Occupational stress and psychological wellbeing during COVID 19: Mediating role of positive psychological capital

T. Ravikumar

Accepted: 1 February 2022 / Published online: 5 February 2022
© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2022

Abstract
The COVID 19 pandemic has challenged the humankind’s livelihood, physical health, mental health, employment, and economy. Lockdowns, quarantines, online teaching, and learning have become new normal. Negativities have been spread across the globe and society by the pandemic. The negative effects caused a confused mindset, fear, anxiety, stress, and other psychological complications amongst the people especially among the Health Care Workers (HCWs), children, elderly people, and Frontline Workers (FLWs). This research work examines the levels of Occupational Stress (OS), and psychological well-being (PWB) of HCWs and police personnel during the pandemic and the relationship between OS and PWB. Further, the study analyzed the role of Positive Psychological Capital (PPC) as a mediator and Emotional Quotient (EQ) as a moderator in the relationship between OS and PWB. Positive Psychological Capital (PPC) characteristics of the respondents such as having faith in one’s ability, and performance, willingness to succeed or attain the goals framed, ability to bounce back from the hard times, and their optimism about the future have helped them to tackle the stress caused by the pandemic and to maintain a better state of psychological wellbeing in the fight against the pandemic.

Keywords Positive Psychological Capital · Occupational stress · Psychological Wellbeing · Emotional Quotient · COVID 19

JEL Classification I31

Introduction
The COVID 19 has upended the lives of people and caused a huge loss of human life across the globe (Robillard et al., 2020). The pandemic has presented unprecedented challenges in public health, employment, and food systems to people and governments (World Health Organization, 2020). The pandemics spoil the psychological health (Schäfer et al., 2020). The pandemic impacted social and mental health (Saladino et al., 2020). The pandemic curbing measures social distancing, lockdown, and other restrictions have shaken the normal life of people and caused exposure to stress (Saladino et al., 2020). Health Care Workers (HCWs) and Frontline Workers (FLWs) have tirelessly been fighting against the pandemic round the clock. HCWs and FLWs have been confronted with stressors namely long working hours (Johnson et al., 2005; Qasem Surrati et al., 2020), additional workloads, fear of infection (Lai et al., 2020; Saladino et al., 2020; Schäfer et al., 2020), inadequate medical infrastructure and facilities, violence (Iyengar et al., 2020), less interaction with the family members (Zainal Badri & Wan Mohd Yunus, 2021), and inadequate support of the society while tackling the pandemic. So, HCWs such as Doctors, Nurses, Lab Technicians, and health care support staff and FLWs such as Police personnel and Civil defense volunteers are more exposed to anxiety, fear, depression, distress, and physical health problems namely headache (Keech et al., 2020), sleeplessness, and feeling of exhaustion (Houdmont et al., 2021; Robillard et al., 2020).

Sleep disorders, low interest in life, and psychological illness are related to stress (Robillard et al., 2020). The COVID 19 severity during the second wave in India has made the lives of HCWs and FLWs more challenged and miserable. Amidst the challenges and acute occupational stress, HCWs, and Police personnel have revealed their
hard work, and commitment to containing the COVID-19, and they have significantly achieved their goal which is evident from the fact that India has been one of the countries having the least mortality rate (1%) and the highest recovery rate (99%) from the COVID illness (Worldometer, 2021). Thus, HCWs have exhibited their grit to support the COVID-infected patients to overcome the pandemic, and FLWs especially the police force have worked diligently along with the HCWs in treating and containing the pandemic. Police personnel has played a vital role in maintaining the social order and in making the public follow the COVID security measures.

Apart from the hard work, commitment, and grit, psychological wellbeing has been an important factor that makes the HCWs, and police personnel keep going in this hard time. Many factors contributed to the psychological well-being of an individual (Malek et al., 2010). The pandemic has affected psychological wellbeing of the groups especially children, students, and health workers (Saladino et al., 2020). The pandemic caused anxiety, depression, and stress among the healthcare workers (Qasem Surrati et al., 2020). Anxiety, depressions, and stress impact psychological wellbeing negatively (Pouralizadeh et al., 2020). Resilience can be one of the factors that contribute to psychological wellbeing positively (Kapoor et al., 2021). Positive psychological capital (PPC) is negatively related to occupational stress and mitigated occupational stress (Mensah & Amponsah-Tawiah, 2016). Further, PPC contributed positively to psychological wellbeing (Mensah & Amponsah-Tawiah, 2016). “Efficacy, hope, resilience, and optimism” were the components of PPC (Mensah & Amponsah-Tawiah, 2016). So, this research examines the relationship between occupational stress and psychological wellbeing of HCWs and police personnel and further focused on mediating effect of PPC.

The pandemic has created intense emotions and high levels of anxiety. Emotions would help the leaders to manage the situations effectively if the emotions are managed properly. Otherwise, emotions would worsen the situation (Bariso, 2020). Emotional Quotient (EQ) is a psychological construct that consists of a set of abilities to monitor and manage the feelings and emotions of self and other persons and utilizing those emotions for better performance (O’Connor et al., 2019). HCWs, FLWs, and the patients are confronted with a lot of negative emotions like fear, anxiety, distress, and depression. If HCWs and police personnel can manage their own emotions and empathize with the emotions of the patients, it would motivate them and the patients to fight against the virus collectively and to maintain psychological wellbeing. Therefore, the study examined the moderating role of the emotional quotient of HCWs and police personnel in the relationship between OS and PWB.

### Review of the Existing Research Works

The COVID-19 has changed the normal course of life (Saladino et al., 2020). The pandemic presented uncertainties to society and health care and frontline workers faced severe emotional stress (Cabarkapa et al., 2020). HCWs became a vulnerable group for the psychological impact of the disease (Cabarkapa et al., 2020). The mental health problems of HCWs are associated with their occupational activities (Muller et al., 2020). Emergency service personnel face the risk of having stress (Malek et al., 2010). The employees face fear and occupational stress (Kapoor et al., 2021).

Positive psychological capital (PPC) is a part of positive psychology and it emphasizes positive concepts - efficacy, hope, resilience, and optimism in the workplace (Piqueras Gómez et al., 2018). These four components are more flexible constructs than traits (Luthans et al., 2007). Employees with more PPC are more likely to "weather the storm" (Luthans et al., 2007). So, having more psychological capital is good to withstand bad conditions. Psychological capital affects commitment and wellbeing positively and mediates the relationship between stress and PWB (Mensah & Amponsah-Tawiah, 2016). Each component of PPC mitigates the negative effects of OS on wellbeing (Mensah & Amponsah-Tawiah, 2016).

Individuals with high EQ could empathize the emotions such as sadness, anger, fear, stress, and depression and they could regulate the emotions to reach adaptive outcomes such as motivation and creative thinking (O’Connor et al., 2019). There are three models of EQ: ability EQ, trait EQ, and mixed EQ. Ability EQ assesses the knowledge of emotions and their functions while trait EQ assesses normal behaviors in emotional circumstances (O’Connor et al., 2019). So, trait EQ measures the behaviors of individuals when they are confronted with stress, family conflict, and other stressful events (epidemics and pandemics). Fear of unemployment, possible pay cuts, financial hardships, and risk of getting infected affected the collective wellbeing of the society and these pessimisms disturbed the health of individuals. The policymakers should advocate EQ to overcome the hardships and negativities (Mumtaz, 2020). Emotionally intelligent individuals are more aware of emotions posed by the situation, they can manage them well, and they will face any disruptive emotions. Further, those EQ-rich individuals support other individuals affected by anxiety, depression, and stress (Sadovyy et al., 2021). EQ acts as a stress buffer as it reduces stress (Sadovyy et al., 2021).
Psychological wellbeing is a process of self-realization and it is attained by both challenging and rewarding life events (Zainal Badri & Wan Mohd Yunus, 2021). Psychological wellbeing was affected by crises including the COVID 19 (Zainal Badri & Wan Mohd Yunus, 2021). Psychological wellbeing is negatively related to stress (Johnson et al., 2005) and poor psychological wellbeing brings down job satisfaction (Johnson et al., 2005). When job satisfaction deteriorates, individuals cannot perform their duties efficiently. Based on the analysis of the extant works of literature, the presented below research model is framed to be tested. Further, the research model represents mediation and moderation analysis model 5 of Hayes (2013).

Materials and Methods

Research Framework

This descriptive research intends to investigate the relationship between occupational stress of HCWs and police personnel and their psychological wellbeing during the pandemic. Further, this research seeks to explore the mediating role of PPC in the link between OS and PWB and to appraise the moderating role of EQ in the association between OS and PWB. The causal investigation is adopted, and primary data is collected using the survey method from HCWs and police personnel working in Bangalore, India. The study does not have any control over the environment wherein the study is conducted and so, it is a non-contrived field study. The study has been a cross-sectional one as it is conducted during February 2021 and June 2021 at a stretch. The sample consists of both male and female respondents belonging to Boomers (Above 56 years of age), Generation X (41 years to 56 years), Millennials (25 years to 40 years), and Generation Z (19 years to 24 years). OS, optimism, efficacy, resilience, EQ, and PWB differ based on age (Chen et al., 2016; Hsu, 2019; Pramanik & Biswal, 2020; Steptoe et al., 2014).

Sample and Study Procedure

A well-structured questionnaire was prepared and circulated online using google forms with known HCWs and police persons after getting their consent. A combined sample size was determined for HCWs and Police personnel in this study as both kinds of the respondents were tackling the pandemic during the study period. Referrals were received from those HCWs and police personnel who had responded and those referrals were used to collect the data. An online questionnaire was circulated with around 456 individuals and only 218 questionnaires were filled. The filled questionnaires were checked for complete information, and it was found that 212 questionnaires have the complete information. Considering effect size and strength of relationship requirement in behavioral studies, the sample size was determined using the formula of Algina and Olejnik. The sample size was determined as 209 to perform correlation, regression, mediation, and moderation analysis (Algina & Olejnik, 2003). Out of 212 questionnaires received, the first 209 questionnaires were used for the analysis. The cleansing and coding of the collected data were done in Excel and the data analysis was done employing SPSS and Smart PLS software.

Measures

This research work has employed the below-mentioned scales that are identified from the extant literature to assess OS, PPC, EQ, and PWB of HCWs and police personnel. The scales have been assessed on a five-point Likert scale numbered from 1 (Strongly Disagree) to 5 (Strongly Agree). The scales were customized to suit the situation of the pandemic in India. Occupational stress was measured using five sources of stress scale (Cooper & Marshall, 1976). OS was measured through 14 items. Items like “I fear getting infected”, and “I feel that my work is overloaded during the pandemic” are examples of OS scale items. 24 items Positive Psychological Capital scale (Luthans et al., 2007) was employed to assess PPC. “The Schutte Self Report Emotional Intelligence Test (SSEIT) scale” (Schutte et al., 1998) with 33 items was applied to compute the EQ levels of the respondents. To measure the Psychological well-being of the sample, 8 items scale (Diener, 2009) was employed, but with a five-point scale. Statements like “I lead a purposeful and meaningful life” and “My social relationships are supportive and rewarding” are instances of the PWB scale. Further, demographic characteristics gender, age, marital status, occupation, and nature of employment were considered for the study. Alpha scores were computed for OS, PPC, EQ, and PWB scales and α scores were 0.89, 0.93, 0.96, and 0.71 for OS, PPC, EQ, and PWB, respectively. As α scores were satisfactory (α > 0.700), the main study was conducted. Further, scales and their customization were validated by the experts.

Results

After realizing that the data had the desirable reliability, a test of normality was done to understand the nature of the collected data. The results are presented in Table 1. Both the tests, Kolmogorov–Smirnov and Shapiro–Wilk, indicate that OS, PPC, and PWB are normally distributed as the concerned p-values are more than 0.05 and EQ is not normally distributed as the p-value is less than 0.000.
The sample has more male respondents. Most of the respondents are millennials and married. HCWs constitute 69% of the sample and 31% are police personnel. 56.5% of the respondents have a permanent job and the rest are in a temporary job.

The study then focused on the analysis of differences between demographic characteristics and the constructs. Based on the nature of the data, parametric and non-parametric statistical tools were applied to investigate the differences. Independent sample “t” test and One-way ANOVA were the parametric statistical tools and Mann–Whitney, and Kruskal–Wallis were the non-parametric tools used to explain the variances. The results are presented in Tables 2, 3, 4 and 5.

Research findings of variances are presented in Table 3. OS, PPC, EQ, and PWB do not differ based on gender.

Further, OS, PPC, EQ, and PWB do not vary based on the marital status of the sample HCWs and police personnel. Table 5 exhibits that the emotional quotient differs significantly based on the age of the sample. Mean scores reveal that millennials have higher EQ (2.20) followed by Boomers (1.70). Generation Z comes next (1.65), and Generation X is at the last (1.63). However, OS, PPC, and PWB do not vary according to the age of the sample HCWs and police personnel.

Similarly, OS, PPC, and PWB do not vary based on the occupation of the sample HCWs and police personnel. But EQ varies significantly according to the occupation of the respondents. Mean scores reveal that paramedical staff has more EQ (2.53) followed by police personnel (2.22). Doctors are placed in third place (2.17), nurses are in fourth place (1.92), and healthcare support staff are in fifth place (1.81) (Table 6).

Relationships among the variables are exhibited in Table 7. The strongest relationship among the variables exists between PPC and PWB (0.768). PPC and EQ have the least positive relationship (0.099). OS is strongly related to PPC (0.741) and moderate positive related to PWB (0.525). EQ has a positive and fragile relationship with PWB (0.203).

Next, the research model presented in Fig. 1 has been tested using PROCESS model 5 (Hayes, 2012). Mediating role of PPC and moderating role of EQ have been analysed.
and the results are presented below. In the model 5, independent variable is OS, outcome variable is PWB, mediating variable is PPC, and moderating variable is EQ.

Tables 8 and 9 show the impact of occupational stress on the mediator (positive psychological capital) and model fit. Model fit is significant as the p-value is less than 0.05 (Table 8). Occupational stress significantly influences positive psychological capital (p-value: 0.000). Occupational stress explains 51.46% variance in PPC.

Tables 10 and 11 convey mediating and moderating effects of the model. The model proposed is significant as p-value is 0.000 (Table 10). 52.47% variance in psychological wellbeing is contributed by occupational stress, psychological capital, emotional quotient, and interaction between OS and EQ.

Table 11 depicts the impact of occupational stress, psychological capital, and emotional quotient on the psychological wellbeing of the respondents. Both occupational stress and psychological capital of the respondents significantly explain the variance in the psychological wellbeing of the respondents as p-values are 0.000. So, indirect effects from OS to PPC and PPC to PWB are significant. But EQ and interaction term do not significantly explain variance in psychological wellbeing of the respondents as p-values are more than 0.05. Further, p-value of highest order unconditional interaction is 0.648. So, moderating role of EQ in the relationship between OS and PWB is insignificant.

Conditional direct effects table (Table 12) reveals that direct impact of occupational stress on psychological wellbeing is 0.4921 and indirect effect is significant as zero does not present between Boot Lower Limit of Confidence Interval (Boot LLCI) and Boot Upper Limit of Confidence Interval (Boot ULCI).

From the results presented in Tables 8, 9, 10, 11, 12 and 13, it can be found that occupational stress significantly impacts psychological wellbeing of HCWs and police personnel. Further, positive psychological capital mediates the relationship between occupational stress and psychological wellbeing. However, emotional quotient does not moderate the impact of occupational stress on psychological wellbeing.

### Discussion

This research work looks at the relationship between OS and PWB of HCWs and police personnel who tirelessly work during the pandemic and analyzed mediating and moderating effects of PPC and EQ, respectively in the relationship between OS and PWB. Further, variances are analyzed among the core variables of the study and the demographics of the respondents.

### Table 6 Variances to occupation

| Variables | F value | P-value | Result  |
|-----------|---------|---------|---------|
| OS        | 0.601   | 0.615   | Not Significant |
| PPC       | 1.450   | 0.229   | Not Significant |
| PWB       | 0.946   | 0.419   | Not Significant |
| EQ        | -       | 0.013   | Significant |

### Table 7 Correlations of the variables

|        | OS  | PPC | PWB | EQ  |
|--------|-----|-----|-----|-----|
| OS     | 1   |     |     |     |
| PPC    | 0.741 | 1   |     |     |
| PWB    | 0.525 | 0.768 | 1   |     |
| EQ     | 0.132 | 0.099 | 0.203 | 1   |

### Table 8 Model summary

|        | r   | r²  | MSE  | F    | P   |
|--------|-----|-----|------|------|-----|
|        | 0.7173 | 0.5146 | 0.1894 | 219.4378 | 0.000 |

Outcome variable: Positive Psychological Capital

### Table 9 Model

| Particulars | Coefficients | SE   | t     | P     |
|-------------|--------------|------|-------|-------|
| Constant    | 1.2588       | 0.1588 | 7.9287 | 0.000 |
| OS          | 0.6429       | 0.0434 | 14.8134 | 0.000 |

Outcome variable: Positive Psychological Capital
Variance analyses reveal that OS, PPC, EQ, and PWB do not differ based on gender and marital status. These results indicate that HCWs and police personnel confront occupational stress irrespective of gender and marital status. This result confirms the finding of the study that states "stress do not vary among the frontline nurses based on sex" (Pasay-an, 2020). Additionally, the results expose that OS, PPC, and PWB do not depend on the age and occupation of the respondents. The findings support the outcomes of research carried out by Qasem Surrati et al. (2020) and by Pasay-an (2020). Qasem Surrati found that perceived occupational stress did not vary based on age and Pasay-an study revealed that occupational stress did not depend on the job. It can be observed that the pandemic has caused OS to HCWs and police personnel regardless of their age. Further, EQ differs significantly based on age and occupation. The millennial paramedic staff has a higher level of EQ.

All variables of the study OS, PPC, EQ, and PWB are related to each other positively. PPC and PWB have the strongest positive relationship. It denotes that positive psychology such as efficacy, hope, resilience, and optimism drive towards the psychological wellbeing of HCWs and police personnel. Occupational stress and psychological capital are related strongly which is the indication that when the respondents confront with occupational stress, they tend to apply more positive psychological vibes to withstand the OS. The relationship between OS and PPC of this study contradicts the finding of Mensah and Amonpah-Tawiah (2016) in which OS and PPC are negatively related. But the study of Mensah & Amonpah-Tawiah was conducted on the social security employees of Ghana during the non-pandemic period. EQ has a positive and weak relationship with OS, PPC, and PWB of HCWs and police personnel. The emotional quotient and psychological capital relationship confirm the findings of (Mellao & Mónico, 2013).

The proposed research model analysis discloses that occupational stress impacts significantly the psychological wellbeing of HCWs and police personnel and further reveals that positive psychological capital components such as the efficacy of HCWs and police personnel, their hope, resilience ability, and optimism assist them to mitigate OS and to improve the PWB of the respondents as PPC has a mediation effect in the relationship between occupational stress and psychological wellbeing. From this, it can be understood that positive psychological characteristics of the respondents such as having faith in one's ability, and performance, willingness to succeed or attain the goals framed, ability to bounce back from the hard times, and their optimism about the future have helped them to tackle the stress caused by the pandemic and to maintain a better state of psychological wellbeing in the fight against the pandemic. The study also exhibits that the emotional quotient does not significantly impact the psychological wellbeing of the HCWs and police personnel. Moreover, emotional quotient does not moderate the relationship between OS and PWB. These results denote that ability to manage the emotions of self and others and using those emotions for decision making does not help to mitigate the occupational stress of the respondents and to improve the psychological wellbeing of the respondents during the pandemic, but EQ contributes to maintaining the PWB to a minimum extent. From the research model analysis, it can be observed that realizing the need for having positive vibes such as trust in self-efficacy, hopefulness, resiliency, and optimism about the future and applying them in a real-life situation during hard times like the pandemic help the individuals to tackle the occupational stress in a better way and to improve the psychological wellbeing during the hard times rather than managing the emotions and shaping the thinking. The emotional quotient facilitates the individuals to manage the emotions of self and other persons caused by the pandemic and shapes the thinking. But the positive vibes of the individuals make them fight against the hard situation and mitigates their occupational stress and improves their mental wellbeing.
Limitations and Scope for the Future Research

This research work is a behavioral study. So, it has all the limitations of the behavioral studies such as behavioral bias, response bias, framing cognitive bias, and others. Another vital limitation of the study has been the inability to meet the respondents face to face and collecting the data due to the pandemic. However, adequate care has been taken to avoid these limitations.

The study examined the role of the psychological capital of the respondents which is one of the important components of positive psychology in the relationship between OS and PWB. There are many other positive psychology components such as courage, interpersonal skill, and perseverance that can be researched in the future to examine their role in occupational stress and psychological well-being. Further, resilience as a separate construct can be researched to test its role in the abovesaid relationship. The role of emotional quotient on psychological capital can be researched in the future.

Conclusion

The COVID-19 fuelled pandemic has been an unforeseen event that has shaken the entire world in terms of physical health, mental health, livelihood, employment, economy, and food system. The pandemic effects are doubled by unpreparedness, fake news, and negative feelings. The pandemic has victimized many lives across the globe and impacted the mental health of individuals especially children, elderly people, HCWs, and FLWs. These individuals face fear, anxiety, stress, fatigue, and other mental ailments triggered by the pandemic. This research investigates the relationship between OS and PWB of HCWs and police personnel during the pandemic keeping positive psychological capital as a mediator and emotional quotient as a moderator. Further, the study has analyzed the differences in the perceptions of the respondents on OS, PPC, EQ, and PWB to the demographics of the respondents. The study has found that emotional quotient perceptions depend on the age and occupation of the respondents. Millennials working as paramedical staff have a higher level of emotional quotient. All other variances are insignificant. Occupational stress has a significant impact on the psychological wellbeing of the respondents. Positive psychological capital has a mediation effect in the relationship between OS and PWB. PPC mitigates occupational stress and improves the mental health of the respondents. The emotional quotient does not significantly moderate the relationship between OS and PWB.

Author Contribution The manuscript is prepared by the author and the author confirms that no other persons who contributed substantially for this manuscript are missed.

Data Availability Data and materials used in the research work are reliable and authenticated. Data can be made available as and when required.

Code Availability Not Applicable.

Declarations

Ethics Approval Not Applicable.

Consent to Participate Consent to participate in the survey is obtained.

Consent to Publish Not Applicable.

Conflict of Interest The author has no conflict of interest.

References

Algina, J., & Olejnik, S. (2003). Sample size tables for correlation analysis with applications in partial correlation and multiple regression analysis. Multivariate Behavioral Research, 38(3), 309–323. https://doi.org/10.1207/S15327906MBR3803_02

Bariso, J. (2020). How emotional intelligence can help you deal with the Covid-19 pandemic. Inc. https://www.inc.com/justin-bariso/how-emotional-intelligence-can-help-you-deal-with-covid-19-pandemic.html

Cabarkapa, S., Nadjidai, S. E., Murgier, J., & Ng, C. H. (2020). The psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers and ways to address it: A rapid systematic review. Brain, Behavior, & Immunity - Health, 8(June), 100144. https://doi.org/10.1016/j.bbigh.2020.100144

Chen, Y., Peng, Y., & Fang, P. (2016). Emotional intelligence mediates the relationship between age and subjective well-being. International Journal of Aging Human Development, 76(5), 139–148. https://doi.org/10.1177/0091415016648705. Emotional

Cooper, C. L., & Marshall, J. (1976). No Title. Journal of Occupational Psychology, 49(1), 11–28.

Diener, E. (2009). Assessing well-being. The collected works of Ed Diener. Springer, August 2014, 101–102. https://doi.org/10.1007/978-90-481-2354-4

Hayes, A. F. (2012). Conditional process analysis: A regression-based approach. Under contract for publication by Guilford Press. 1. Unpublished Manuscript, 1–39.

Hayes, A. F. (2013). Integrating mediation and moderation analysis: Fundamentals using PROCESS. In Introduction to Mediation, Moderation and Conditional Process Analysis.

Houdmont, J., Juchens, L., Randall, R., Colwell, J., & Constabulary, C. (2021). English Rural Policing: Job Stress and Psychological Distress Policing. 44(1), 49–62. https://doi.org/10.1108/PUPSM-03-2020-0037

Hsu, H. C. (2019). Age differences in work stress, exhaustion, wellbeing, and related factors from an ecological perspective. International Journal of Environmental Research and Public Health, 16(1), 50. https://doi.org/10.3390/ijerph16010050

Iyengar, K. P., Jain, V. K., & Vaishya, R. (2020). Current situation with doctors and healthcare workers during COVID-19 pandemic
