given in the large circles. We have shortlisted nine observed variables after the Common Factor Analysis. They are diagnosing the disease (G1), controlling the spread of the disease (G2), availability of medicine (G3), worry on self- infection (P1), worry on infection to the dear ones (P2) and worry about job cuts (P3), fear to use public transport (S1), fear to use public facilities (S2) and, the fear to participate in social gatherings (S3). The values on the top of the single arrow denote the path coefficients (β). Values on the top of e1-e9 indicate the error term. The detailed result of path analysis is presented in Table 5.

Table 5: CB SEM Result

Path	Estimate(β)	S.E.	T Value	p. value	f2
G1←Governance	1	----	----	0.00	0.961
G2←- Governance	0.917	0.092	9.933	0.00	0.607
G3←Governance	0.997	0.102	9.797	0.00	0.934
P1←Personal	1	----	----	0.00	0.289
P2←Personal	1.46	0.21	6.942	0.00	1.001
P3←Personal	1.139	0.179	6.353	0.00	0.371
S1←Societal	1	----	----	0.00	0.677
S2←Societal	1.17	0.13	8.969	0.00	1.577
S3←Societal	0.475	0.08	5.946	0.00	0.145

Source: Data Analysis

Table 5 exhibits the result of our CB-SEM model. From the study, it can be easily inferred that the observed variables reported having a strong and significant relationship with the identified factors as the probability value of the test statistics is falling very much within the critical limit of 0.05 at 5 percent level of significance ($0.00 < 0.05$). This strongly supports our theoretical postulation that the factors such as Governance, Personal and Societal stressors can cause social stress among labor force in Kerala (H1 Supported). Additionally, the T-test results are much above the reference point of 1.96. We have also analyzed the effect size of each path using f2 values (Cohen, 1988). In this analysis, our f2 values are ranging from 1.577 to 0.145. A reference point of 0.8 or more indicates a large effect between variables. From the governance angle, the variable diagnosing the disease (G1) is important to the workers with an acceptable effect size of 0.961. Personally, the workers are very much worried that the COVID-19 infection may affect their dear ones (P2, effect size 1.001) if they go for a job in this pandemic period. From the societal point of view the largest effect size 1.577 was reported for the variable 'fear to use public facilities (S2). The analysis itself proven that COVID-19 pandemic has created a greater amount of social stress among the labor force in Kerala. This confirms the social stress theory suggested by Aneshensel, Rutter, and Lachenbruch (1991). The key stressors are currently they are very much anxious about how the government's facilities can diagnose if they are get affected with COVID-19 from workplace. Personally, they feel that even if they get infected by COVID-19 from workplace they are worried that their family members and relatives may get affected by this. Finally, the workers are afraid to use public facilities like elevators, bus stations, railway stations etc. due to the fear of COVID-19.

In prospect theory, it is believed that an individual makes decisions based on perceived gain rather than perceived losses (Kahneman and Tversky, 1979). Here the workers are considering their health and family as their perceived gain rather than current financial gain. To support this, we have used a list of questions and the descriptive statistics of the responses are presented as follows. Majority of the workers are confident that they can compensate their financial loss in future (Mean = 3.71, $\sigma=1.73$), the labor force prefer to opt work from home option (Mean 3.52, $\sigma=1.82$), and they do not want to travel to their workplace due to the fear of COVID-19 infection (Mean 3.46, $\sigma=1.67$). On the other hand, low mean scores were obtained for some other questions related to monetary benefits. They are; the economy should open immediately as it stressed my financial position (Mean=2.41, $\sigma=1.96$), the offices can open by strictly implementing social distancing measures (Mean 2.31, $\sigma=1.88$). At times of any social stress created due to a pandemic; the labor force will value health and wellness as the most important gain than monetary benefits. This confirms our hypothesized model structured in Fig 1.

Table 6: Model fit Assessment

Criterion	Value	Norms	Inference
RMSEA	0.01	A value less than 0.08 indicates good fit (MacCallum et al., 1996)	Good Fit
NFI	0.965	Value of > .90 indicates fit to the model (Bentler and Bonett, 1980)	Good Fit
CFI	0.999	Value of > .90 indicates fit to the model (Bentler, 1990)	Good Fit
PNFI	0.643	Value of > .90 indicates fit to the model (Mulaik et al., 1989)	Moderate Fit
GFI	0.987	Between 0-1 indicates good fit (Sharma et.al., 2005)	Good Fit
TLI	0.998	TLI of >0.90 is considered acceptable (Hu and Bentler 1999)	Good Fit

Source: Data Analysis

Table 6 shows the results of various statistical measures used for assessing the fitness of the established model. The Root Mean Square Error Approximation (RMSEA) has reported a value of 0.01 and it is much below the threshold limit of 0.08 suggested by MacCallum et al. (1996). The Normed Fit Index (NFI) value of 0.965, Tucker-Lewis index (TLI) value is 0.998, and the Comparative Fit Index (CFI) value of 0.999 is much above to the critical mark of 0.90. Parsimonious Normed Fit Index (PNFI) reported with a value of 0.643 is below the required level of 0.90 (Mulaik et al., 1989). However, the PNFI value can be considered as confirming a moderate fit of the statistical model. The goodness of fit Index also reported to have a value of 0.987, is very much between 0 -1. The above measures have confirmed the fitness of the established model.

Discussion

As outlined in the prospect theory, the basic hypothecation for our model is that the rational decision-makers will find the utility of outcomes that can offer contextual gains rather than losses. Based on the mathematical outcomes of this study we are redefining the hypothecated model given in figure 1 to form a new theory. The new theoretical model is presented in fig. 3. In this model we have integrated two theories viz. social stress theory and prospect theory.

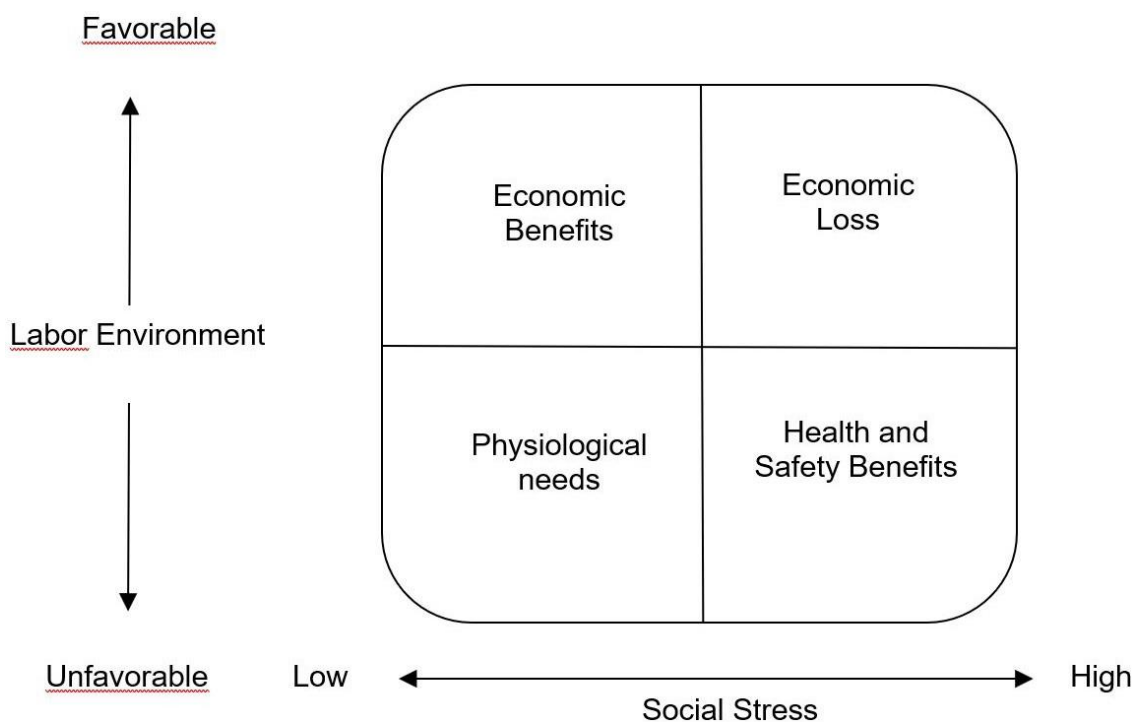


Fig 3: Stress-Prospect pandemic model

It is clear from prospect theory that most people dislike risk and wish to avoid the worst outcomes (Kahneman and Tversky, 1979) In our theoretical model, we have identified two key parameters viz. Social stress and labor environment. Thereafter four probable prospects are identified and named as economic benefits, economic loss, physiological needs, and health and safety (refer figure 3). Our study primarily focuses on social stress due to COVID-19 and its impact on the labor force. Thereby social stressors and labor environment were duly identified as the key parameters.

As illustrated in figure 3 if social stress is low and the labor environment is unfavorable, then the workers will find the utility for money by sacrificing their mental health. At this moment their physiological needs will be more prominent for them, compelling them to earn their livelihood, even though the general labor market is unfavorable. At times of this pandemic the individuals prefer to work if the environment is healthy even though the labor market is not promising.

In another context, if social stress is high and the labor environment is unfavorable, the individual usually prefers to safeguard their health rather than going for monetary benefits. Based on prospect theory health and safety benefits will outperform monetary benefits. Our statistical model has already confirmed this scenario as governance, personal and societal stressors can cause social stress among the labor force (p .value $0.00 < 0.05$). In the period of COVID-19 spread the workers are hesitated to travel to their workplace (Mean 3.46, $\sigma=1.67$) and they least favored that the economy should open immediately ((Mean=2.41, $\sigma=1.96$). These results support the proposition of Morrison and Clark (2016) by agreeing that people's choices are based not on dollar values but the psychological values of outcomes.

If social stress is low and the labor environment is favorable the workers tend to earn maximum economic benefit by rendering labor. This would agree with the prospect theory in certainty angle (Tversky and Kahneman, 1992), as people prefer only certain outcomes by ignoring the possible outcomes in a positive environment. Finally, if social stress is high and the labor environment is favorable the workers prefer to safeguard their health and safety even though the situation can cause economic loss to their life. The companies are going to address this scenario in post-COVID-19 phase. To support this notion we have identified the three most important social stressors from the analysis. They are diagnosing and treating the disease (Cohen $f^2=0.961$), the infection may affect to their dear ones (Cohen $f^2=1.001$) and fear to use public facilities (Cohen $f^2=1.577$). If the authorities fail to address the above concerns of the labor force, there is a chance that either the companies may lose its skilled workforce or the productivity of the existing labor may come down on account of colossal social stress.

The statistical analysis and the proposed theoretical model have confirmed that the labor forces in Kerala are highly impacted by the COVID-19 pandemic. In the path analysis, we have realized that the three major social stressors derived as a result of COVID-19 are; difficulty in diagnosing the disease, worry of the disease will get affected to the dear ones, and the fear of using public utilities. From diagnosing the disease viewpoint, India has completed among the lowest number of tests per million populations because the government has approved only to a limited number of private labs to test COVID-19 and the testing in private labs seems to be expensive. This might be a threat even after opening up the economy. Here we strongly suggest that rapid testing should also be initiated at the corporate level and the companies should ensure that their workers are healthy and not infected with COVID-19. For these large and medium-sized firms should allocate a certain amount of their CSR fund for COVID-19 testing, especially for their employees.

Kang.et.al. (2020) suggested that in conjunction with actions to help infected and quarantined patients, strategies targeting the general population and specific groups must be developed. The Government of India has introduced the COVID-19 tracking mobile application called 'Aarogya Setu'; this application can be used at the individual or corporate level at free of cost for ensuring the worker's safety. Companies must ensure that their workers installed this mobile app on their phones and should mandate them to check their health and social condition via this application before undertaking their routine duties. This application also keeps the user informed in case they have crossed paths with someone who has been tested COVID-19 positive. The tracking is done through a Bluetooth and location-generated social graph, which can show your interaction with anyone who has tested positive. Such precautionary measures enable the workers to protect themselves and their families from direct interaction with COVID-19 positive patients and also help to reduce their social stress.

Even after lockdown, the workers are advised to take at most precautionary measures in using public facilities like public transportation, offices, shopping malls, hospitals, etc. Proper social distancing measures should be ensured at the workplace. The employees should be asked to wear masks and gloves at the workplace and proper sanitization facilities should be ensured at factories and offices for a sizeable period until resolving this societal dilemma. It is also suggested that establishing safe psychological counseling services by corporate would help the workforce reducing their personal and societal stressors related to COVID-19. For this, the corporate can seek the help of psychiatrists, psychiatric nurses, clinical psychologists, and other mental health professionals (Xiang et al., 2020). The workers should be encouraged to opt for appropriate work insurance plans at the corporate level to mitigate the financial effects from the loss of their family's primary income due to any such pandemics in the future (Cummins et.al, 2004).

Conclusion

Through testing the theoretical model, we have realized that the labor force in Kerala values their "health over wealth" during COVID-19 pandemic. The existence of the social stress theory during the pandemic period has been well confirmed in this study and it is erudite from the analysis that the workers are facing stress from governance, personal and societal dimensions (Aneshensel, Rutter and Lachenbruch, 1991). The study also agreed the lesson from the modified prospect theory as the workers value high on their psychological gain than monetary losses (Morrison and Clark, 2016). In the theoretical model it is expressed that if social stress is high and the labor environment is favorable the workers prefer to safeguard their health and safety even though the situation can cause monetary loss to their life. In post-COVID-19 phase the companies can face shortage of quality work force owing to the above conjecture. At this time the workers who concern their health may opt for a firm that is free from health hazards. For a period like monetary incentives and other fringe benefits healthy working environment can also be considered as a motivating factor among the labor force. One of the key limitations of this study is that the data required for this research were collected during the lockdown period. The anxiety of the workers and their financial condition can significantly vary in post lock down period; as a result the final proposition in the proposed theoretical requires further validation. Secondly, this study does not include labor force in the unorganized sector, such as casual and migrant workers. The above limitations really mark an avenue for the future researchers as they can have their research on the functionality of the stress- prospect pandemic model in the post COVID-19 era.

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