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Article

Impact of government quality on post-COVID subjective well-being in Pakistan: the mediating role of financial stress

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Abstract. COVID-19 has badly affected the psychological well-being of people all over the globe, especially in developing countries, due to the loss of jobs, social capital and stress. The present study is also designed to analyze the impact of government quality on subjective well-being (SWB) after the pandemic through the mediating role of financial stress. This study uses the data of 599 respondents in Pakistan and applies mixed methodology in Generalized Structure Equation Model (GSEM) structure with Tobit and order logit. Results reveal that people perceived more financial and economic stress and perceived poor satisfaction with the government's role in fighting the pandemic. Regression analyses confirmed that least economic stress, good perceived governance, and high level of income are negatively associated with financial stress and positively relate to happiness and life satisfaction. Moreover, a significant relationship exists between the mediator (financial stress) and SWB. Our results suggest government bodies should encourage investment for business start-ups. This will not only reduce unemployment and economic and financial stress but also expand the size of the economy, which leads to achieving the wellbeing of people.

Keywords: COVID-19; social capital; financial stress; post-COVID stress; happiness; life satisfaction
JEL classification: H1; I1

1. Introduction

The COVID-19 pandemic broke out in Pakistan in February 2020. Pakistan has recorded more than 1.5 million confirmed cases and over 30,000 deaths due to COVID-19[1]. The country has faced multiple waves of the pandemic, with varying severity. Pakistan, like many other countries, has taken various measures to combat the spread of COVID-19. These measures included the closure of schools and universities, the suspension of international and domestic travel, the imposition of lockdowns in certain areas, the requirement for face masks and social distancing and the ramping up of vaccination efforts. However, compliance with these measures has varied and the country has experienced

[1] See, for instance: https://covid19.who.int/region/emro/country/pk

multiple waves of the pandemic with varying severity. Due to restrictions and safety measures to prevent severe health effects, people in Pakistan have faced negative impacts on their psychological and mental health. During the lockdowns, people were restricted as regards going outside for re-creation activities, they lost their social capital, many people lost their jobs and losses in businesses were also reported. These factors all have a negative impact on psychological well-being and increase financial and mental stress.

The impact of COVID-19 on psychological well-being is still notable in Pakistan. Before the pandemic, Pakistan was in 65th position in happiness among 145 countries around the globe (World Happiness Report, 2018-19), but a recent report (WHR-2022) shows that Pakistan has significantly dropped down in the ranking of happiness to 122nd among 146 countries analysed. This is due to the bad economic situation, poor social capital as a result of social distancing during the pandemic, poor government quality, increased unemployment and financial stress. The prevailing situation in the country and the sudden decrease in the happiness level motivates us to identify the factors that cause financial stress and the lower level of well-being among the people of Pakistan.

There are various factors associated with the low level of wellbeing after the COVID-19. The most common outcomes that impact the well-being of people include economic uncertainty, joblessness, physical activities, disruption in daily life routine, healthcare problems, and social distancing. In less developed countries, COVID-19 has led to a health crisis, inducing an economic crisis and, consequently, an increase in the problems of people falling into low-income strata. Residents from less developed countries are forced to live in vulnerable conditions due to increased economic stress, over-dependence on the informal sector, unavailability of mental healthcare services and the prevalence of mental health issues (Baranov et al., 2020; Maselko et al., 2018; Muhammad Gadit & Mugford, 2007). Economic stress has increased around the world, which also negatively influenced physical and mental health problems. It should be the foremost priority of policymakers to address such problems (Bareket-Bojmel et al., 2021).

In addition to economic and financial stress, daily life routines and physical activities have badly affected people's mental health and well-being. There is no denying the fact that physical activity is directly related to well-being and mental health. Research shows that exposure to nature positively increases happiness, reduces stress and enhances vitality (Nguyen & Brymer, 2018). It is necessary to be engaged in physical activity through multiple 'lenses'. These lenses may be evaluated in the form of social and physical environments (Sallis et al., 2015). The psychological factors related to an individual include factors related to the physical, social and emotional environment. In addition to these, recreational facilities are also important for the psychological framework of an individual (Bauman et al., 2012; Sallis et al., 2015). Physical activity is strongly recommended by public health advocates to protect people from the negative impacts of COVID-19 in the form of psychological and physical detriments (Hammami et al., 2022). There is a clear side effect of COVID-19 on the lives of people in the form of anger, confusion and stress (Brooks et al., 2020).

Sustainable development agenda focuses on improving the well-being of people but the rank of Pakistan has significantly decreased in happiness. This situation might be control by the government, but poor governance after the pandemic has a bad influence on the economic condition and psychological wellbeing of people. Post covid conditions in Pakistan were not controlled and still there are multiple factors, including a poor healthcare system and increasing mental health problems

among people. Additionally, economic crisis and stagflation have also become major issues in increasing financial stress and psychological disorders among people. Examining these impacts motivates the present research to have a more thorough grasp of the pandemic's consequences and take preventative action to deal with the difficulties that people and society could encounter in the wake of it. Therefore, the present study is designed to analyze the role of government quality on SWB with the mediating effect of financial stress after the COVID period. The present study is carried out by collecting data from 599 households in Pakistan through the survey method.

The present study is contributing to the literature in many ways. 1) This research adds to the literature by analyzing the mediating role of financial stress in the relationship between government quality and SWB. 2) the present research uses a generalized structure equation model (GSEM) due to ordinal outcome of dependent variables. 3) previous studies have been conducted during the pandemic but this study captures the post-covid impact on subjective wellbeing. The present study will assist policymakers in working on factors that can minimize financial stress and improve the well-being of people. The rest of the study is organized as follows: the second section highlights the recent literature on covid-19 related stress and wellbeing. Section 3 highlights the methodology and data collection procedure. Results are presented and interpreted in section 4, while the study is concluded in section 5.

2. Literature review

The literature on the effect of COVID-19 on daily life and the psychological well-being of people is discussed vastly around the globe. Previous studies have examined the impact of COVID-related issues during the pandemic or lockdown period on well-being and financial stress (see, for instance, Alfawaz et al., Aslam et al., Petrovic et al., Rodrigues et al., 2021; Baranov et al.). However, COVID-related issues are still not resolved, especially in developing countries, and no study has been found that has examined the post-COVID issues on well-being, especially in the context of Pakistan. As discussed earlier, COVID-related issues have created a gap in people and job losses, economic crisis and high levels of inflation have increased the financial stress among people, which is also the cause of low levels of happiness and life satisfaction. Therefore, there was a need to address these issues and highlight those factors that are responsible for financial and psychological stress.

Covid-19, financial position and SWB

COVID-19 has significantly affected people's happiness and financial position. Several indicators, including the Gross National Happiness Index, are used to measure and compare happiness before and after the imposition of the lockdown (Petrovič et al., 2021). People going through serious conditions reported their mental health to be much worse compared to before the first COVID-19 lockdown (Brown et al., 2021). Economic well-being is not only affected by the loss of income but also because of degradation in the quality of life due to social distancing, leading to a decline in economic well-being as well. Though there has been a major income loss during the pandemic time, the well-being of people with an undergraduate degree who were working in the non-health sectors

reported higher income loss as compared to others (Tran et al., 2020). Whereas a decline in the income levels of people during COVID-19 has led to a decline in the life satisfaction of people as compared to those who had no income loss (Baranov et al., 2022; Cheng et al., 2020).

Psychological and mental impact of Covid-19

An online survey administered to administrative staff, employees, and students of King Saud University was conducted to measure the psychosocial and mental impact of COVID-19, and it was found that upper-income quantile groups feel less stress than lower-income groups. As far as coping mechanisms for loneliness are concerned, strong familial bonding has proved to be crucial in maintaining mental health. This was particularly true for the female respondents (Alfawaz et al., 2021). Social distancing by parents has also significantly increased stress, depression and anxiety in Norway during COVID-19 (Johnson et al., 2019). Xi et al. (2020) have analyzed the longitudinal changes in individual responses throughout the pandemic. Higher levels of psychological distress are found in well-educated respondents due to their awareness of the health consequences that COVID-19 could induce, but interestingly, they reported lower levels of distress in a follow-up survey (Huang & Zhao, 2020).

Traumatic stress, anxiety and well being

There exists a positive correlation between traumatic stress and growth. A cross-sectional study by Zhao et al. (2021) used online surveys to identify this relationship. They have found that females, low-educated people and middle-age groups are more vulnerable to stress, whereas exploring the impact of COVID-19 on well-being, fear and anxiety is higher in adults (Aslam et al., 2021). There is a significant but negative impact of anxiety and well-being and there is a direct relationship between economic crisis and global health crisis with life satisfaction. Social distancing by parents has also significantly increased stress, depression and anxiety in Norway during COVID-19 (Johnson et al., 2019).

Post pandemic stress disorder and stress

Women are found to have developed post-traumatic stress disorder, while middle-aged people worried about their children and ageing parents. Government employees who were battling on the frontline against the pandemic faced distress (Xi et al., 2020). The psychological impact of post COVID-19 on hospital staff is notable, as the frequency of psychological distress tends to be higher among health service staff, according to an online cross-sectional survey administered to nurses, midwives, doctors and health staff in a large metropolitan health service located in Melbourne, Australia (Holton et al., 2020). Healthcare professionals are at a higher risk of psychological problems as one out of five healthcare professionals experienced mental health issues and the need for psychological support interventions is inevitable (Ceri & Cicek, 2021).

Lockdown and physical activity restriction

There is an impact of lockdown restrictions on outdoor activities, self-isolation on physical activity and eating habits as these new conditions increased anxiety and depression, lowered average quality of life and provoked unhealthy behaviors as coping mechanisms, especially in young people as they are more vulnerable to sudden changes (Dragun et al., 2020; Lesser & Nienhuis, 2020). Students have faced more drastic changes and stress due to delayed graduation, job losses and a reduction in job offers, according to a cross-sectional study that targeted students from schools and medical colleges (Dragun et al., 2020). Another research (Lu et al., 2020) conducted an online survey to collect data related to depression, fear and anxiety by using the Hamilton Depression Scale (HAMD) and found that psychological stress increased in the medical worforce during COVID-19. Saalwirth and Leipold (2021) conducted a survey of 665 respondents in Germany and found that social coping and COVID-related worries negatively affect well-being and sleep patterns in families. China has been more affected by the pandemic, where sleeping patterns and day-time physical activities have been negatively affected by COVID-19 (Wang et al., 2021).

Loneliness, mental health issues and disturbances

Li and Wang (2020) related the frequency of feelings of loneliness during COVID-19. They found that young people and women are more likely to develop a general psychiatric disorder (GPD) and loneliness. On the other hand, having a job and living with a partner are factors that are associated with reduced loneliness and general psychiatric disorders. Whereas Godinić and Obrenovic (2020) concluded that there exists a positive correlation between job uncertainty and identity disturbance and a negative correlation between job uncertainty and psychological well-being, job uncertainty resulting from an economic recession can lead to helplessness, distress and paranoia, substance abuse and suicide. According to De Kock et al. (2021), mental health issues have a positive correlation between job uncertainty and identity disturbance and a negative correlation between job uncertainty and psychological well-being.

Previous studies have either studied the impact of financial stress and households' economic situation on wellbeing and psychological stress (Alola et al., 2021; Rodrigues et al., 2021 and Baranov et al. 2022) or the impact of government quality on SWB during the pandemic (Alamsyah & Zhu, 2022) or estimated the anxiety and mental stress during COVID 19 (Holton et al., 2020; Lu et al., 2020; Cohen-Louck & Levy, 2022). These studies have carried out research on the teachers, nurse staff, medical students or staff during the COVID 19, but no study has been conducted on the post-covid effect. Moreover, the methodology used in these studies is very simple. They use either simple OLS or SEM in mediation. But if the dependent variable is in an ordinal category, OLS results become spurious. Therefore, the present research is carried out to address all those issues which are prevailing after the COVID 19 and uses GSEM with order logit and Tobit model. The results of this study will help policymakers to control the variables that have a negative impact on SWB and provide policies to achieve sustainable development goals.

3. Material and methods

3.1 Data

The data of this study was collected from residents of Pakistan who are above the age of 18 through a Google survey link. Data was collected between the period of September 2022 and 15 January 2023, and the Google form was shared on social media like Facebook, WhatsApp, and LinkedIn and emailed to potential participants. Due to financial constraints, authors cannot visit city to city, and people feel restrictions to meet unknown persons. Therefore, it was difficult to collect data from personal meetings and interviews and the authors decided to use the social media network and personal contacts for survey. The final data we received for this study was comprised of 640 participants in the survey from all over Pakistan, but after cleaning, only 599 responses are included for data analysis of this study due to missing information in the remaining data. Our sample consists of 34.5% females and 65.5% male respondents to analyze the impact of COVID-19 on the financial stress and well-being of individuals in Pakistan.

3.2 Measures

The survey for this study is comprised of 8 parts: demographic, income and financial stress after COVID-19, dietary habits, government support during/after COVID-19, stress, social capital, economic stress and measures of well-being. Demographic characteristics include gender, age, education, and employment status, but age is not included in the final model as these variables affect the robustness of the model and are not significant. Income is measured on an ordinal scale while financial stress is measured on a five-point Likert scale. Social capital includes relationships with family, friends, neighbours and other people after COVID-19. Economic stress includes stress on child education, prices and the economic situation after COVID-19. Government support is used as a proxy of government effectiveness, which includes questions regarding social security, creating jobs, reducing inequality, educational needs and health care after COVID-19. Finally, well-being is measured on an ordinal scale from 0-10 in the context of happiness and life satisfaction.

Subjective well-being

The present study uses happiness and life satisfaction as a measure of SWB, which is the worldwide recommended measure (Helliwell et al., 2021). Both measures are ranked on an ordinal scale from 0-10, where '0' represents "Not at all happy or satisfied with life", while '10' represents "Completely happy or satisfied with life".

Financial stress

Financial stress is measured through PCA (principal component analysis) on SPSS, which includes four items on a five-point Likert scale from "Never" (1) to "Always" (5). These items include depression, irritation and a drain of emotions due to financial situation. The measure has strong internal consistency (α= 0.84), and the value of Bartlett's test is significant at a 1% level, which shows

that this is a valid measure for the analysis. This measure is suggested by Cardona-Montoya et al. (2022). Financial stress increases negative feelings and emotions, which badly affect mental and physical health. In Pakistan, people feel irritated to meet people if they are unemployed, lose their emotions and many people attempt suicide due to continuous depression. Therefore, this variable is added to the factor of analysis.

COVID-19-related stress

Individual stress is measured by six items, including anxiety, sleep disturbance and sleeping patterns, hopelessness and stress after COVID-19. Each item is asked on a dichotomous scale (1= 'Yes' and 0 = 'No'). To measure the final values, the sum of responses is used to estimate the stress variable for each individual.

Economic stress

After the COVID-19, the inflation rate has consistently increased in double digits in Pakistan. Due to this, educational institutions have also raised the cost of education, and the overall economic situation is becoming worse day by day. Therefore, this variable can be a significant factor in analysing SWB. Households' and economic-related stress is measured through three items, which include stress on child education, prices and overall economic situation in the country after COVID-19 on 5 5-point Likert scale from "very much" (1) to "not at all" (5). This measure was also adopted by (Cohen-Louck & Levy, 2022) and internal consistency was satisfactory ($\alpha = 0.653$). The variable is constructed through principle component analysis (PCA) on SPSS and the value of Bartlett's test is significant at a 1% level, which shows that this is a valid measure for the analysis. PCA is used to standardize the values of variables for dimension reduction in the dataset containing multiple items of a variable with multiple responses or Likert-scale.

Social capital

Respondents were asked about their relationships with their family, friends, neighbours and other people after COVID-19 on a five-point Likert scale from 1 (extremely good) to 5 (extremely bad) and a measure of social capital is developed through PCA on SPSS. The measure of social capital also has strong internal consistency and validity ($\alpha = 0.82$). Zhao et al. (2022) have also used the measure of social capital to estimate its impact on happiness and mental health.

Government quality

Government support is used as a proxy of government quality after COVID-19 as a political and social responsibility. Respondents were asked about the performance of the government in the last 2 years regarding social security allowance, creating jobs, reducing inequality, providing educational needs and health care on a five-point Likert scale from 1 (very poor) to 5 (very good). This measure is adapted from the World Happiness Report (2022) and is used according to the country's situation. Government effectiveness is also measured through PCA on SPSS and possesses a strong internal consistency ($\alpha = 0.86$). This measure has also been used in previous studies to assess government effectiveness or government quality (see, for example, Kim & Kim, 2012; Danish & Nawaz, 2022).

Demographic and income

Demographic variables include gender (female = 0 and male = 1), education (up to Primary = 1, up to matric = 2, up to graduation = 3 and master's and above = 4), employment status (unemployed/retired/housewife = 1, part-time employed = 2, full time employed = 3 and self-employed = 4). Moreover, income is measured on 5 ranked scales (up to 25K = 1, 25-50K = 2, 50-75K = 3, 75-100K = 4 and more than 100K = 5).

3.3 Empirical model and method

We described data characteristics that covered frequency, percent, mean and standard deviation. The data obtained from the survey is analyzed using SPSS 22 and Stata 15 software. Data is described through frequency distribution, mean values and percentage distribution. The main objective of this study is to analyze the government support on SWB (happiness and life satisfaction) through the mediating channel of financial stress after COVID-19. In the first model, financial stress is regressed over employment, income, economic stress and government effectiveness, while in the second model, financial stress is used as a mediator to regress happiness and life satisfaction along with other factors, including gender, social capital, dietary habits, stress, education and living area (Equation 1 & 2).

$$FS_i^* = \beta_0 + \beta_1 i.employment_i^* + \beta_2 i.income._i^* + \beta_3 economic\ stress_i^* + \beta_4 government\ role_i^* + \mu_i \dots\dots\dots (1)$$

$$SWB_i^* = \gamma_0 + \gamma_1 i.gender_i^* + \gamma_2 i.area_i^* + \gamma_3 i.education_i^* + \gamma_4 social\ capital_i^* + \gamma_5\ diet_i^* + \gamma_6\ stress_i^* + \gamma_7\ diet_i^* + \gamma_8\ i.employment_i^* + \gamma_9 i.income._i^* + \gamma_{10} economic\ stress_i^* + \gamma_{11} government\ effectiveness_i^* + \nu_i \dots\dots\dots (2)$$

'FS' denotes 'financial stress', which is computed through PCA, and 'SWB' is the measure of the individual's happiness and life satisfaction.

To analyze the model in equation 1 and 2, a GSEM (generalized structure equation model) is used with the mixed methodologies of tobit and order logistic regression according to the nature of dependent variables. Tobit model is estimated continuous dependent variable when it is censored (Tobin, 1958). Error terms are normally distributed in the Tobit model. In the second model, happiness and Life Satisfaction (LS) are measured on an ordinal scale from 0-10; therefore, order logistic regression is an appropriate methodology for such measures. The order logit model is specifically designed to estimate such a kind of dataset when the dependent variable is in order form or ranked and does not consist of any continuous scale (Cameron & Trivedi, 2005). A step-wise regression is applied for both the happiness and LS model with and without control variables.

4. Results

4.1 Descriptive analysis

Table 1 presents the demographic characteristics of the sample respondents in the study. 65.44% of respondents in our study are male, while the remaining 34.56% are female. Most of the respondents are from urban areas (73.56%) and have completed more than 12 years of education (85.65%). 45.58% of respondents are full-time employed, while 19.20% are self-employed. More than half (53%) of respondents belong to upper-middle and upper-income groups.

Table 1. Descriptive statistics

Variables	Freq.	% of the sample
Gender		
Male	392	65.44
Female	207	34.56
Area		
Rural	159	26.54
Urban	440	73.46
Education Level		
Primary or below	16	2.67
Up to "Matriculation"	70	11.69
Higher Secondary	296	49.42
Graduation and Above	217	36.23
Employment		
Full-Time	273	45.58
Part-Time	76	12.69
Self-Employed	115	19.2
Unemployed/Domestic work/Retired	135	22.54
Income level		
up to 25000	69	11.52
25001-50000	113	18.86
50001-75000	98	16.36
75001-100000	116	19.37
>100000	203	33.89

Table 2 summarizes the frequency distributions of all factors of variables used in the regression analysis. After the pandemic very few respondents have reported that they have perceived a good relationship with their social contacts. 53% of respondents perceived that they have an extremely good or good relationship with their families and friends, while only 43-45% of respondents perceived a good relationship with relatives and neighbours, whereas this ratio is very low with other people (40%). Most of the respondents (40%-50%) perceived that government-level support was average after COVID-19 in providing social security allowance, educational needs and other matters. Around 35%-60% of respondents perceived that government support was poor in providing basic needs after COVID-19, especially in providing jobs and reducing inequality.

Most of the respondents (55%-80%) are under stress due to rising prices and the poor economic

situation after the pandemic. Additionally, most of the respondents (more than 50%) reported a high level of stress, anxiety and sleep disturbance after the pandemic. The mean scores of happiness and LS are 6.41 and 6.24, respectively. 37% of the respondents reported happiness and LS level below 6, while 63% reported happiness and LS level from 6-10 (Figure 1 and 2). In conclusion, COVID-19 has badly affected people's social relationships. It has also increased the stress, whether it is economic or personal stress, due to anxiety, hopelessness and sleep disturbances.

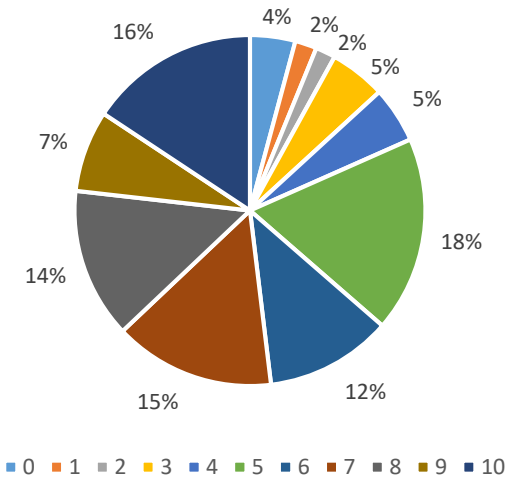

Figure 1. Distribution of Happiness responses

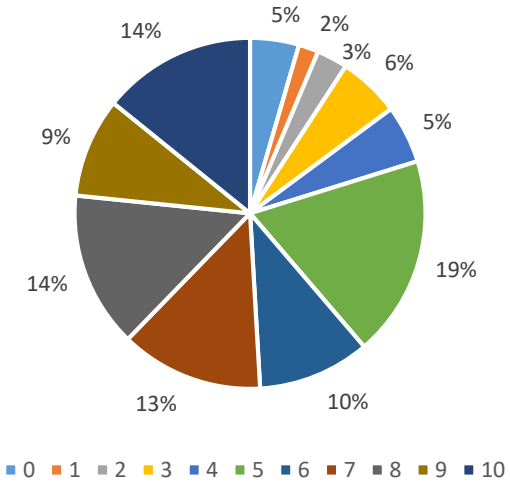

Figure 2. Distribution of Life Satisfaction responses

Table 2. Frequencies distribution of responses related to social capital, government support, economic stress, stress, and dietary habits.

Social Capital	Extremely good	Slightly good	Neutral	Slightly bad	Extremely bad
How do you consider your relationship with your friends and family after the outbreak of COVID-19?	26.9%	26.4%	39.6%	5.2%	2.0%
How do you perceive the relationships with your relatives after the period of the COVID-19	17.9%	28.0%	45.9%	6.5%	1.7%
How do you perceive the relationships with your neighbours after the period of the COVID-19	17.2%	26.5%	48.6%	5.8%	1.8%
How do you perceive the relationships with other people after/after the period of the COVID-19	12.5%	24.4%	52.4%	8.3%	2.3%
Government Support	**Very Poor**	**Poor**	**Average**	**Good**	**Very Good**
Providing Social Security allowance	16.0%	20.7%	46.2%	13.5%	3.5%
Creating jobs	23.7%	32.4%	33.1%	8.5%	2.3%
Reducing the gap between rich and poor	34.4%	26.2%	29.2%	7.7%	2.5%
Providing educational needs	20.5%	24.2%	37.7%	12.2%	5.3%
Providing health care	13.2%	16.5%	36.2%	26.9%	7.2%
Economic Stress	**Very much**	**Somewhat**	**Neutral**	**Not much**	**Not at all**
To what extent do you feel a burden because of your children's education after COVID?	34.9%	22.9%	26.0%	7.2%	9.0%
To what extent do you feel stress with the current economic situation of your country after COVID?	53.9%	22.4%	18.4%	4.7%	0.7%
To what extent do you feel stress with the rising level of prices in your country after COVID?	68.6%	11.7%	14.4%	4.0%	1.3%
Stress	**Yes**	**No**			
Have you experienced any stress after/after Covid?	72.5%	27.5%			
Have you experienced any anxiety after/after Covid?	62.8%	37.2%			
Do you categorize the time before the start of Covid as less stressful?	71.0%	29.0%			
Have you experienced any sleep disturbance after Covid?	47.7%	52.3%			
Has your sleeping pattern changed since the Covid?	57.4%	42.6%			
Have you experienced any feelings of hopelessness after/after Covid?	52.1%	47.9%			
Dietary Habits	**Yes**	**No**			
Have you experienced any loss of appetite after Covid?	32.6%	67.4%			
Have your eating habits changed after Covid?	49.1%	50.9%			
Have you engaged in stress eating after Covid?	30.1%	69.9%			
Has your weight increased after Covid?	43.2%	56.8%			

4.2 GSEM analysis

The results of the baseline model and structural model are presented in Table 3, where the financial stress (FS) is the mediator in the first step and is regressed with employment level, income, economic stress and perceived government role after the pandemic. While in the structural model, happiness and life satisfaction are regressed separately in each model with and without control variables to ensure the robustness of the model. The first column of Table 3 denotes all the variables while the second column represents the regressors FS. Finally, column three to 6 shows the regressors of happiness and life satisfaction (LS). For the FS model, coefficient values are provided in column 2, and odd ratios (OR) are given for the model of happiness and LS, while standard errors are shown in parentheses.

Results of the study reveal that level of income is negatively related to financial stress. People with higher income (> 100000) are less likely to suffer stress with the financial position of the household by 0.5 standard deviation points than the lower income (<25000). Previous studies also suggest that a higher level of income after COVID is associated with a lower level of financial stress (Cardona-Montoya et al., 2022). Economic-related stress has also affected households after the pandemic and is significantly related to financial stress among individuals. Results of the present study show that respondents who perceived no stress with increasing prices and the economic situation have reported the least financial stress. This means that for people who have perceived stress regarding economic conditions after the pandemic, their financial stress significantly increases by 0.14 standard deviation (S.D) points. Our results are in line with the previous study of Alola et al. (2021), who find that daily economic uncertainty is associated with a high level of financial stress among households. Moreover, part-time and full-time employed persons are less financially stressed than retirees and unemployed.

Additionally, for people who perceived that the government has supported basic needs after Covid, their financial stress is likely to reduce by 0.07 S.D points but this relationship is significant at a 10% level. The government response in the pandemic reduces the consequences of economic risk and reduces the difficulties in financial support (Chłoń-Domińczak & Holzer-Żelażewska, 2021). After the outbreak of COVID-19, the government of Pakistan disbursed many social security allowances like direct transfer payments, health insurance and subsidies, which might have reduced the financial problems due to covering household expenses but, overall, the effect was very minor as government cannot fully support each household due to a low budget and weak financial position of the economy.

Table 3. Structural Equation Model for the association between government quality and SWB: mediating role of Financial Stress (Methodology: GSEM using tobit and order logit)

	(1)	(2)	(3)	(4)	(5)
	FS	**Happiness**	**Happiness**	**LS**	**LS**
FS	-	0.51***	0.61***	0.50***	0.57***
		(0.04)	(0.05)	(0.04)	(0.05)
Employment					
Part-time	-0.28**	1.46	1.49	1.39	1.36
	(0.14)	(0.38)	(0.40)	(0.36)	(0.36)
Full-time	-0.24**	1.26	1.27	1.22	1.12
	(0.10)	(0.24)	(0.25)	(0.23)	(0.22)
Self-employed	-0.15	0.97	1.02	1.04	1.06
	(0.12)	(0.22)	(0.23)	(0.23)	(0.24)
Income					
25-50 K	-0.09	1.49	1.62*	1.98**	2.02**
	(0.15)	(0.41)	(0.46)	(0.54)	(0.56)
50-75K	-0.32**	1.87**	1.84**	1.75**	1.64*
	(0.15)	(0.54)	(0.54)	(0.50)	(0.48)
75-100K	-0.54***	2.42***	2.30***	2.65***	2.49***
	(0.15)	(0.67)	(0.66)	(0.74)	(0.71)
More than 100K	-0.75***	2.37***	2.46***	2.40***	2.37***
	(0.13)	(0.62)	(0.69)	(0.63)	(0.67)
Economic stress	-0.11***	1.10	1.10	1.01	1.02
	(0.04)	(0.09)	(0.09)	(0.08)	(0.08)
Government quality	-0.07*	1.22**	1.14	1.28***	1.20**
	(0.04)	(0.09)	(0.09)	(0.10)	(0.09)
Gender: Male			1.01		0.95
			(0.16)		(0.15)
Social Capital			0.67***		0.76***
			(0.05)		(0.06)
Dietary habits			0.50**		0.48***
			(0.14)		(0.13)
Covid-related stress			0.56**		0.71
			(0.16)		(0.20)
Education					
Up to matriculation			0.85		2.47*
			(0.44)		(1.28)
Higher secondary			1.04		1.97
			(0.51)		(0.95)
Graduation and above			0.90		2.36*
			(0.46)		(1.18)
Area: Urban			1.37*		0.91
			(0.24)		(0.16)
Constant	0.60***				
	(0.13)				
Log Likelihood		-2064.8667	-2039.7902	-2083.3309	-2067.7581
Observations	599	599	599	599	599

Note: ***, **, and * indicate level of significance at 1%, 5% and 10% level.

The results of the structural model are also presented in Table 3, wherein the first step, happiness and LS are regressed with a mediator and its determinants, while in the second step, control variables are also included in the final model. Odd ratios (OR) are presented for each model by using the GSEM. Our results strongly reveal that financial stress has significantly reduced the level of happiness and LS after the pandemic by odds of 0.5 ($p < 0.01$). During the pandemic, the growing level of prices and unemployment in the country has increased the financial stress among families and individuals, which has led to a lower level of happiness and LS. Rodrigues et al. (2021) also

studied the negative effect of financial stress on well-being in families in Portugal after the outbreak of COVID-19. Level of income is positively related to both happiness and LS. Individuals in the upper-income group are happier by odds of 2.37 and LS by odds of 2.40.

The role of the government cannot be ignored after the pandemic outbreak in reducing financial and mental stress. Moreover, a market economy cannot be restored only by market forces, but government support is also a fundamental factor in the recovery process (Stiglitz, 2021). Results of the present study reveal that for people who perceived good government support in healthcare and other benefits after COVID-19, their happiness has raised by odds of 1.22 (OR = 1.22; $p< 0.05$) and LS by odds of 1.28 (OR = 1.28; $p < 0.01$). Alamsyah and Zhu (2022) reveal that government information quality led to quicker responses among citizens, which reduces stress and anxiety while being positively related to life satisfaction.

Bad social capital has also significantly reduced the level of happiness by odds of 0.33 (OR = 0.67; $p < 0.01$) and LS by 0.24 (OR = 0.76; $p < 0.01$). Due to the long-term lockdown during the pandemic, people avoided meeting with friends, relatives, and neighbours, which badly affected social cohesion and relationships with each other. Due to this adverse effect of the pandemic, mental stress is increased among people, which adversely affects happiness. Previous studies suggest that stranger trust, family social capital and strong social cohesion is positively related with the level of happiness and psychological well-being (Zhao et al., 2022 and Sarmiento Prieto et al., 2022).

People whose dietary habits have changed after COVID-19 and have taken to stress eating or perceived any hopelessness, their level of happiness also reduced by 0.50 odds (OR = 0.50; $p < 0.05$) and LS by 0.52 odds (OR = 0.48; $p < 0.05$). During the pandemic, many people started stress eating due to loneliness and frustration, which has decreased physical activity and increased obesity, thus resulting in anxiety and a lower level of emotional well-being (Cecchetto et al., 2021). Moreover, unhealthy lifestyles among people during the pandemic have also lowered the well-being of people and negatively affected mental health (Hu et al., 2020). Additionally, stress and anxiety after the pandemic have also negatively affected happiness (OR = 0.56; $p < 0.05$) but it is not significantly related with LS. Cohen-Louck and Levy (2022) also find the negative impact of stress and anxiety on happiness. Werner et al. (2021) also evaluated the patterns of sleep and stress in Germany during the pandemic and found that COVID-19 related stress have negatively affected sleep quality.

People living in urban areas are happier than rural areas, but this relationship is less robust ($p< 0.1$). Additionally, employment and education are statistically not significant in the structural model, but they pertain to the positive effect in both models, especially full-time employees who are likely to be happier than part-time employees and the unemployed. Finally, males reported more happiness than females, while LS among females was higher than males after the pandemic. However, statistically, this relationship is not significant ($p > 0.1$).

5. Conclusions

Although COVID-19 cases have declined over the last year, the negative impact on society, especially on psychological well-being is still not overcome. Social connection among people is still not restored to how it was before COVID-19. Moreover, government effectiveness has also affected SWB during

the pandemic, especially in developing countries like Pakistan. Therefore, the present study is designed to examine the effect of perceived government quality on SWB (happiness and LS) with the mediation of financial stress after the pandemic by using GSEM with the Tobit and ordered logit model. The study uses the final data of 599 respondents from all over Pakistan. Results of the study reveal that most of the respondents had declared a less stressful time before COVID-19 and reported sleep disturbance, anxiety and stress after the pandemic. More than 60% of people reported that government quality was average or poor after the pandemic in terms of the economic situation and prices.

The present study finds that a higher level of income and improved government quality lower financial stress and increased happiness after COVID-19. Additionally, lower economic stress is also negatively related to financial stress after the pandemic. Results of the study also revealed that financial stress is a strong mediator between government quality and SWB and high level of financial stress has significantly reduced the level of happiness and LS after the pandemic. Finally, COVID-related stress, poor dietary habits, and poor social capital significantly reduced the level of happiness after the pandemic, while education and gender have no significant impact on this study.

Policy implications and limitations of the study

The present study provides practical implications for policymakers and governments to improve the psychological well-being of people. In this regard, the government needs to regulate the model of equality in health care, education and price control in the country. Pakistan is an underdeveloped country, and more than 25 million people lost their jobs after the pandemic, due to which financial stress has increased among people, having a negative effect on their psychological and physical health. The findings of this study suggest that the government needs to encourage investment and provide a chance to youth for business start-ups rather than focusing only on direct transfers. It will not only reduce unemployment but also expand the economy's size, which will also help reduce the stress about the economy and high prices in the country. The present study is limited to Pakistan due to financial coverage and online surveys. Moreover, this study is restricted to the role of government quality after the pandemic and financial stress. This study will help researchers in the future to extend the hypothesis on different factors, such as the mediation of social capital and the healthcare system. This study can be expanded all over the region, especially in those countries where people have lost trust and happiness.

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Appendix. The direct Impact of regressors on FSI, Happiness and LS

	(1) FSI	(2) Happiness	(3) LS
FSI		0.61***	0.57***
		(0.05)	(0.05)
Gender: Male	-0.08	1.01	0.95
	(0.08)	(0.16)	(0.15)
Social Capital	0.18***	0.67***	0.76***
	(0.04)	(0.05)	(0.06)
Government quality	0.01	1.14	1.20**
	(0.04)	(0.09)	(0.09)
Dietary habits	0.36***	0.50**	0.48***
	(0.13)	(0.14)	(0.13)
Covid-related stress	0.72***	0.56**	0.71
	(0.14)	(0.16)	(0.20)
Area: Urban	0.03	1.37*	0.91
	(0.08)	(0.24)	(0.16)
Education			
Up to matriculation	0.11	0.85	2.47*
	(0.25)	(0.44)	(1.28)
Higher secondary	0.23	1.04	1.97
	(0.23)	(0.51)	(0.95)
Graduation and above	0.27	0.90	2.36*
	(0.24)	(0.46)	(1.18)
Employment			
Part-time	-0.30**	1.49	1.36
	(0.13)	(0.40)	(0.36)
Full-time	-0.17*	1.27	1.12
	(0.10)	(0.25)	(0.22)
Self-employed	-0.15	1.02	1.06
	(0.11)	(0.23)	(0.24)
Income			
25-50 K	-0.13	1.62*	2.02**
	(0.14)	(0.46)	(0.56)
50-75K	-0.29**	1.84**	1.64*
	(0.14)	(0.54)	(0.48)
75-100K	-0.49***	2.30***	2.49***
	(0.14)	(0.66)	(0.71)
More than 100K	-0.74***	2.46***	2.37***
	(0.13)	(0.69)	(0.67)
Economic stress	-0.07*	1.10	1.02
	(0.04)	(0.09)	(0.08)
Constant	-0.22		
	(0.26)		
Log Likelihood		-2064.8667	-2039.7902
Observations	599	599	599

Note: ***, **, and * indicate level of significance at 1%, 5% and 10% level.