Optimism and Psychological Distress: The Role of Resilience as a Moderator in COVID-19 Recovered Patients of Pakistan

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Article Info	Abstract
	The purpose of the current study is to investigate the moderating role of resilience in the relationship between optimism and psychological distress. A sample of 200 participants was drawn via multistage purposive sampling from a population of coronavirus recovered patients of Lahore, Pakistan including both men (44.5%) and women (55.5%) whose age ranges from 18-66 years (M =3.22, SD = 1.61. The Urdu versions of the life Orientation Scale, Connor-Davidson Resilience Scale and Impact of Event Scale were used to assess optimism, resilience, and psychological distress respectively. Pearson-product moment correlation analysis indicated a significant association in optimism, resilience, and psychological distress. Findings of the moderation analysis suggested that resilience was a significant moderator in the association between optimism and psychological distress. At a low level of resilience, the association between optimism and psychological distress was not significant, whereas at a moderate level the association was significant. Results indicated that at the high level of resilience the association between optimism and psychological distress was highly significant. Life is not free of adversities, both on a personal and social level. COVID-19 pandemic is a very challenging life experience. The development of resilience as a psychological resource would help in coping with such challenging life experiences and promotes both personal and social growth.

Introduction

COVID-19 or Coronavirus is a novel rapidly spreading disease, first identified in 2019 (China CDC, 2019; WHO, 2020), originated in Wuhan, China (Wu, Chen, & Chan, 2020) that has affected almost every country and has killed millions of people in the world. The World Health Organization (WHO) declared it as the 6th international public health emergency (PHEIC) on 30th January 2020 and as a pandemic on 11th March 2020. Droplets from an infected person or a carrier to an infected person are the most prevalent way for this infectious disease to spread, according to the World Health Organization (WHO). Unguided sneezes, handshakes, coughs without a nose pad, and other human activities were discovered to propagate the COVID-19 virus.

COVID-19 has caused a one-of-a-kind continuous crisis, with serious consequences such as uncertainty, illness, and mortality, as well as an increase in a range of stressors and a reduction in availability to protective factors. COVID-19 is a disease with which many people are still recovering. There is a lack of knowledge on psychological resources that can assist COVID-19 patients in their recovery and return to normal life in this situation. Positive psychological resources such as optimism and resilience aid in a person's recovery from a disaster (Water et al., 2020).

Optimism is a protective factor that buffers against stress. Individuals' ability to maintain positive emotions throughout time is referred to as optimism. Those who have a positive emotional view appear to be more likely to engage in healthful habits (Fredrickson & Joiner, 2018; Pressman et al., 2019). Having positive aspirations for the future might also help in adapting to traumatic or stressful experiences. It is an individual difference variable that refers to the extent to which people have typically positive future expectations. It encompasses two meanings that are closely related: the first is the desire to hope, while the second more broadly relates to the belief that we live in the best of all possible worlds. Optimism fosters stress resistance (Carver et al., 2010). Whereas the ability to manage psychologically or emotionally with a catastrophe or quickly recover to the pre-crisis position is known as resilience. Resilience is a personality trait that entails a group of traits that enable people to adapt to new and challenging conditions (Connor & Davidson, 2003). A meta-analysis found that resilience can help to protect mental health, hasten recovery, and alleviate the harmful impacts of a crisis. (Davydov & colleagues, 2010). In times of disaster, it is also usual for people to demonstrate a high amount of resilience (Wu et al., 2020). In order to counterbalance the unfavorable effects of COVID-19 (Reyes et al., 2019; Shin et al., 2019), resilience will play a protective function.

The most essential aspect of stress, according to Catherine Moore's perspective, is how we cope with it rather than the form of adversity itself. When faced with adversity, misfortune, or anger, resilience aids in our recovery. It assists us in surviving, healing, and even thriving in the face of adversity, but it doesn't end there. The ability to overcome the negative effects of stressful situations requires resilience. It may appear like building resilience is the same as learning to "grin and bear it," but it is not, nor is it the same as avoiding trauma (Moore, 2021). In addition to physical health, dealing with the pandemic necessitates mental fortitude (Southwick et al., 2014) Resilience will aid in improved resource allocation, planning, and education measures for individuals and communities to handle the acute pandemic implications (Walensky & Rio, 2020), and is likely to have a positive impact on psychological health (Holmes et al., 2020). When confronted with stress, optimistic people are more resilient, according to Snyder, Lopez, and Pedrotti (2002). Additionally, optimism has been identified as the most crucial cognitive attribute for decreasing the negative effects of life's pressures (Tusaie-Mumford, 2001). In general, resilience tends to indicate a desire for a strong sense of optimism in the face of adversity. (Rutter, 2006) Furthermore, optimism and resilience go hand in hand in difficult conditions (Segerstrom, Carver, & Scheier, 2010).

The COVID-19 pandemic has had serious effects not just on physical health, but also on the social, psychological, and mental health of the people (Banerjee, 2020). In the first two waves of the pandemic, increased rates of depression, anxiety, sleep disorders, post-traumatic stress, and adjustment issues were recorded as a result of the COVID-19. (Spoorthy et al., 2020; Que et al., 2020).There is sufficient literature that revealed optimism and resilience have a positive association with stress. There is also a plethora of literature on the moderating role of resilience in the relationship between optimism and psychological distress on different populations (Friborg et al., 2006; Pinquart, 2009; Plam-Fischbacher & Ehlert, 2014; Plam-Fischbacher & Ehlert, 2014; Chen et al., 2016; Shi et al., 2016; Lanz & Bruk-Lee, 2017; Garcia-Izquierdo et al., 2017; Navarro et al., 2018; Li et al., 2019; Falavarjani & Yeh 2019; Haven et al., 2020; Grossman et al., 2021). Yet, few researchers investigated the role of resilience as a moderator in research studies related to COVID-19 (Haven et al., 2020; Grossman et al., 2021; Aguiar-Quintana et al., 2021; Wang et al., 2021) but the role of resilience as a moderator in the COVID-19 recovered patients has not yet been fully explored. Therefore, the current study aimed to investigate the moderating role of resilience in the association between optimism and psychological distress in patients who were recovered from COVID-19 during the 3rd wave of the pandemic.

The following conceptual model is derived from the literature. Optimism is an independent variable and psychological distress is the dependent variable. Resilience is a moderating variable in the current study.
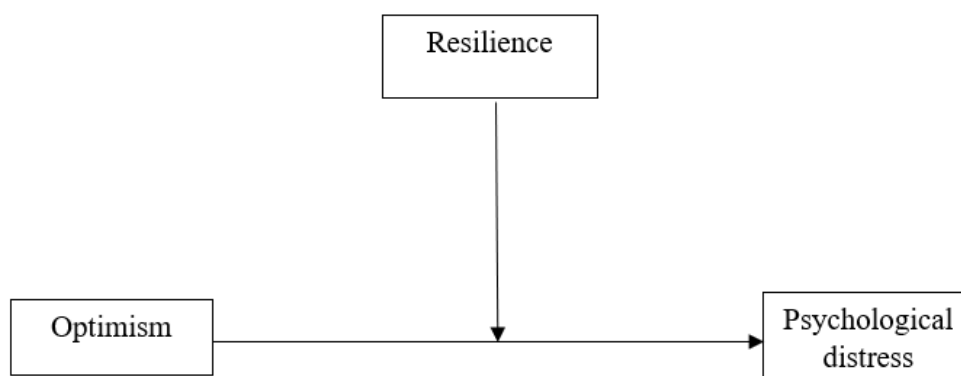
Figure 1
The Conceptual Model

Figure 1. The conceptual model of resilience as a moderator in the relationship between optimism and psychological distress.

Method
Participants

A multistage purposive sampling technique was used to sample 200 participants from a population of COVID-19 recovered patients in Lahore during 3rd wave of the COVID-19 pandemic. The permission letter to collect data from COVID-19 recovered patients was submitted to two managers of diagnostic laboratories. The managers approached the COVID-19 recovered patients and briefed the aim of the research in the first stage. Those who agreed to participate (n=273) in the research were contacted via telephone call and a participant

information sheet was introduced to them in a second stage. Out of 273 participants, 43 participants refused to participate in a study, 230 COVID-19 recovered patients had given consent in a 3rd stage. 13 participants withdraw their participation due to the feeling of weakness and lethargy. 17 participants were excluded due to missing information. A sample of 200 participants was collected for the final stage. The sample was comprised of men (44.5%) and women (55.5%) age ranges from 18-66 years ($M = 3.22$, $SD =1.61$). Only those patients were included who recovered within 4 to 6 weeks (4 weeks= 87.4%, over 6 weeks=12.6%).

Measures

Participants were given the Urdu versions of life orientation test-revised (LOT-R), Connor-Davidson Resilience Scale and the impact of event scale. The questionnaire consisted of two parts i.e. demographic information and assessment scales. Demographic variables were age, gender, socioeconomic status and recovery duration. Optimism was measured by Urdu translated and adapted version of the life orientation test –revised (LOT-R) by Jamal (2017) which consists of 3 items on a 4-point Likert scale. The reliability of LOT-R for this study was 0.63. Resilience was assessed by the Urdu translated and adapted version of the Connor-Davidson Resilience Scale by Naz (2011) which consists of 10 items on a 5-point Likert scale and has a Cronbach's alpha=.79 for this study. Urdu translated and adapted version by Tareen et al, (2011) of the Impact of Event Scale developed by Weiss and Marmar (1997) was used to measure psychological distress which has 7 items having a 5-point Likert response format with a reliability of 0.80 in this study.

Data were analyzed using SPSS version 25. Pearson Product moment correlation was carried out to explore the association of optimism, resilience, and psychological distress. Moderation analysis was done using Hayes Process Model 3 to investigate the moderating role of resilience in the association between optimism and psychological distress. Hayes et al. (2018) bootstrapping approach was used to explore resilience as a moderator between optimism as an independent variable and psychological distress as a dependent variable. Ethical considerations like signing informed consent, confidentiality, participant's right to withdrawal, and anonymity were taken into account.

Results

Table 1

Intercorrelation of Optimism, Resilience, and Psychological Distress (N = 200)

Variables	1	2	3
1. Optimism	-	.60**	-1.8*
2. Resilience		-	-1.7*
3.Psychological Distress			-
M	9.64	28.59	11.93
SD	1.91	6.00	5.30

*p < .05, **p < .01.

Pearson Product Moment Correlation was used to explore the association between optimism, resilience, and psychological distress. Findings indicated significant positive association of optimism and resilience ($r = .60$, $p < .01$). Furthermore, findings also suggested significant negative association of optimism and psychosocial distress ($r = -1.8$, $p < .05$), resilience and psychosocial distress ($r = -1.7$, $p < .05$).

Table 2

Regression Analysis Examining the Interaction Effect of Optimism and Resilience on Psychosocial Distress (N = 200)

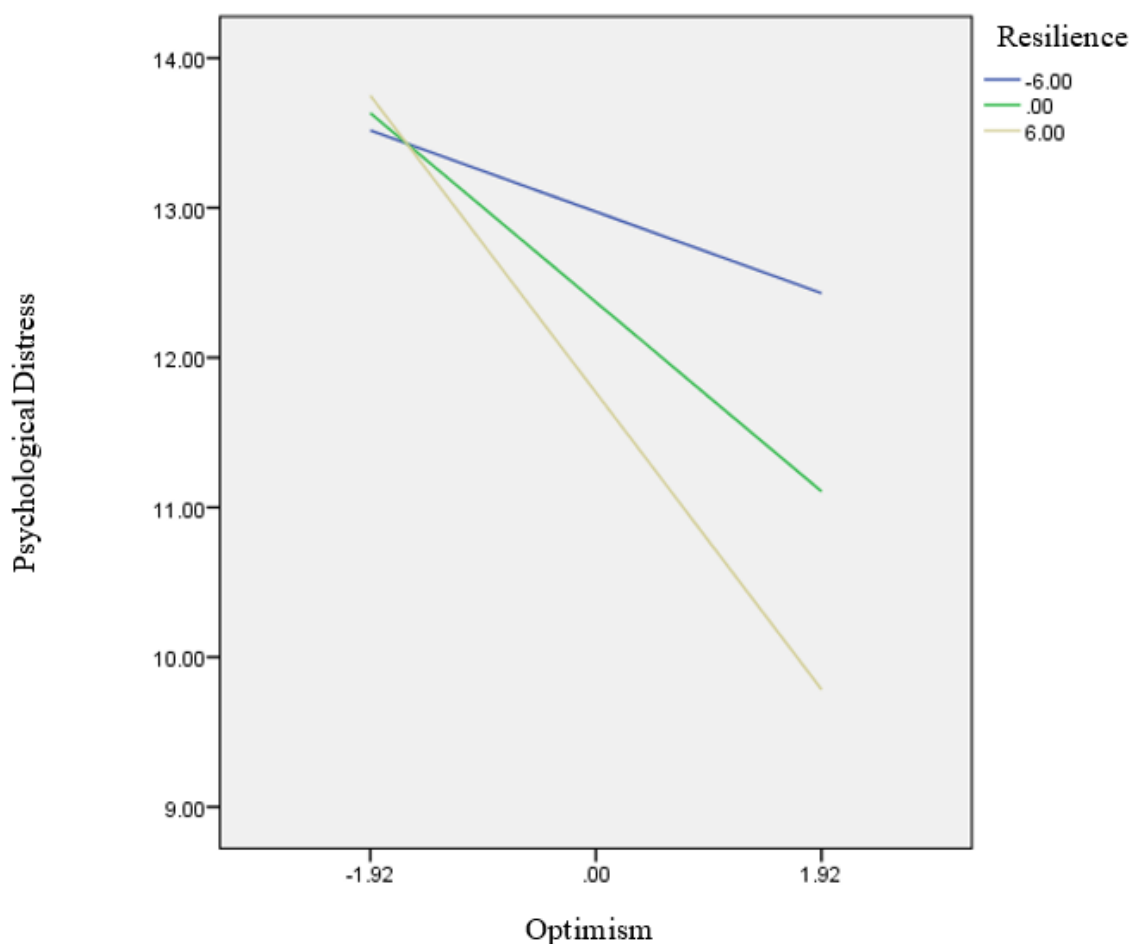| Variables	Psychological Distress		
	B	SE	95% CI
Constant	12.37**	.43	[11.50, 13.23]
Optimism	-.65**	.28	[-1.23, -.08]
Resilience	-.10	.08	[-.26, .06]
Optimism x Resilience	-.06**	.02	[-.12, -.00]
Low Resilience	-.25	.25	[-.79, .22]
Moderate Resilience	-.65**	.28	[-.123, -.08]
High Resilience	-1.03**	.40	[-1.83,-.23]
R^2	.25		
F	4.03		

**p < .01

Findings of correlation analysis suggested the interrelatedness of optimism, resilience, and psychological distress. Therefore, the moderating role of resilience in the association between optimism and psychological distress was explored by using Hayes (2018) bootstrapping approach. Table 2 indicates that optimism ($B = -.65$, $SE = .28$, $p < .01$) was found to be significant predictor of psychological distress. Resilience ($B = -.10$, $SE = .08$, $p > .05$) was not found to be significant predictors of psychological distress. Moreover, interaction effects of optimism and resilience ($B = -.06$, $SE = .02$, $p < .01$) was also significant. Thus, the

conditional effects of optimism on psychological distress at different levels of resilience were analysed, at the low level of resilience, the association of optimism and psychological distress was not significant ($B = -.28$, $SE = .25$, $p < .01$) as compared to moderate level of resilience ($B = -.65$, $SE = .28$, $p < .01$). Furthermore, when the level of resilience is high then the association of optimism and psychological distress becomes strongest ($B = -1.03$, $SE = .40$, $p < .01$). The interaction plot is given in Figure 2.

Figure 2. Interaction plot of different levels of Resilience

Discussion

The COVID-19 pandemic has imposed fear of death and psychological distress across the globe. In this situation of the pandemic, it is vital to look into the resources that help an individual cope with distress caused by the COVID-19 pandemic. The present study aims to investigate the moderating effect of resilience in the relationships between optimism and psychological distress in COVID-19 recovered patients. The first

hypothesis that optimism and psychological distress are inversely related to each other is proved. Our findings are consistent with a plethora of research evidence on other samples (Winterling et al., 2005; David et al., 2006; De Moor et al., 2006; Leung et al., 2015) but a sufficient number of studies on COVID-19 patients (Arslan et al., 2020; Setia et al., 2021) also indicated that optimism is a personality resource that helps an individual to buffer against stress.

Findings of the current study also revealed that resilience has a negative relationship with psychological distress which is also consistent with previous studies (Yasien et al., 2016; Matzka et al., 2016; Fradelos et al., 2017; Azzahra & Paramita, 2019). These findings are also consistent with the resilience model (Chen et al., 2016; Silva-Sauer et al., 2021) as resilient people will be able to bounce back from the illness they encountered. The findings of the present study proved the second hypothesis that resilience is a moderator between the relationship of optimism and psychological distress. These results are in line with (Chen et al., 2016). Furthermore, the results indicated that at the low level of resilience, the relationship between optimism and psychological distress became insignificant. It suggests that in these challenging times of pandemic, optimism alone is not sufficient rather resilience plays a vital role in dealing with psychological distress (Haven et al., 2020; Grossman et al., 2021; Aguiar-Quintana et al., 2021; Wang et al., 2021). As resilience at moderate and high levels significantly strengthens the relationship between optimism and distress. Resilience is that integral resource of personality which helps people in fighting the deadly virus.

Implications

In light of the above results, resilience was found to be the psychological resource that can help the community to face and survive natural disasters like a pandemic. Psychologists and social workers need to develop cost-effective and preventive interventions to manage the burden of mental health problems during the pandemic. Resilience must be taught to help people to cope with the challenges of COVID-19. It is recommended to develop resilience support programs that help people to learn resilience strategies.

Limitations of the Present Study

The current study has some limitations. The first limitation of the study is the recruitment of participants from the different areas of Lahore, an urban city of Pakistan. Rural areas are not targeted. The study used self-report measures which may lead to biasedness and self-report errors. Finally, correlational design has its limitations. It is recommended that future research will cover the diverse population of Pakistan.

Conclusion

It is concluded that in COVID-19 recovered patients, optimism help in reducing psychological distress but it is resilience that strengthens the relationship of optimism and psychological distress. Unless people have a high level of resilience to bounce back from the illness, they cannot cope with stress.

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