

# Covid-19 and Psychological Well-being among Indian Expatriates in Saudi Arabia

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## Research Article

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# Abstract

The current study delves into the impact of Covid-19 on the psychological well-being of diverse ages, gender, and income groups of Indian expatriates in Saudi Arabia. Psychological well-being is measured by Dr Martin Seligman's theory of well-being called PERMA (Positive emotions; Engagement; Relationships; Meaning; and Accomplishments). Age, gender, and income are used as independent variables. Positive emotions, engagement; relationships; purposeful existence; and accomplishment are dependent variables additional filler variables are health, negative emotions, loneliness, and happiness.

As per the demand of the study, some changes are made in the questionnaire to get responses aimed at before and post COVID-19 outbreak scenarios. The online survey was administered during April-July 2021 to collect the data. The study focuses on the perceived psychological well-being of affluent Indian expatriates(n=62) living in Saudi Arabia during the pandemic. The marks of COVID-19 can be seen across all genders, ages, and income groups of Indians living in Saudi Arabia, but impressions of perceived well-being are profound on women, people of 51+ age, and high-income groups.

## 1. Introduction

Covid-19 has changed the world in many ways, not only mobility discouraged but every aspect of one's life from health to earnings, education, recreation and entertainment and many more have been changed. The COVID-19 crisis has a substantial impact on one's life. A high degree of influence is marked not only on the economy of the countries and labour market but also on people's mental and psychological well-being worldwide. Despite every effort of policymakers and government to combat the pandemic and minimise its effects on human beings, the imprints of the pandemic on human lives are deep-rooted. Especially in the case of migrant workers, many millions of workers across many countries have been directly impacted by lockdowns. Some could manage their work through virtual arrangements. Many workers have seen a reduction or complete loss of their livelihood(1). According to the U.N. migration report, 2020, the Indian Diaspora is 18 million worldwide (2). India's large diaspora is distributed across the United Arab Emirates (3.5 million), the United States of America (2.7 million), and Saudi Arabia (2.6 million)(3).

Being a vital partner in India's extended neighbourhood, Saudi Arabia took care of the large Indian diaspora during the Covid-19 pandemic. As the Covid-19 is a novel coronavirus, decisions, fear, and anxieties of expatriates living in the GCC countries have changed over time. Changes in behaviour and decisions have also been marked in respective Governments towards expatriates' job scenarios. Therefore, the situation is precarious for migrants. Those are the most vulnerable population group for the implications of Covid.

The present study tries to understand the issues, challenges, and anxieties of expatriate Indians during Covid-19 in Saudi Arabia. The current work attempts to analyse the variations in the psychological well-being of expatriate Indians in Saudi Arabia before and after the outbreak of the COVID-19 pandemic.

## 2. Review Of Literature

### 2.1 COVID-19 and the mental health and psychological well-being

The psychosocial impact of previous infectious diseases like SARS outbreaks in adults has been well documented. However, limited information is found regarding the impact of the COVID-19 pandemic on adults and children in Saudi Arabia. The first confirmed case of Corona in Saudi Arabia was announced on March 2, 2020. Several psychiatric manifestations may appear during pandemics, especially among frontline healthcare providers. Al Ateeq et al. sought to explore depression and anxiety levels among healthcare providers during the COVID-19 outbreak in Saudi Arabia(4). In the line of studies conducted on Saudi Arabia to assess the occurrence of depression, stress and anxiety among the general population in Saudi Arabia during this pandemic, a descriptive cross-sectional approach was used targeting all accessible people in Saudi Arabia.

Saddik, Baseman et al. conducted a study to explore anxiety levels among adults and children in the UAE and identify potential risk and protective factors for well-being during the COVID-19 pandemic. Measures to reduce transmission of the virus have altered usual activities, routines, and livelihoods and have significantly impacted mental health(5). Allen, Sarah F. et al. examines the potential alterations in psychological well-being, mental health, sleep, and diurnal preference due to the COVID-19 pandemic(6). A cross-sectional online questionnaire-based study with n = 200 participants (aged 18–62; 7.86.0 Percent female, 93.0Per cent white, 92.5Per cent UK-based, 73.5Per cent students)(6). Abbas Jaffar enquires about the effect of the coronavirus on mental health issues and the need for psychological well-being in the standard population and patients in response to the global wake of the epidemic and its effects in Pakistan (7).

The state of Qatar has managed quarantine and isolation centres to limit the spread of infection has as the state had one of the highest COVID-19 infection rates globally. The Quarantine and isolation centres in Qatar have negatively affected individuals' mental health. Qatar has a very high expatriate population, with around 90 Per cent of the population being non-Qatari economic migrants and a majority being blue-collar workers and labourers. The study aims to evaluate the psychological impact of institutional isolation and quarantine during the COVID-19 pandemic outbreak in Qatar. Healthcare workers managing Covid-19 patients are at increased risk of poor mental well-being (8). Nasser N. Fakhroo H has investigated self-perceived well-being determinants in Qatar. The authors applied Seligman's PERMA theory of well-being to measure the level of self-perceived well-being (9). However, the study discusses the general well-being of people in the governmental institutions and not in the time of Covid-19.

### 2.2 PERMA and COVID-19

What is human flourishing, and what enables it? Dr Seligman's PERMA theory of well-being attempts to answer these fundamental questions using five building blocks that enable flourishing Positive Emotions, Engagement, Relationships, Meaning, and achievement (PERMA). Carreno, David F et al., aimed to

explore the role of two models of well-being in predicting psychological distress during the COVID-19 pandemic, namely PERMA and mature happiness (10). Nationwide community quarantines and social distancing are part of the new normal because of the global COVID-19 pandemic. Since extensive and prolonged lockdowns are relatively novel experiences, not much is known about the well-being of individuals in such extreme situations. Camitan et al. investigated the relationship between well-being elements and resiliency of 533 Filipino adults under the nationwide enhanced community quarantine (ECQ) during the COVID-19 pandemic(11). The study of Wąsowicz, Grażyna, et al. investigated the relationships between selected emotional aspects of mental ill-health (depression, anxiety, and stress) and mental well-health (well-being) experienced during the COVID-19 pandemic(12). The study's theoretical model was based on Martin Seligman's positive psychology and PERMA theory and Paul Wong's Existential Positive Psychology 2.0 Theory, which postulates that negative experiences contribute to the well-being and personal growth(13). The static approach was complemented by exploring the mediating role of psychological flexibility (acceptance and action in the current situation) in the relationship between negative emotions and well-being (12).

## **2.3 Immigrant Psychological Health and Covid-19**

Harris S.M., Sandal G.M. Study the role of trust in the health care system in Norway during Covid-19. The study unfolds that the vulnerable group of old age people is under stress, whereas the majority of the people were relatively well in the early stages of a pandemic(14). Misra S. et al. examine that stigma associated with the Covid-19 pandemic against Chinese and other Asians negatively impacted mental health(15). Garcinia L.M. et al. evaluate that the immigrants of the USA were facing two crises at the Covid-19 outbreak, one the pandemic itself and the other one was anti-immigration policy in the United States(16). Endale T. et al. work on mental health perspective on refugee and immigrant youth during Covid-19. The Kovler Center Child Trauma Program (KCCTP) was founded in 2018 to provide community-based mental health and social services to immigrant and refugee youth. Pandemic temporarily closed the centre's doors, and the programme was forced to operate remotely(17).

Choi S. et al. envisaged psychological distress during the COVID-19 pandemic of Korean immigrants in the U.S. The authors examined the psychological distress level of Korean immigrants applying discrimination-related variables, coping mechanisms, and sociodemographic factors. Further, the authors concluded that racial discrimination toward Asians has increased in the U.S. since the beginning of the COVID-19 pandemic(18). Tsai J.-Y. et al. highlighted that threat of coronavirus led people to humiliate immigrants and temporary migrants. Hate crimes were increased towards Asians, and the Chinese were the soft target. The study aims to probe the connections between traditional news and social media to cultivate racial discrimination and the moderating role of mainstream media to propagate trust against Asians(19).

Liang P. et al. studied prevalence and factors associated with postpartum depression during the COVID-19 pandemic among immigrant women in Guangzhou, China. The findings suggest the need for policies and interventions to address the postpartum requirements of immigrant women(20). Akkaya-Kalayci T. et al. studied the COVID-19 pandemic and its impact on young people's mental health and psychological

well-being in Austria and turkey. Authors have used "Psychological General Well-being" and a self-created questionnaire to capture individual experiences during the COVID-19 pandemic and quarantine period(21). Serafini R.A. et al. studied Psychological distress in immigrant outpatient mental health during Covid-19. The authors have assessed the Mental health of outpatient immigrants with the Patient Health Questionnaire (PHQ-2) and Generalised Anxiety Disorder (GAD-2) inventories. Factors that most influenced the mental health of immigrants was a pre-existing depressive disorder, food insecurity, and comfort during telepsychiatry visits. 93.75% of participants believed access to remote psychiatry helped their mental health during COVID-19(22).

The negative impact of COVID-19 on mental health in vulnerable populations stems from medical and psychosocial factors such as pre-existing psychiatric conditions and unmet essential needs. Zlotnick C. et al. examined perceived stress in migrants and applied Bornstein's Specificity Principle in Acculturation Science (BSPAS) to measure perceived stress in migrants living in Israel. The study denotes that immigrants with high resilience and high health literacy had the lowest perceived stress, and migrants with low resilience and high health literacy had the highest(23). Bujek-Kubas I.C., Mojs E. investigated perceived stress, anxiety, life satisfaction and experienced emotions before and during the COVID-19 pandemic. The study was conducted on non-immigrants living in Poland, Dutch citizens, and Polish immigrants living in the Netherlands. In the groups of Poles, there was an increase in perceived stress and trait anxiety during the COVID-19 pandemic. The Dutch citizens experienced a reduced anxiety level during the COVID-19 pandemic. In the group of Polish immigrants, there was an increase in life satisfaction during the COVID-19 pandemic(24).

Naumann E. et al. examines the impact of Covid-19 on the mental health of adolescents in Germany during the first wave and lockdown. The authors assessed depressiveness with the State-Trait Depression Scale and found that adolescents significantly increased depressive symptoms during the first lockdown. Results of the study denote that young immigrant women have a significantly higher risk of developing depressive symptoms than men of the same age(25). Ornelas I.J. et al. looked for COVID-19 impact on Latina immigrants' mental health and well-being living in King County. The results denote that the pandemic had a sufficient impact on Latina immigrant women's psychological well-being; moreover, out of anxiety, immigrants are anxious to meet basic needs(26). Saleem J. et al. explore that Pakistani migrant doctors working in the United Kingdom did receive limited professional support in counselling and psychological rehabilitation during the Covid-19 pandemic. Instead, they used self-management strategies to cope with the situation(27).

## **2.4 COVID-19 and Indian Migrants in the Gulf**

The Covid-19 pandemic crisis has halted construction projects in Arab Gulf countries as the drastic fall in oil prices has severely affected Gulf oil and non-oil economies. Rajan, S. I., et al., explore how India is prepared to handle the changing trends in the Indo-Gulf migration corridor and subsequent emigration from the Gulf (28). The crisis has, in many ways, exposed lacuna in the Indian migration governance system in dealing with the hardships experienced by Indian emigrants; these gaps are structural and have been prevailing for an extended period (29). The nationwide lockdown and the sealing of inter-state and

international borders to control the COVID-19 pandemic triggered the reverse migration of informal migrant workers (30). The United Arab Emirates' resultant economic setbacks due to COVID-19, a fear of the virus and falling job and financial insecurity threatened the survival of Indians—the largest expatriate population in UAE. Menon, D. V., & Vadakepat, V. M., reviews Indian expatriates' attributes and values during emigration. Furthermore, it compares with Indian emigrants' perceptions during the sudden outbreak of Covid-19, which played a role in related reverse migration from the United Arab Emirates(31). The wide-ranging impact of COVID-19 on the life of incomes and livelihoods of migrants worldwide will take some time to become unfold, and it is already clear that those in mineral jobs, mostly low-wage, occupations are among the worst-hit workers(32).

### **3. Research Gap And Rationale Of The Study**

Research on the impact of COVID-19 on the mental health of the expatriate population in Saudi Arabia is limited. To amend the gap, the present study sought to investigate the impact that the COVID-19 outbreak has had on the psychological well-being of the Indian migrant population. A literature review denotes that most of the research is done on Covid-19 and Health Care Workers worldwide; PERMA and psychological well-being in general not in the context of migrants; return migration of Indian emigrants and their resettlement issues during the pandemic in GCC countries, and in Saudi Arabia. In contrast, research on Indians' psychological well-being and stress among migrant workers in Gulf Cooperation Council (GCC) countries is left behind during a pandemic. Henceforth, it is rationale to study the perceived psychological well-being of a sizeable population of Indian migrants in Saudi Arabia. While discussing various implications of Covid-19 on our lives, the discussion on the adjustment, pain, fear, and anxiety of the migrant population needs migration research.

### **4. Data And Methodology**

Present research work is an attempt to explore the effect of Covid-19 on Indians working/living in Saudi Arabia during the pandemic outbreak. The study delves into the impact of Covid-19 on the psychological well-being of diverse age groups, gender, and economic (income) classes. Therefore, the present work endeavours to analyse the perception of expatriate Indians working in Saudi Arabia towards changes in their health and psychological well-being due to the COVIDC-19 pandemic. Stratified sampling using the snowball method is used to analyse a specific group of educated people who have a good income and live above-average lives among Indians in Saudi Arabia. Therefore, unskilled and illiterate Indian workers are not included in the present study.

The questionnaire is based on the PERMA theory by Dr Martin Seligman in 2011. Later on, in 2015, PERMA Profiler by Margaret L. Kern, The University of Pennsylvania was constructed. Health, negative emotions, loneliness, and overall happiness are added in PERMA profiler as filler questions by Margaret L. Kern. As per the demand of the study, some changes are made in the questionnaire. Data has been collected through online interviews and questionnaire surveys. Total 61 samples using an online questionnaire have been collected. SPSS is used for the analyses of data. Analysis of variance (ANOVA)

has been applied to explore the variations of the effect of Covid-19 on the health and psychological well-being of different age groups, gender, and economic class of Indian emigrants in Saudi Arabia.

The Institutional Review Board (IRB) in the Department of West Asian and North African Studies, Aligarh Muslim University, India, applies research ethics by reviewing the methods proposed for the present research work. The board approves that respondents' consent has been taken and research ethics are followed in the survey using the questionnaire method. The Institutional Review Board (IRB) further certifies that appropriate steps are taken to protect the human rights, privacy, and welfare participating in the present research study. Furthermore, authors have taken permission from the concerned organisation/agency through the prescribed link To use PERMA Profiler in the study and make some changes in the questionnaire as per the demand of the study.

## **5. Perma Theory In The Context Of Covid-19**

### **5.1. The well-being of Indian expatriates and elements of PERMA**

Research has indicated that all five elements of well-being as indexed by the PERMA model (i.e., positive emotions, engagement, positive relations, meaning, and accomplishments) significantly affect the overall well-being of migrants in the gloomy time of the COVID-19 pandemic. PERMA is used as a framework particularly suited to examine opinions of Indian migrants before and after COVID-19 on multiple dimensions and patterns of health and well-being.

**Exhibit1: Elements of PERMA**

#### **5.1.1. Positive Emotions & Negative Emotions(P)**

Emotions are an essential part of well-being. The present study measures both positive and negative emotions of Indian expatriates by using PERMA profiler, in particular to the different age, gender, and income groups. Questions to count positive emotions have been asked, like how often respondents feel joyful; feel contented at work and home ( in their everyday routine), and feel positive. Whereas negative emotions are gauged by questions like how often respondents feel anxious, sad, and angry?

#### **5.1.2. Engagement(E)**

Engagement refers to flow or being absorbed in one's work enthusiastically too much to miss the track of time. If a person is free from worries can maintain a very high level of engagement in the workplace and everyday chores. Therefore, a substantial change can measure the engagement level in the respondent's mindset before and after COVID-19. Hence, to scale the engagement level of Indians, questions were asked like how often do they become absorbed in what they are doing? Extent do they feel excited and interested in their work? How often do they lose track of time while doing something they enjoy?

#### **5.1.3. Relationships (R)**

In COVID, the role of healthy and beautiful relationships is weighed up. Relationships refer to feeling connected, supported, and valued by relatives, friends, neighbours, colleagues, and people who have a place in one's life. Positive relations construct feeling good and going well. The study measures the changes in the relationships and support from co-workers/ relatives/neighbours/friends received by respondents when they need it before and after the COVID outbreak.

### **5.1.4. Meaning(M)**

**Meaning** refers to the value and importance of one's work and life in totality. Meaning provides a sense that life contains some essence. Despite all worries and tensions, mostly one believes that things will be better tomorrow and never lose interest in life. An attempt has been made to measure to what extent are Indian expatriates consider their work and everyday tasks purposeful, meaningful, valuable, and worthwhile before and after the outbreak of pandemic?

### **5.1.5. Accomplishment/Achievement (A)**

Accomplishments and achievements give a great magnitude of being prominent and come in one's life as awards and honours. Being significant and worthy at the workplace, society, and home keeps people positive in a time of worries and distress. In the present study, by using the PERMA profiler, an effort is made to evaluate subjective feelings of accomplishment and staying on the topmost in everyday responsibilities in Indian expatriates before and after the outbreak of COVID-19.

The above discussed five dimensions are the pillars of PERMA theory propounded by Martin Seligman in 2011. The PERMA Profiler constructors measure health, negative feelings, and loneliness to evaluate people's complete well-being.

### **5.1.6. Health (H)**

Sound physical health, energy, vitality, and vigour are essential psychological well-being. The Profiler measures a subjective sense of health that feels good and healthy in Indian expatriates before and after the pandemic.

### **5.1.7. Loneliness(L)**

Our need to connect with people and surroundings is inborn. Loneliness is the stress and discomfort of observing a gap between one's aspirations for social association and actual experiences. Loneliness can put serious threats to well-being as well as long-term physical health. In the PERMA profiler, loneliness is a single item. Therefore, only one has been asked by respondents. In the paper, an effort is made to evaluate loneliness in Indian expatriates before and after the outbreak of COVID-19.

### **5.1.8. Happiness (hap)**

Happiness is also used as a single item; hence one question is asked to rate overall happiness at a scale of 0–10 ( not ultimately).

## 6. Research Questions

While taking the above as the context, the paper is a cross-sectional analysis of perceived Covid-19 impact on Indian expatriates in Saudi Arabia. Following are two major research questions, which shall be explored and analysed.

1. What is the difference in the overall psychological well-being among Indian expatriates pre and post COVID-19 pandemic?
2. How each gender, age, and income groups respond to the observed elements of PERMA, i.e., positive emotions, engagement, relationships, meaning, accomplishments, and filler elements like health, loneliness, negative emotions, and overall happiness before and after the COVID-19 outbreak?

### 3. HYPOTHESES

Indian expatriates in Saudi Arabia perceived a catastrophic change in their psychological well-being after the outbreak of COVID-19. It is stated in the methodology that for the measurement of health and psychological well-being of Indian expatriates, Dr Seligman's PERMA model is applied, and PERMA Profiler prepared by Margaret L. Kern is used. Further, variation in the perceived psychological well-being of Indian expatriates is also explored with the variation in age, gender and income group. The hypothesis is tested both at the pre-COVID-19 and post COVID-19 time.

#### Pre COVID-19

*H<sub>0</sub> 1a: There is no significant difference in the mean scores of overall perceived psychological well-being of Indian expatriates before the outbreak of COVID-19 vis-à-vis gender.*

*H<sub>0</sub> 2a: There is no significant difference in the mean scores of perceived psychological well-being of Indian expatriates before the outbreak of COVID vis-à-visage.*

*H<sub>0</sub> 3a: There is no significant difference in the mean scores of perceived psychological well-being of Indian expatriates before the outbreak of COVID vis-à-vis income.*

#### Post COVID-19

*H<sub>0</sub> 1b: There is no significant difference in the mean scores of overall perceived psychological well-being of Indian expatriates after the outbreak of COVID-19 vis-à-vis gender.*

*H<sub>0</sub> 2b: There is no significant difference in the mean scores of perceived psychological well-being of Indian expatriates after the outbreak of COVID vis-à-visage.*

*H<sub>0</sub> 3b: There is no significant difference in the mean scores of perceived psychological well-being of Indian expatriates after the outbreak of COVID vis-à-vis income.*

## 9. Results And Discussion

The current research investigates the difference in the opinion of Indian expatriates in Saudi Arabia at all elements of PERMA before and after the outbreak of COVID-19. Additionally, filler aspects like health and negative emotions are also measured. Calculated means in SPSS 23 are plotted in excel (Fig. 1).

Pre and post COVID-19 mean differences in psychological well-being are plotted in excel (see Figure 2). It is observed that COVID-19 drastically reduced the psychological well-being of Indian migrants living in Saudi Arabia. However, around 20 per cent of respondents' well-being has boosted during COVID to a praiseworthy range of 0.13 per cent to 22 per cent. Eighty per cent of respondents denote a decrease in psychological well-being in a range of 0.2 per cent to 41 per cent.

## Gender Vs PERMA

Overall health and psychological well-being are computed by including the mean of PERMA aspects. An Independent sample T-test has been conducted to examine the difference in the well-being of different gender in the context of PERMA. A cross-sectional analysis of gender vs PERMA expresses a considerable change in the opinion of males and females regarding all elements of PERMA at both surveyed times. The significant difference in Table 1 exhibits ( $p = .197$ ) value of health and psychological well-being vis-à-vis gender signifies that the statistical relationship between pillars of PERMA and gender before the outbreak of COVID-19 is not significant. Therefore, it is likely to accept the null hypothesis  $H_01a$ .

Table 1  
Overall Well-being Before and After Covid-19 (Independent Samples T-Test)

	gender	N	Mean	Std. Deviation	Sig. (2-tailed)
overall_wellbeing_BC	male	43	6.9931	1.02145	.197
	female	18	7.4792	.11136	
overall_wellbeing_AC	male	43	6.7847	1.16055	.002
	female	18	5.1667	.93541	

Further, the analysis of the difference in the health and overall well-being of both males and females after the outbreak of COVID-19 denotes a significant difference ( $p=.002$ ). Therefore it is likely to reject the null hypothesis  $H_01b$  that there is no significant difference in the mean scores of health and psychological well-being of Indian expatriates after the outbreak of COVID vis-à-vis gender.

The gender-wise macro analyses expound that before the outbreak of COVID-19, there was almost no difference in the opinions of males and females regarding positive emotions ( $p = 0.330$ ), engagement ( $p = 0.644$ ), relationships ( $p = .0688$ ), meaning ( $p = 0.654$ ), accomplishments ( $p = 0.891$ ), health ( $p = 0.860$ ), and happiness ( $p = 0.311$ ). In comparison, women felt more lonely ( $\mu = 9.00$ ) than their male counterparts ( $\mu = 4.72$ ). In contrast, negative emotions were slightly low in females ( $\mu = 4.66$ ) in comparison to males ( $\mu = 4.81$ ) before the outburst of the pandemic (see Table 2).

Table 2  
Gender vs PERMA (Independent T-Test)

	<b>gender</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Sig. (2-tailed)</b>
Positive Emotions_BC	male	43	7.7037	1.25708	.330
	female	18	8.1667	.53452	
Positive Emotions_AC	male	43	6.1667	2.02678	.043
	female	18	4.5000	1.24722	
Engagement_BC	male	43	7.1667	1.96123	.644
	female	18	6.8333	.53452	
Engagement_AC	male	43	6.5000	2.31576	.016
	female	18	4.3333	.35635	
Relationships_BC	male	43	7.8333	1.14475	.688
	female	18	7.6667	.00000	
Relationships_AC	male	43	6.7778	1.52109	.001
	female	18	4.5000	.89087	
Meaning_BC	male	43	7.9074	1.31261	.654
	female	18	7.6667	1.06904	
Meaning_AC	male	43	7.0926	2.00589	.023
	female	18	5.3333	.35635	
Accomplishments_BC	male	43	7.9074	1.86402	.891
	female	18	8.0000	.35635	
Accomplishments_AC	male	43	6.9630	2.06397	.000
	female	18	3.5000	.53452	
Negative Emotions_BC	male	43	4.8148	1.66165	.849
	female	18	4.6667	2.13809	
Negative Emotions_AC	male	43	6.4630	1.64551	.002
	female	18	8.5000	.17817	
Health_BC	male	43	7.8889	.65679	.860
The mean difference is significant at the 0.05 level.					

	gender	N	Mean	Std. Deviation	Sig. (2-tailed)
Health_AC	female	18	7.8333	.89087	.000
	male	43	7.7037	.87738	
Loneliness_BC	female	18	5.1667	.17817	.003
	male	43	4.7222	3.62679	
Loneliness_AC	female	18	9.0000	1.06904	.492
	male	43	6.6111	3.20182	
Happiness_BC	female	18	8.0000	1.06904	.311
	male	43	7.3889	1.50054	
Happiness_AC	female	18	5.0000	1.06904	.626
	male	43	5.5556	3.07212	
The mean difference is significant at the 0.05 level.					

At the contrast after the COVID-19 outbreak, at all components of PERMA except negative emotions and loneliness, both males and females are showing a decrease (see Table 2) positive emotions ( $p = .043$ ), engagement ( $p = .016$ ), relationships ( $p = .001$ ), meaning ( $p = .023$ ), accomplishments ( $p = .000$ ), and health ( $p = .000$ ). However, though negative emotions have increased both in males and females, an unexpected increase can be seen on the female side. Loneliness in females has decreased, as interviews denote that spouses and wards are at home during the lockdown. Therefore women were feeling less lonely. At the same time, loneliness has slightly increased in males after COVID-19, as they were missing their office environment. The survey indicates that the pandemic would have wide-ranging, adverse effects on the psychological well-being of Indian expatriates in general, specifically a very high impact on women compared to their male counterparts in Saudi Arabia.

### Age Vs PERMA

ANOVA has been conducted to obtain the difference in mean ( $\mu$ ) scores of overall psychological well-being vis-à-visage. Table 3 elucidates a significant difference value ( $p = .002$ ) between analysed age groups vis-à-vis the general well-being of expatriate Indians before the commencement of the COVID-19 pandemic. Moreover, a significant p-value of 0.000 is derived from the analysis after starting COVID. Therefore, the results reject the null hypothesis  $H_02b$  that there is no significant difference in the mean scores of psychological well-being of Indian expatriates after the outbreak of COVID vis-à-visage.

Table 3  
Age vs PERMA (ANOVA)

		<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Sig.</b>
Overall-well-being_BC	20–30	10	6.6542	.98602	
	31–40	4	8.4167	.00000	.002
	41–50	4	7.3750	.00000	
	51–60	8	7.0000	.40089	
	Total	26	7.1426	.87482	
Overall-well-being_AC	20–30	10	6.4125	.46500	
	31–40	4	8.5417	.00000	.000
	41–50	4	6.7500	.00000	
	51–60	8	4.7708	.51225	
	Total	26	6.2869	1.31942	
The mean difference is significant at the 0.05 level.					

A cross-sectional analysis of each element of PERMA (overall well-being) before COVID-19 illustrates that there is not any significant difference between observed age groups at all aspects like positive emotions ( $p = .078$ ), engagement ( $p = .069$ ), relationships ( $p = .201$ ), and meaning (.175). However, in accomplishment ( $p = .046$ ) and negative emotions ( $p = .002$ ) significant difference is found (Table 4).

Table 4  
AGE vs PERMA(ANOVA)

		<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Sig.</b>
Positive Emotions_BC	20-30	22	7.3636	.078	.078 (NS)
	31-40	16	8.7083	.685	
	41-50	9	7.3333	.979	
	51-60	14	7.5714	.034	
	Total	61	7.7596		
Positive Emotions_AC	20-30	22	6.2879		.000 (S)
	31-40	16	8.4167	.000	
	41-50	9	5.4444	.000	
	51-60	14	5.3333	.005	
	Total	61	6.5027	.000	
Engagement_BC	20-30	22	7.2879		.069 (NS)
	31-40	16	8.0000		
	41-50	9	6.4444	.069	
	51-60	14	6.9048	.106	
	Total	61	7.2623	.191	
Engagement_AC	20-30	22	6.2273	.065	.000 (S)
	31-40	16	7.9167		
	41-50	9	7.0370		
	51-60	14	4.8571	.000	
	Total	61	6.4754	.016	
Relationships_BC	20-30	22	7.7121	.041	.201 (NS)
	31-40	16	8.6250	.000	
	41-50	9	7.5926		
	51-60	14	8.0952		
	Total	61	8.0219	.201	

The mean difference is significant at the 0.05 level.

		N	Mean	Std. Deviation	Sig.
Relationships_AC	20-30	22	7.1818	.941	.001
	31-40	16	8.4583	.701	(S)
	41-50	9	7.9630	.108	
	51-60	14	6.5714		
	Total	61	7.4918		
Meaning_BC	20-30	22	7.5303	.001	.175
	31-40	16	8.5417	.094	(NS)
	41-50	9	7.4444	.196	
	51-60	14	7.9524	.000	
	Total	61	7.8798		
Meaning_AC	20-30	22	6.8939		.000
	31-40	16	8.3333	.175	(S)
	41-50	9	8.8148	.919	
	51-60	14	5.9524	.672	
	Total	61	7.3388	.093	
Accomplishments_BC	20-30	22	7.6515		.046
	31-40	16	8.8333		(S)
	41-50	9	6.9630	.000	
	51-60	14	7.8571	.224	
	Total	61	7.9071	.320	
Accomplishments_AC	20-30	22	6.5455	.000	.000
	31-40	16	8.8750		(S)
	41-50	9	6.7778		
	51-60	14	5.2381	.046	
	Total	61	6.8907	.495	
Health_BC	20-30	22	7.5455	.778	.021
	31-40	16	8.7500	.019	(S)
The mean difference is significant at the 0.05 level.					

		N	Mean	Std. Deviation	Sig.
	41-50	9	7.1111		
	51-60	14	8.2857		
	Total	61	7.9672	.000	
Health_AC	20-30	22	6.6667	.002	.012
	31-40	16	8.5833	.011	(S)
	41-50	9	8.4444	.000	
	51-60	14	6.8095		
	Total	61	7.4645		
Negative Emotions_BC	20-30	22	5.8485	.021	.002
	31-40	16	4.5000	.715	(S)
	41-50	9	5.5556	.426	
	51-60	14	3.1429	.010	
	Total	61	4.8306		
Negative Emotions_AC	20-30	22	6.2879		.244
	31-40	16	5.3750	.012	(NS)
	41-50	9	7.1111	.897	
	51-60	14	6.8095	.665	
	Total	61	6.2896	.005	
The mean difference is significant at the 0.05 level.					

Turning to the analysis after COVID-19, respondents' opinion for all aspects of health and well-being elucidates that significant difference is marked between observed age groups. Table 4 denotes significant difference in positive emotions ( $p = .000$ ), engagement ( $p = .000$ ), relationships ( $p = .001$ ), meaning ( $p = .000$ ), accomplishments ( $p = .000$ ), and health ( $p = .012$ ). However, negative emotions have increased in all age groups. Hence no significant difference is marked ( $p = .244$ ) between observed respondents.

The figure is the plotting of  $\mu$  of each age group's response before and after covid and clarifies that before COVID-19, there was minimal to no difference in the opinion of different age groups at the scales of PERMA. Still, after COVID-19, the most affected age group is 50 + years of age. However, negative emotions have increased in all age groups, a notable increase in the 50 + age group.

## Income Vs. PERMA

One-way ANOVA has been conducted to obtain the difference in mean scores of PERMA(overall well-being) vis-à-vis **income**. In Table 5, the significant value (P = .294) for all elements of PERMA suggests a not significant difference in mean values of different income groups vis-a-vis the overall well-being of Indian migrants. Thus, evidence of a difference in Indian expatriates' responses leads to the failure to reject the corresponding hypothesis H<sub>0</sub>3a that there is no significant difference in the mean scores of health and psychological well-being of Indian expatriates before the outbreak of COVID-19 vis-à-vis income.

Table 5  
Income vs PERMA (ANOVA)

	Income (S.R.)	N	Mean	Std. Deviation	Sig.
Overall-well- being_BC	< 5000	4	6.3750	.00000	.294
	5001–15000	13	7.3045	1.12569	
	15001–25000	4	7.3750	.00000	
	> 25000	5	7.1500	.50312	
	Total	26	7.1426	.87482	
Overall-well- being_AC	< 5000	4	6.4583	.00000	.082
	5001–15000	13	6.6058	1.40298	
	15001–25000	4	6.7500	.00000	
	> 25000	5	4.9500	1.47208	
	Total	26	6.2869	1.31942	
The mean difference is significant at the 0.05 level.					

The analysis of the during pandemic scenario reveals that though the difference of opinion of various income groups is not significant, the difference in the level of significance before COVID-19 (p = .294) and after the outbreak of COVID-19 (p = .082) is marked. Therefore, the

the study divulges that if we take the mean of all PERMA elements (health and overall well-being) and run a one-way ANOVA, the difference of opinion between all income groups is not significant.

As far as income groups vs PERMA differences are concerned, a cross-sectional analysis of mean( $\mu$ ) discloses that the respondents who earn < 25,000 sr. are getting anxious after COVID-19. Hence, a significant decrease can be seen in the mean values of PERMA facets before and after the occurrence of COVID-19 in the people earning very high. Before the COVID outbreak, people of the very high-income group(< 25,000 sr.) had very high positive emotions. Engagement in work-life was good, meaning relationships, accomplishments, health, and happiness were commendable compared to other income

groups. Whereas, the negative impact on almost all pillars of PERMA during COVID-19 is noticed in the people of higher-income groups ( 15,001–25,000 sr. & <25,000 sr.), hence denoting the anxiety among the group(see Table 6).

Table 6  
Income vs PERMA (ANOVA)

	Income S.R.	N	Mean	Std. Deviation	Sig.
Positive Emotions_BC	< 5000	10	7.9333	1.14180	.012
	5001-15000	34	7.1961	1.94385	(S)
	15001-25000	6	8.3333	.51640	
	> 25000	11	9.0303	.99392	
	Total	61	7.7596	1.72469	
Positive Emotions_AC	< 5000	10	7.6667	1.13312	.184
	5001-15000	34	6.2549	2.17896	
	15001-25000	6	6.3333	.51640	
	> 25000	11	6.3030	1.25126	
	Total	61	6.5027	1.83245	
Engagement_BC	< 5000	10	7.0667	1.66889	.335
	5001-15000	34	7.1961	1.51561	
	15001-25000	6	6.6667	1.03280	
	> 25000	11	7.9697	1.67634	
	Total	61	7.2623	1.54094	
Engagement_AC	< 5000	10	7.7333	1.05175	.004
	5001-15000	34	6.2647	1.96395	
	15001-25000sr	6	4.2222	1.72133	
	> 25000	11	7.2121	2.39570	
	Total	61	6.4754	2.09449	
Relationships_BC	< 5000	10	7.6667	1.45721	.050
	5001-15000	34	7.7255	1.50972	
	15001-25000	6	8.5556	.34427	
	> 25000	11	8.9697	1.18748	
	Total	61	8.0219	1.44257	

The mean difference is significant at the 0.05 level.

	<b>Income S.R.</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Sig.</b>
Relationships_AC	< 5000	10	7.8667	1.05643	.643
	5001-15000	34	7.3431	1.19619	
	15001-25000	6	7.2222	.68853	
	> 25000	11	7.7576	2.33377	
	Total	61	7.4918	1.39921	
Meaning_BC	< 5000	10	8.2000	.61262	.012
	5001-15000	34	7.4020	1.64077	
	15001-25000	6	7.8889	.17213	
	> 25000	11	9.0606	1.49680	
	Total	61	7.8798	1.52149	
Meaning_AC	< 5000	10	7.5333	.65168	.410
	5001-15000	34	7.2059	1.89099	
	15001-25000	6	6.4444	2.92625	
	> 25000	11	8.0606	2.43501	
	Total	61	7.3388	1.98092	
Accomplishments_BC	< 5000	10	8.4000	.56218	.047
	5001-15000	34	7.4510	2.04969	
	15001-25000	6	7.6667	.00000	
	> 25000	11	9.0000	1.17379	
	Total	61	7.9071	1.72362	
Accomplishments_AC	< 5000	10	8.1333	.68853	.074
	5001-15000	34	6.9608	2.12847	
	15001-25000	6	5.6667	1.03280	
	> 25000	11	6.2121	2.68855	
	Total	61	6.8907	2.08586	
Health_BC	< 5000	10	8.6000	.84327	.013
	5001-15000	34	7.4314	1.66874	
The mean difference is significant at the 0.05 level.					

	Income S.R.	N	Mean	Std. Deviation	Sig.
	15001–25000	6	8.2222	.34427	
	> 25000	11	8.9091	1.27446	
	Total	61	7.9672	1.52231	
Health_AC	< 5000	10	9.0000	.54433	.035
	5001–15000	34	7.0980	2.17969	
	15001–25000	6	6.2222	2.23772	
	> 25000	11	7.8788	2.40496	
	Total	61	7.4645	2.16648	
Negative Emotions_BC	< 5000	10	5.3333	2.11986	.111
	5001–15000	34	5.0294	2.38170	
	15001–25000	6	5.5556	2.40986	
	> 25000	11	3.3636	1.47915	
	Total	61	4.8306	2.27028	
Negative Emotions_AC	< 5000	10	4.9333	2.14764	.001
	5001–15000	34	6.2353	2.30287	
	15001–25000	6	4.8889	.17213	
	> 25000	11	8.4545	1.83347	
	Total	61	6.2896	2.35268	
The mean difference is significant at the 0.05 level.					

## 10. Conclusions

The preceding analysis elucidates how the COVID-19 has impacted the psychological well-being of Indians living in Saudi Arabia. The statistical analysis demonstrates that the overall perceived well-being of Indians has been measured at the elements of PERMA. It is explored that COVID-19 has negatively impacted Indians in positive emotions, engagement, relationships, meaning, accomplishments, health, and overall happiness. Further, a noticeable increase is also seen in the negative emotions in Indians. The respondents' opinion denotes that COVID-19 has bearings negatively at all PERMA elements and overall well-being. However, one component is found that loneliness is not increased. The mean of all respondents, irrespective of gender, age, and income groups, explains that generally, people feel less lonely than before the COVID outbreak, as they stay at home and do telework.

Comprehensive analysis of COVID – 19 impact on both genders exhibit that though both males and females PERMA elements have decreased compared to before pandemic time, females are huge sufferers. Further, albeit negative emotions have increased both in males and females, an unexpected increase can be seen on the female side. Loneliness in females has decreased while increased in males after COVID-19. The reasons are evident; females feel less lonely as spouses and wards are at home during the lockdown. During interviews, respondents disclosed that before COVID-19, most women lived alone at home for long hours in a day. While male respondents said that they enjoy quality time at home with family, even they miss their colleagues and male friends' company. The survey indicates that the pandemic would have wide-ranging, adverse effects on the mental health and psychological well-being of Indian expatriates, generally in very high impact on women compared explicitly to their male counterparts.

The current wide-ranging study of COVID-19 impact on different age groups of Indians at various aspects of PERMA indicates that prominent affected people are 51 + of age barring loneliness ( no difference is found in comparison to other age groups). In contrast, different age groups did not differ in opinion on positive emotions, engagement, relationships, meaning, accomplishments, health, loneliness, negative emotions, and overall happiness.

The third dimension of the present study is to explore people's health and overall well-being of diverse income groups after COVID-19. Findings show that income directly relates to anxiety, accomplishments, and negative feelings. People with handsome salaries and high earnings are more affected by the outbreak of COVID-19. Before the occurrence of COVID, wealthy Indian expatriates were very much contented; well engaged in everyday chores; enjoying trustworthy relationships, had meaning in life; had high achievements and appreciation from colleagues, friends, and relatives; enjoying good health, or can say were believing in availing good health facilities. Additionally, negative feelings before COVID-19 were very low in people of the high-income group. In contrast, COVID-19 put a dent in all PERMA aspects of the people of the high-income group. On the contrary, people earning > 5000 SR. are not anxious about the repercussions of COVID-19 at every element of PERMA; instead, their engagement in everyday chores and opinion towards personal health is increased.

In the end, the research presents a comprehensive picture of the health and psychological well-being of Indians in Saudi Arabia. The traces of COVID-19 can be seen across all genders, ages, and income groups, but impressions are profound on women, people of 51 + age, and high-income groups.

A dire need for counselling for the affected classes is realised. However, in the future, COVID-19 may disappear like we get some carefree months after each wave. Hopefully, no more waves humankind face; medicines and vaccinations will do wonders. Additionally, we will be accustomed to living in a changing world.

## **Declarations**

### **Declaration of Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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## Data Availability Statements

1. The datasets generated during the current study are available in google forms named **COVID-19 and Indian Expatriate in Saudi Arabia** in the repository, <https://forms.gle/uBSHjxzt2Ampmcp7>
2. All data analysed during this study are included in this article.

## Institutional Review Board (IRB ) Approval

The **Institutional Review Board (IRB)** in the Department of West Asian and North African Studies, Aligarh Muslim University, India, approves that the Researcher/s (**Dr Rakshanda Farooq Fazli & Dr Rashid Aziz Faridi**) have taken consent of respondents and followed research ethics in the survey using questionnaire method. The Institutional Review Board (IRB) further certifies that appropriate steps are taken to protect the human rights, privacy, and welfare participating in the present research study.

## Ethical Statements

1. The authors have taken permission to use PERMA Profiler in the study and make some changes in the questionnaire as per the demand of the study.  
<https://docs.google.com/forms/d/e/1FAIpQLSejwZHb7ysvCnKXLI0Gk4-XK>
2. The authors stated ethical statements and sought participant consent in the questionnaire.  
<https://forms.gle/uBSHjxzt2Ampmcp7>

## References

1. ILOSTAT(2020), COVID-19 impact on the collection of labour market statistics, May 11, 2020,<https://ilostat.ilo.org/topics/covid-19/covid-19-impact-on-labour-market-statistics/>

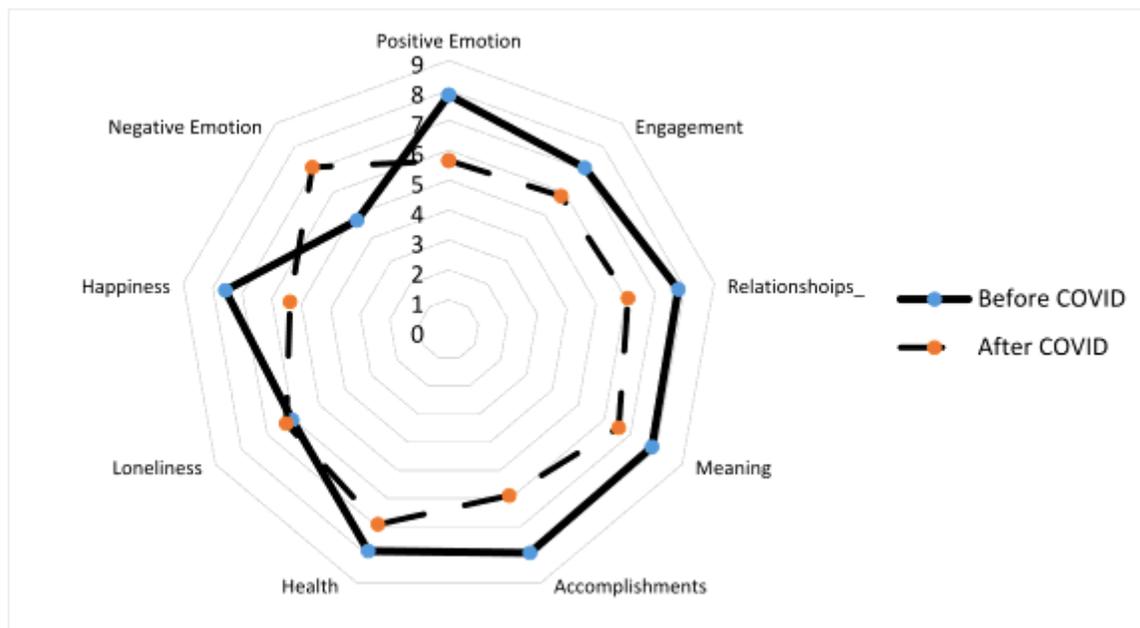
2. United Nations Department of Economic and Social Affairs, Population Division (2020). International Migration 2020 Highlights (ST/ESA/SER.A/452).<https://www.un.org/en/desa/international-migration-2020-highlights>.
3. At 18 million, India has the world's largest diaspora population, January 15, 2021, <https://economictimes.indiatimes.com/nri/migrate/at-18-million-india-has-the-worlds-largest-diaspora-population/articleshow/80290768.cms?from=mdr>.
4. AlAteeq, DeemahA., SumayahAljhani, Ibrahim Althiyabi, and SafaaMajzoub. 2020. "Mental Health among Healthcare Providers during Coronavirus Disease (COVID-19) Outbreak in Saudi Arabia." *Journal of Infection and Public Health* 13 (10): 1432–37. <https://doi.org/10.1016/j.jiph.2020.08.013>
5. Saddik, Basema, et al., 2021. "The Psychological Impact of the COVID-19 Pandemic on Adults and Children in the United Arab Emirates: A Nationwide Cross-Sectional Study." *BMC Psychiatry* 21 (1). <https://doi.org/10.1186/s12888-021-03213-2>
6. Allen, Sarah F., Jodie Stevenson, Lambros Lazuras, and Umair Akram. 2021. "The Role of the COVID-19 Pandemic in Altered Psychological Well-Being, Mental Health and Sleep: An Online Cross-Sectional Study." *Psychology, Health, and Medicine*. <https://doi.org/10.1080/13548506.2021.1916963>
7. Abbas, Jaffar. 2021. "The Impact of Coronavirus (SARS-CoV2) Epidemic on Individuals Mental Health: The Protective Measures of Pakistan in Managing and Sustaining Transmissible Disease." *Psychiatra Danubina* 32 (3–4): 472–77. <https://doi.org/10.24869/psyd.2020.472>
8. Reagu, Shuja., et al., (2021). The psychological impact of the COVID-19 pandemic within institutional quarantine and isolation centres and its sociodemographic correlates in Qatar: A cross-sectional study. *BMJ Open*, 11(1). <https://doi.org/10.1136/bmjopen-2020-045794>
9. Nasser, N., & Fakhroo, H. (2021). An Investigation of the Self-Perceived Well-Being Determinants: Empirical Evidence From Qatar. *SAGE Open*, 11(2). <https://doi.org/10.1177/21582440211008458>
10. Carreno, David F., et al., "Inner Harmony as an Essential Facet of Well-Being: A Multinational Study During the COVID-19 Pandemic." *Frontiers in Psychology* 12 (March): 1–14. <https://doi.org/10.3389/fpsyg.2021.648280>
11. Camitan, DesiderioS., and Lalaine N. Bajin. 2021. "The Importance of Well-Being on Resiliency of Filipino Adults During the COVID-19 Enhanced Community Quarantine: A Necessary Condition Analysis." *Frontiers in Psychology* 12 (March). <https://doi.org/10.3389/fpsyg.2021.558930>
12. Wąsowicz, et al., 2021. "Mental Health, Well-Being, and Psychological Flexibility in the Stressful Times of the COVID-19 Pandemic." *Frontiers in Psychology* 12 (May): 1–9. <https://doi.org/10.3389/fpsyg.2021.647975>
13. Paul T. P. Wong<sup>1</sup>, Claude-Hélène Mayer and Gökmen Arslan (2021). Editorial: COVID-19 and Existential Positive Psychology (PP2.0): The New Science of Self-Transcendence. *Frontiers in Psychology*, 08 (December) 2021, <https://doi.org/10.3389/fpsyg.2021.800308>
14. Harris, S. M., & Sandal, G. M. (2021). COVID-19 and psychological distress in Norway: The role of trust in the healthcare system. *Scandinavian Journal of Public Health*, 49(1), 96–103.

<https://doi.org/10.1177/1403494820971512>

15. Misra, S., Le, P. D., Goldmann, E., & Yang, L. H. (2020). Psychological Impact of Anti-Asian Stigma Due to the COVID-19 Pandemic: A Call for Research, Practice, and Policy Responses. *Psychological Trauma: Theory, Research, Practice, and Policy*. <https://doi.org/10.1037/tra0000821>
16. Garcini, L. M., Domenech Rodríguez, M. M., Mercado, A., & Paris, M. (2020). A tale of two crises: The compounded effect of COVID-19 and anti-immigration policy in the United States. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*, S230–S232. <https://doi.org/10.1037/tra0000775>
17. Endale, T., St. Jean, N., & Birman, D. (2020). COVID-19 and refugee and immigrant youth: A community-based mental health perspective. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*, S225–S227. <https://doi.org/10.1037/tra0000875>
18. Choi, S., Hong, J. Y., Kim, Y. J., & Park, H. (2020). Predicting psychological distress amid the COVID-19 pandemic by machine learning: Discrimination and coping mechanisms of Korean immigrants in the U.S. *International Journal of Environmental Research and Public Health*, *17*(17), 1–14. <https://doi.org/10.3390/ijerph17176057>
19. Tsai, J.-Y., Phua, J., Pan, S., & Yang, C.-C. (2020). Intergroup contact, COVID-19 news consumption, and the moderating role of digital media trust on prejudice toward Asians in the United States: Cross-sectional study. *Journal of Medical Internet Research*, *22*(9). <https://doi.org/10.2196/22767>
20. Liang, P., Wang, Y., Shi, S., Liu, Y., & Xiong, R. (2020). Prevalence and factors associated with postpartum depression during the COVID-19 pandemic among women in Guangzhou, China: a cross-sectional study. *BMC Psychiatry*, *20*(1). <https://doi.org/10.1186/s12888-020-02969-3>
21. Akkaya-Kalayci, T., Kothgassner, O. D., Wenzel, T., Goreis, A., Chen, A., Ceri, V., & Özlü-Erkilic, Z. (2020). The impact of the COVID-19 pandemic on mental health and psychological well-being of young people living in Austria and Turkey: A multicenter study. *International Journal of Environmental Research and Public Health*, *17*(23), 1–12. <https://doi.org/10.3390/ijerph17239111>
22. Serafini, R. A., Powell, S. K., Frere, J. J., Saali, A., Krystal, H. L., Kumar, V., Yashaswini, C., Hernandez, J., Moody, K., Aronson, A., Meah, Y., & Katz, C. L. (2021). Psychological distress in the face of a pandemic: An observational study characterising the impact of COVID-19 on immigrant outpatient mental health. *Psychiatry Research*, *295*. <https://doi.org/10.1016/j.psychres.2020.113595>
23. Zlotnick, C., Dryjanska, L., & Suckerman, S. (2021). Health literacy, resilience and perceived stress of migrants in Israel during the COVID-19 pandemic. *Psychology and Health*. <https://doi.org/10.1080/08870446.2021.1921177>
24. Bujek-Kubas, I. C., & Mojs, E. (2021). Environmental stress and the quality of life connected with COVID-19 among people in Poland and the Netherlands. *International Journal of Occupational Medicine and Environmental Health*, *34*(2), 177–188. <https://doi.org/10.13075/IJOMEH.1896.01740>
25. Naumann, E., von den Driesch, E., Schumann, A., & Thönnissen, C. (2021). Increase of depressive symptoms among adolescents during the first COVID-19 lockdown in Germany: Results from the German family panel pairfam. *Bundesgesundheitsblatt - Gesundheitsforschung - Gesundheitsschutz*, *64*(12), 1533–1540. <https://doi.org/10.1007/s00103-021-03451-5>

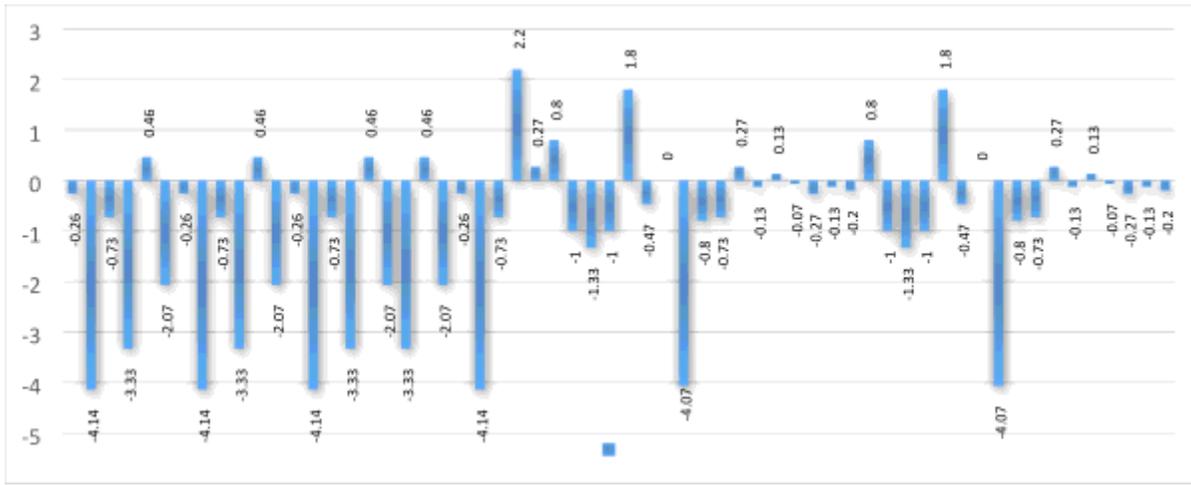
26. Ornelas, I. J., Tornberg-Belanger, S., Balkus, J. E., Bravo, P., Perez Solorio, S. A., Perez, G. E., & Tran, A. N. (2021). Coping With COVID-19: The Impact of the Pandemic on Latina Immigrant Women’s Mental Health and Well-being. *Health Education and Behavior*, 48(6), 733–738. <https://doi.org/10.1177/10901981211050638>
27. Saleem, J., Ishaq, M., Zakar, R., Suddahazai, I. H. K., & Fischer, F. (2021). Experiences of frontline Pakistani emigrant physicians combating COVID-19 in the United Kingdom: a qualitative phenomenological analysis. *BMC Health Services Research*, 21(1). <https://doi.org/10.1186/s12913-021-06308-4>
28. Rajan, S. I., & Arokkiaraj, H. (2022). Return Migration from the Gulf Region to India Amidst COVID-19. *IMISCOE Research Series*, 207–225. [https://doi.org/10.1007/978-3-030-81210-2\\_11](https://doi.org/10.1007/978-3-030-81210-2_11)
29. Sasikumar, S. K. (2021). India–Gulf labour migration in the aftermath of the COVID-19 pandemic. *Economic and Political Weekly*, 56(34), 22–26. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85113452986&partnerID=40&md5=c5b5d60d6b646c5a5bac01a5d4d92ff7>
30. Khan, A., & Arokkiaraj, H. (2021). Challenges of reverse migration in India: a comparative study of internal and international migrant workers in the post-COVID economy. *Comparative Migration Studies*, 9(1). <https://doi.org/10.1186/s40878-021-00260-2>
31. Menon, D. V., & Vadakepat, V. M. (2021). Migration and reverse migration: Gulf-Malayalees' perceptions during the Covid-19 pandemic. *South Asian diaspora*, 13(2), 157–177. <https://doi.org/10.1080/19438192.2020.1820668>
32. Abella, M. I., & Sasikumar, S. K. (2020). Estimating Earnings Losses of Migrant Workers Due to COVID-19. *Indian Journal of Labour Economics*, 63(4), 921–939. <https://doi.org/10.1007/s41027-020-00281-y>

## Figures



**Figure 1**

**PERMA of Indian expatriates before and after the outbreak of COVID-19.** Source: Acquired means through computing variables in SPSS are plotted



**Figure 2**

**Difference in the Pre and Post Covid-19 Psychological well-being.** Source: Acquired means through computing variables in SPSS are plotted

## Supplementary Files

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