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LIFESTYLE AND AN INDIVIDUAL'S SENSITIVITY LEADING TO OBSESSIVE COMPULSIVE DISORDER IN ADULTS DURING THE COVID-19 LOCKDOWN: TESTING THE SERIAL MEDIATION AND MODERATED MEDIATION MODELS

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Abstract
The purpose of this study was to investigate the relationship between lifestyle, an individual's sensitivity, social media use, and obsessive-compulsive disorder in adults during the pandemic lockdown period. Additionally, the study aimed to examine whether the fear of COVID-19 played a role in these associations. The study employed an indirect-effect model and analyzed data from doctors who worked during the pandemic. The results showed that death anxiety hurt subjective well-being through its effect on sleep quality. Additionally, death anxiety had a more significant negative effect on subjective well-being in doctors working in rural areas compared to those working in urban areas. The implications of these findings are discussed.

Keywords: *lifestyle, individual sensitivity, social media, obsessive compulsive disorder, fear of COVID-19*

Introduction

The COVID-19 pandemic, a global public health crisis, is known to impact the lives of all individuals (Meher, Mushtaq, & Fatima et al., 2022), particularly to the people working from home. Until now, the pandemic has resulted in more than 6.68 million deaths around the world (Worldometer, 2022). As per reports, 1.25 million confirmed COVID-19 cases with more than 30,630 deaths have been reported in Pakistan (Worldometer, 2021). COVID-19 harmed the lives of the common people both in developed and developing countries. However, in countries like Pakistan with weak economic structure and health care systems, the situation is particularly worse (Ali et al., 2020). The pandemic has introduced a new lifestyle where repeated washing of hands, and all grocery items, the use of sanitizers, confinement to home, and not going out for sports or physical activity have been prevalent (Menzies & Menzies, 2022). Changes to daily routines, increased stress and anxiety, which contribute to the development or exacerbation of obsessive-compulsive disorder (OCD) in adults (Fontenelle et. Al., 2021). Hence, a recently proposed construct, an individual's sensitivity, seems particularly relevant in this context. People with high sensitivity have increased awareness of subtleties in the environment and strong emotional reactivity (Wyller, Wyller, Crane, & Gjelsvik, 2017). Research has shown that certain individuals may be more sensitive to the development of OCD due to genetic, neurological, and environmental factors (Fontenelle et. Al., 2021).

Lifestyle factors as a correlate of an individual's sensitivity

Lifestyle refers to the characteristics of inhabitants of a region at a specific time and place. It includes day-to-day behaviors and functions of individuals in their job, activities, fun, and diet (Farhud, 2015). During the COVID-19 pandemic, individuals have been required to restrict their

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movements and stay at home to slow the spread of the virus (Abba-Aji, 2020). Suddenly, the lifestyle was changed from social interaction to social distancing, imposing numerous restrictions on the movements of the people, whereby they have to wash their hands frequently, have to sanitize their hands and their homes, wash all of the grocery items, and have to adapt the measures that increase their immunity in case they are affected with the disease. This has had a significant impact on social relationships and mental health, as many people have experienced feelings of loneliness and isolation due to the lack of in-person contact. This lifestyle change, known as quarantine or lockdown, has had a significant impact on individuals' physical and mental health, and overall, on their personalities (Albertella et al., 2020). Literature dictates that lifestyle during the lockdown is not only associated with fear of being infected with the coronavirus but also plays a significant role in serious mental health consequences (Mansori et al., 2017; Paredesa et al., 2020). Particularly to the population who is already highly sensitive to the environment and its subtleties (Wyller, Wyller, Crane, & Gjelsvik, 2017). When this population is restricted to their home due to the fear of being infected with the coronavirus, they take it more seriously and suffer from the worst mental health consequences, especially obsessive-compulsive disorder.

An individual's sensitivity mediates the link: lifestyle factors-obsessive compulsive disorder.

As the world continues to grapple with the effects of COVID-19, it's clear that lifestyles have undergone a significant shift (Mushtaq, Meher, & Fatima, 2022). For some individuals, this change has brought about new challenges and stressors that may have contributed to the development of obsessive-compulsive disorder (OCD). But it's not just the change in lifestyle itself that can lead to the development of OCD; it's the individual's sensitivity to these changes that ultimately mediates the link (Fontenelle et al., 2021). Some people may be more prone to developing OCD due to their innate personality traits, while others may be more resilient to stress and able to adapt more easily to changes in their environment. For those who are more sensitive to change, the disruptions and stressors brought about by the COVID-19 pandemic served as a trigger for the development of OCD. They find themselves struggling to cope with the uncertainty and unpredictability of the situation, leading to an increase in obsessive thoughts and compulsive behaviors as a way of trying to gain some control over their environment (Banerji, 2020). Ultimately, it's the combination of lifestyle factors and an individual's sensitivity to those factors that determines the strength of the link between lifestyle and OCD.

Social media as social support mediates the link between lifestyle and OCD in adults.

The COVID-19 pandemic brought about significant changes to our daily lives and routines, including lockdowns and social distancing measures that have disrupted our usual support systems and added additional stress and uncertainty. One potential solution may lie in the use of social media as a source of social support. Social media platforms have become an increasingly popular way for people to stay connected and support one another during the pandemic, and research has shown that social support can play a protective role in mental health.

By using social media as a source of social support, adults may be able to mitigate the negative impact of lifestyle changes brought about by the pandemic on their mental health, including the risk of developing OCD (Guazzini, Gursesli, Serritella, Tani, & Duradoni, 2022). This is because social support can provide a sense of belonging, help alleviate feelings of loneliness and isolation, and provide a sense of perspective and coping mechanisms during difficult times. So, while the COVID-19 pandemic has disrupted our usual support systems and brought about significant lifestyle changes, social media can serve as a valuable source of social support and help mitigate the negative impact on our mental health, including the risk of developing OCD.

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Fear of COVID-19 moderates the association between lifestyle and obsessive-compulsive disorder.

The outbreak of COVID-19 has changed the face of the earth, and every human being is affected by this pandemic directly or indirectly, mentally or physically. Certain aspects of COVID-19, such as its contagiousness, a high infection rate, various strains of mutations, questionable immunity of recovered patients, and a large number of deaths, have raised feelings of uncertainty, insecurity, and fear amongst people. People began fretting about COVID-19 due to its high infection rate and relatively higher mortality rate than other similar viruses, e.g., Middle East Respiratory Syndrome (MERS) (Lin, 2020). Furthermore, the new lifestyle restricted people from their social interactions (Lin, 2020), and the adaptation of certain new habits like the washing of hands, using sanitizers, wearing masks, etc. Pakistan is a collectivist society where social interactions are considered very important and help them in maintaining their mental health. Going into complete isolation and relying only on social media multiplies their fear of being infected with the virus, with the development of obsessive-compulsive disorder. Pakistani collectivist culture does not support this lifestyle, and mostly people do not take precautionary measures because the majority of the population lives in small houses containing only one bedroom, which itself is a risk of the contagious disease and the OCD symptoms (Guazzini, Gursesli, Serritella, Tani, & Duradoni, 2022). Accordingly, many assumptions have led us to test the assumption that fear of COVID-19 would moderate the association between lifestyle and the subjective development of OCD in adults. First, fear of COVID-19 in interaction with the lifestyle is a significant stressor for many individuals, and research is needed to understand how it may impact mental health in different cultural contexts. Second, the Pakistani collectivist society values close relationships and interdependence, which have been disrupted by the new lifestyle to prevent the spread of COVID-19. Understanding the relationship between fear of COVID-19, lifestyle, and OCD in the Pakistani collectivist society can provide valuable insights into the broader impact of fear of COVID-19 on mental health and may inform the development of interventions to address this impact.

Research is needed to understand how these disruptions may have affected the individuals in developing OCD. **Third**, people firmly believe in dogma or the theory of determinism (Abdulla, 2018). The theory proposes that they think ailments and diseases come from God and we cannot change them (Armstrong, 1991). Hence, they do not believe on social distancing protocols of the pandemic regarding the treatment, prescription, and advice of the doctor, which increases the risk of corona virus infection and associated (Wheaton, et al., 2012) There is limited research on the relationship between fear of COVID-19 and OCD in collectivist societies, and more research is needed to inform the development of culturally appropriate interventions for individuals with OCD in all collectivist societies.

Empirical evidence suggests that fear and anxiety create the symptoms of OCD in adults (Guazzini et al., 2022). Consistent with the literature, Wang et al. (2019) reported more anxiety and anxiousness, more would be the prevalence of OCD in adults of all stages. Keeping in view the above discussion, the study proposes that the associations between lifestyle and prevalence of OCD would be moderated by fear of COVID-19 in adults.

Research gaps and the current study

Previous literature provides evidence that most of the studies are concerned with the mental health of individuals at times of stress and crises, and only a few studies focused on the obsessive-compulsive symptoms that occurred as a consequence of following a particular lifestyle containing specific standard operating procedures during the coronavirus pandemic in people of all ages. Standard Operating Procedures were announced and emphasized to be followed strictly during the

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lockdown and are still in practice, affecting the mental health of individuals. On the other side, OCD is one of the major mental health problems that was predicted during the COVID-19 crisis. The purpose of the study was to evaluate the role of fear of COVID-19, lifestyle, individual sensitivity, and social media support in OCD prevalence during multiple waves of the COVID-19 lockdown period. The current study expands the literature by focusing the OCD in adults during times of crises and deals with a unique set of variables that have not been used simultaneously in previous research, and hence provides recommendations for future research and focuses on the factors responsible for OCD as well.

Hypotheses

It was hypnotized that:

H1: Lifestyle would positively predict OCD in adults during the COVID-19 lockdown period.

H2: An Individual's sensitivity and social media use would mediate the positive association between lifestyle and OCD in adults.

H3: COVID-19 would moderate the association between lifestyle and OCD in adults.

Methodology

Research Design: Cross cross-sectional research design was used in the present study to ensure the predictable and generalizable outcomes by targeting the general population of Pakistan.

Sampling Strategy: A Convenient sampling technique was used in the present study by considering the availability and responsiveness of participants. Data was collected by using a Google Form created by different university groups for academic purposes.

Sample: Approximately 250-300 adults were selected as a sample from the general population of Pakistan based on a convenience sampling technique. Sample characteristics considered in this study include age, gender, education level, and marital status, changes in lifestyle due to the COVID-19 crisis, daily social media usage, and duration of social media use of participants. Data was analyzed inferentially to describe demographic characteristics of the sample (n =279). Results showed that 126 (45.2%) were male and 153 (54.8%) were female, with an average of 28.96(SD = 7.4) years of age. The education level of participants was Undergraduates 24 (8.6%), Graduates 72 (25.8%), and Post Graduate 183 (65.6%), while 174 (62.4%) were Single and 105 (37.6%) were Married. Fifty percent (50%) of the sample population was using social media for at least 3 hours daily, while the rest of them spent more than 3 hours. On the other side, 45% sample population reported that their lifestyle was affected by the COVID-19 lockdown period in both good and bad ways, and 42% reported that this change was moderate, 26% reported that the change was bad, and 48% said that the effect was normal.

Inclusion Criteria: The Age range of participants in each phase of this study was between 20 years to 40 years (Mean = 30.28, SD = 4.74). All the participants were literate and aware of social media usage. The selection criteria were set as use of social media for the past two years.

Assessment Measures

i. Demographic Information Form

A demographic information sheet was prepared that included data regarding participants' age, gender, education level, marital status, use of social media, etc. Some other questions relate to the lifestyle changes, i.e., "what kind of lifestyle are you living"? "Does COVID-19 affect your lifestyle"? "Change in your lifestyle due to COVID-19, and what kind of change it is (good, bad, etc.)"? and social media interactions, i.e., years of social media usage, daily and work time usage of social media, involvement in daily physical activity, time of social media use, etc.

ii. Assessment of Fear of COVID-19

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The survey used the Fear of COVID-19 scale (Ahorsu et al., 2020) to assess the fear of getting infected by the Coronavirus. Comprising 7 items, the scale is a reliable and valid measure (ref…). All 7 items used a 5-point Likert scale response format from 1 (not at all) to 5 (always happens to me). A composite score by adding all item scores represents a higher fear from a higher score. Internal consistency of the scale in the current study is very good (α = .82).

iii. Lifestyle Questionnaire

The COVID-19 effect on lifestyle was assessed by using five novel items related to the lifestyle with standard operating procedures to remain safe from COVID-19 during the lockdown period (Cronbach = .70). Respondents used Likert scales ("0 = never happens to me" to "4 = always happens to me" to respond to the stem. The items included "I wash hands my hands for at least 20 minutes after touching anything new in the house", "I always keep hand sanitizer with me", "I try to remain in my house and avoid going outside even for walk or sports activity", I wash all items come from the shop with soap or a detergent", and "fear persists always in mind that I will become the victim of COVID 19, if I will not follow these SOPs", "and "the COVID 19 has affected badly all areas of my life".

iv. Social Media Use Inventory (SMUI)

The SMUI (Munir & Mushtaq, 2021) is a self-reported scale with 19 items. It was used to identify individuals' perspectives about social media as a social support system in terms of Self-discloser, Social Integration, and Personal Growth. Items were scored on a 5-point Likert scale with responses 0 to 4 based on Strongly Disagree to Strongly Agree. Internal consistency of the overall scale for the present study was .97, which was very good. The composite score of the scale ranges from 0-76. The cutoff score of the scale is 38. Participants who scored above the cutoff score perceived social media as a reliable and good social support system.

v. Highly Sensitive Person Scale (HSPS)

Highly Sensitive Person Scale (HSPS) is a self-reported scale used to measure individual differences in Sensory Processing Sensitivity (SPS) among adults (Aron & Aron, 2007). It has 27 items weighted on a 7-point Likert scale. Each item was scored on a 7-point Likert scale (1 = not at all to 7 = extremely) in which a higher aggregated scale score of participants indicates a higher level of sensitivity. The internal consistency of HSPS for the current study was .98, which was very good.

v. Obsessive Compulsive Inventory-Revised (OCI-R)

The Obsessive-Compulsive Inventory ("OCI-R") is a shorter version than the OCI (Fao *et al.,* 1998). It's a self-report scale for OCD with 18 items. OCI-R is designed to evaluate the presence and severity of OCD symptoms. Participants' responses to each item were collected on a 5-point Likert format (0-4 points). Scale Score ranges between 0-74, and the composite score was used to indicate the presence of OCD in the participants. Participants who score 21 points or higher indicate the presence of OCD symptoms. In this study, Cronbach's alpha of the scale (α = .94) indicated a good internal consistency of the measure.

Procedure: After obtaining the required approval of the study from the Institutional Research Review Committee of Riphah University, permission was obtained from the selected scale authors for using the scales in the study. Data was obtained after obtaining consent from the participants in the Google form. Eligibility criteria, response format, and clear instructions were provided in the form. Confidentiality of their responses was assured, and anonymity was maintained. After completing the form, they were cordially thanked for their cooperation.

Data Analysis and Results: Before proceeding with final data analysis, the data were screened for outliers and missing values. The threshold selection, extreme value analysis procedure was

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adopted for identification and removal of outliers (Cabras & Morales, 2006). During missing data analysis, it was observed that none of the study variables had more than 3% missing data. Missing values were handled by adopting a single imputation method and using "replace missing values with series median". Initially, descriptive statistics (Means, SD, & alpha reliability coefficients) of study variables were generated (see Table 1).

Table 1: Psychometric Properties of the Major Study Measures (n = 279)

Scale	*k*	*M*	*SD*	*α*	Range		Skew.
					Potential	Actual	
LS	25	61.15	10.2	.74	0 – 4	.99 – 3.95	-.38
SMSSSI	19	38.28	17.8	.96	0 – 4	1.7 – 2.3	-.24
Ind_sen	27	94.6	41.5	.98	1 – 7	2.9 – 3.8	.50
OCI-R	18	29.26	15.5	.94	0 – 4	1.4 – 1.9	.04

Note; LS = Life satisfaction, SMU = Social media use, Ind_sen = Individual's sensitivity, OCI-R, Obsessive compulsive inventory-Revised, k = no of items

Bivariate correlation coefficients were computed for the demographics, which were assessed on a continuous scale. Pearson product correlation was conducted to examine the relationship between lifestyle, social media support, individual Sensitivity, and OCD in adults during the COVID-19 lockdown (n = 270). Data analysis revealed a significant (p = .01) positive correlation of lifestyle (LS) with social media support (r = .16**), individual sensitivity (HSP) (r = .36**), and with OCD (OCI-R) correlation was insignificant (r = .07).

Table 2: Correlation, Mean, and Standard Deviation for the scores on Lifestyle, Social Media use, Individual Sensitivity, and OCD in adults during COVID-19 (n = 279)

	1	2	3	4	M	SD
LS	-	.16**	.20**	.07	61.15	10.22
SMU		-	.36**	.35**	38.28	17.84
Ind_sen			-	.40**	94.65	41.49
OCI				-	29.26	15.47

Note: LS (lifestyle), SMU = Social Media Use , Ind_sen = Individual's sensitivity OCI-R (Obsessive Compulsive Inventory-R), **($p < 0.01$)

To explore the serial-multiple mediation of an individual's sensitivity and social media use in association between lifestyle factors and obsessive-compulsive disorder in adults, a regression-based method and bootstrap technique as suggested by Hayes (2012-13) was used. In this technique, non-standardized Beta coefficients are obtained to decrease the chances of Type 1 errors, which can happen due to distribution. Hence, the bootstrap approach was used to explore the indirect effects, which also controls the problems that occur due to resampling. Results are shown in Figure 1.

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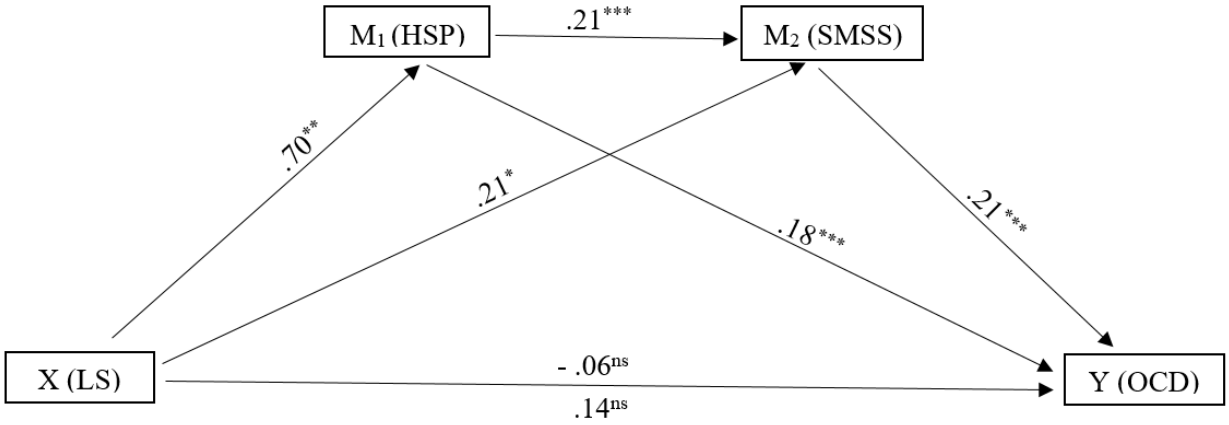

Figure 1 depicts the results that the total effect (c = -.06, SE = .10, t = -.55, p = .55) of lifestyle on obsessive compulsive disorder was not significant at the initial level (step 1). In the next step, the effects of independent variable (lifestyle) on individual's sensitivity (B = .70, SE .20, t = 3.40, p < .001) and social media (B = .21, SE = .12, t = 1.71, p < .05) were significant at the α.001 level of significance. The direct effect of the first mediating variable of an individual's sensitivity on the second mediating variable of social media use (B = .21, SE = .03, t = 6.95, p < .001) is also significant (Step 2). On the other hand, an evaluation of the direct effects of mediating variables on obsessive compulsive disorder, shows that the effects of individual's sensitivity (B = .21, SE = .03, t = 5. 51, p < .001) and social media use (B = .21, SE .05, t = 4.12, p < .001) were found to be significant (Step 3). When lifestyle and both mediating variables of an individual's sensitivity and social media use were entered into the equation at the same time (Step 4), the association between lifestyle and obsessive-compulsive disorder, in relation to direct effect, was not significant (c' = -.06, SE = .10, t = -.55, p = .579ns). Based on the present finding, it is examined that both mediating variables of an individual's sensitivity and social media use fully mediated the relationship between lifestyle and obsessive-compulsive disorder in respondents. The model overall appeared to be significant ($F_{(3, 270)}$ = .24.42, p < .001) and the model explained 21% variance in obsessive compulsive disorder.

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The comparative indirect effects of an individual's sensitivity and social media support on the association between lifestyle and obsessive-compulsive disorder are presented in Table 3. Among all three pathways between lifestyle and obsessive-compulsive disorder, the path through social media use was statistically significant, mediated by the mediator, with the confidence interval not containing zero. Hence, the rest of the two paths were found to be statistically significantly mediated by the mediators, with the confidence interval not containing zero.

Table 3: Bootstrapped results for the indirect effects of a fantastic lifestyle on obsessive-compulsive disorder

Model Paths	Effect	SE	Boot LLCI	Boot ULCI
Lifestyle → obsessive compulsive disorder				
Total indirect effect	0.2058	0.0681	0.0776	0.3387
Lifestyle → Individual's sensitivity → obsessive compulsive disorder	0.1276	0.0422	0.0501	0.2154
Lifestyle → social media use → obsessive compulsive disorder	0.1319	0.0320	0.0117	0.1206
Lifestyle → Individual's sensitivity → social media use → OCD	0.0984	0.0737	0.0287	0.5904

Note: Effect = Mediating effect value; SE = Standard error; Boot LLCI = Lower limit of bootstrap confidence interval; Boot ULCI = Upper limit of bootstrap confidence interval.

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Table 4: Summary of analysis of moderated mediation analysis of "W = Moderator, M = Mediator and X = IV, predicting Y = DV (Model 14 PROCESS Macro)

	Explained Variables					
	M = (Individual's sensitivity)			Y (Obsessive Compulsive Disorder)		
Model	B	SE	95% CI LLCI- ULCI	B	SE	95% CI LLCI-ULCI
Constant	14.13	14.80	14.98 (73.28)	iy → -11.43	11.73	-34.54(11.67)
Life Style	.82	.23	.35(1.29)	c' → -.11	.08	-.28(.07)
M (Individual's sensitivity)				b_1 → .72	.12	.4 (.96)
W (Fear of COVID-19)				b_2 → 12.86	4.23	4.53 (21.18)
M x W				b_3 → -.22	.048	-.316 (-.128)
	R^2 =	0.048			R^2= 0.210	
	F (df)	F(1,277)	11.95**	F (df)	F(4,274)	21.88***
Conditional Indirect Effect						
	W (Moderator)	B	SE	T	95% LLCI	95% ULCI
	Low (-1 SD) = 2.01	.229	.071	8.656***	.214	.340
	Moderate = 2.48	.172	.043	8.371***	.132	.213
	High (+ 1 SD) = 2.95	.070	.026	2.358*	.011	.125
Index of Moderated Mediation	Index (Moderator)	BootES	BootLLCI	BootULCI		
	-.184	.068	-.330	-.063		

Note: Coeff. = coefficient, SE = standard error, CI = confidence interval. 95% confidence interval for the conditional direct and indirect effect using bootstrap. Bias corrected (BC). *p <0.001.

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Process macro (model 14) was used to test the conditional indirect effects of lifestyle on OCD through fear of COVID-19. The current research estimated a regression model and the index of moderated mediation as recommended by Hayes (2015). To test the impact of fear of COVID-19 on OCD was determined by the interaction between the individual's sensitivity (mediating) and lifestyle (moderating) variables. Results in Table 1 indicate that the overall model was significant, $F(4,274) = 21.88$, $p < .000$, with a value of $R^2 = 0.24$. The results also depict one significant interaction between an individual's sensitivity and OCD (b_3 -0.22, SE = 0.048, $p < 0.001$, 95%CI = -0.316 to -0.128). More precisely, the fear of COVID-19 significantly moderated the association of lifestyle with OCD. The moderating variable, fear of COVID-19, affects the path of the mediation model, which supports the finding that the indirect effect of fear of COVID-19 on OCD through an individual's sensitivity depends on the lifestyle in adults. Lastly, the index of moderated mediation was positive with 95% CI (-0.330 to -.063). As can be seen in Table 2, the confidence interval does not contain zero value; therefore, it can be concluded that the indirect effect (through an individual's sensitivity) is positively moderated by the COVID-19 effect on lifestyle, which supports the research hypothesis that the COVID-19 effect on lifestyle would positively moderate mediation in the association between lifestyle and obsessive-compulsive disorder in adults.

Fig. 2 shows the effect (interaction) of an individual's sensitivity on obsessive compulsive disorder, moderated by lifestyle after COVID-19

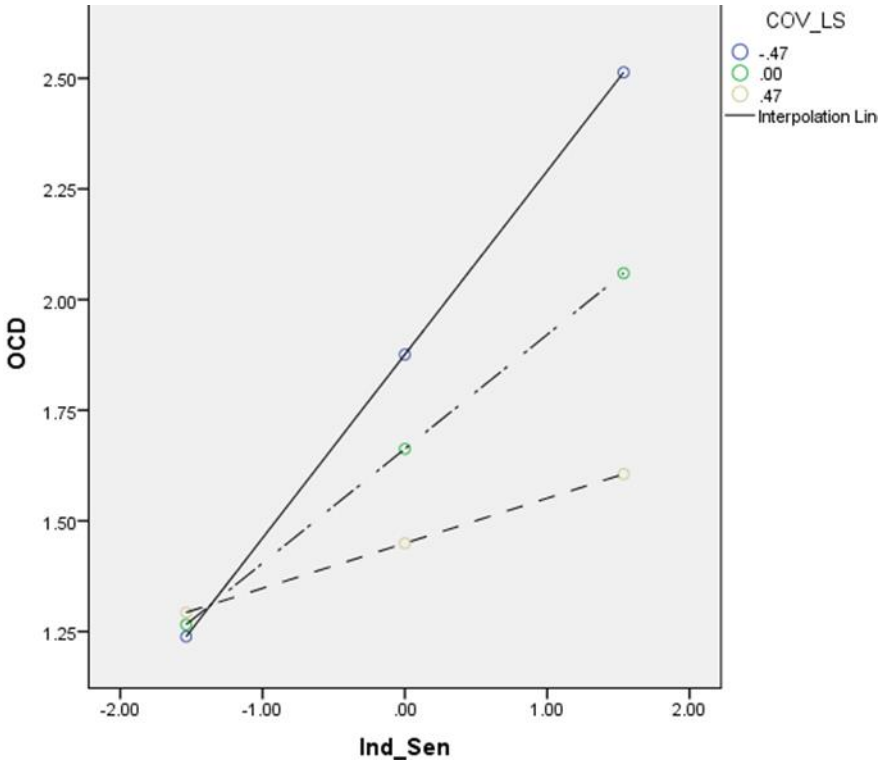

Figure 2 depicts that in adults with a higher COVID-19 effect on lifestyle, an individual's sensitivity strongly predicts obsessive compulsive disorder than those with lower COVID-19 effect

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on lifestyle levels, for whom an individual's sensitivity weakly predicts obsessive compulsive disorder, thus favoring the synergic view.

Discussion

The main objective of the current study was to assess the direct and indirect, and moderated relationships between fear of COVID-19, lifestyle, social media use, individual sensitivity, and obsessive-compulsive disorder in adults. For this purpose, lifestyle was taken as an independent variable. The scores on the individual sensitivity were found to be highly and invariably strong (all the participants reported a constant response of the highest sensitivity) to were included as a mediator variable in the study. Evidence for the strong impact of COVID-19 on individual sensitivity is not available in the literature; however, many studies have reported the relationship between COVID-19 and mental health in various populations and various countries (Gao et al., 2020; Schimmenti et al., 2020). The high lifestyle during the COVID-19 pandemic was significantly associated with higher levels of social media use, individuals' sensitivity, and obsessive-compulsive disorder outcomes (French & Lyne, 2020). High individual sensitivity and social media use were positively associated with somatic symptoms, anxiety, and depression, but not with stress scores.

More specifically, results from serial mediation analyses indicated that (a) lifestyle appeared as a stronger predictor of obsessive compulsive disorder by social media use and sensitivity, (b) the second serial mediation analysis showed that both hypersensitivity and social media use fully mediated the association of lifestyle with obsessive compulsive disorder.

To the best of our knowledge, this is one of the first studies to examine the association of lifestyle during COVID-19, with an individual's sensitivity and social media use with obsessive compulsive disorder in a sample from a developing country such as Pakistan. This finding can be explained in another way: As the different waves of COVID-19 continue and take a heavy toll on lives, they may cause high sensitivity and susceptibility in adults. As described by Aron and Aron (1996, 2004), highly sensitive people are about one-fifth of the general population, and they are easily affected by their external environment. COVID-19 fear, the lifestyle introduced by the pandemic, and he poor mental health that accompanies it, also mean adults will face an uphill battle to recover from this public health crisis (Fitzpatrick, Harris, & Drawve, 2020). For instance, evidence from a recent survey reported that nearly half of the adults surveyed indicated their mental health was being drastically affected because of fear and anxiety caused by the pandemic (Kaiser Family Foundation, 2020).

Direct Relations Between Lifestyle and Obsessive Compulsive Disorder

The results from this study found nonsignificant associations between lifestyle and obsessive-compulsive disorder. At the same time, individual sensitivity and social media use have a significant positive association with obsessive-compulsive disorder. The findings are consistent with those of many previous studies (e.g., Mertens, Gerritsen, Duijndam, Salemink, & Engelhard, 2020), which reported that fearful situations, uncertainty, and lack of stability (elements within a pandemic) are negative correlates of good mental health and well-being. Similarly, the fear of COVID-19 changed the lifestyle altogether, which increased the levels of OCD in adults (Huang et al.,2020; Williams et al., 2006). The present findings add a new dimension from the perspective of the South Asian middle-aged adult population on the fear of the COVID-19-OCD link, as most of the previous data comes from Western and Chinese populations and is generally focused on mental health, only by taking different variables of mental health. By using the fear of COVID-19 scale, the purpose was to assess the fears, worries, and anxieties related to the new pandemic, which was unprecedented in the recent history of the modern world. Many other studies have

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reported a high prevalence rate of mental health problems due to this pandemic. Hence, it is expected that this fear augments the individual's sensitivity and use of social media as well as mental health issues worldwide (Mertens et al., 2020). The findings are notable in that the current study has used specific factors of OCD, that is, lifestyle, individual sensitivity, for a comprehensive assessment of mental health as suggested by literature (Ornell et al., 2020), rather than using mental health problems as a general term (Trnka & Lorencova, 2020). Though the current study concluded that lifestyle had a significant relationship with OCD, it is worth mentioning that lifestyle, individual sensitivity, and social media use as significant predictors of OCD in adults.

Indirect Relations Between Lifestyle and Obsessive Compulsive Disorder Outcomes mediated by Highly Sensitive Person and Social Media Use

A second objective of the study was to assess the mediating roles of individual sensitivity and social media use and obsessive compulsive disorder link. Research has shown that individuals who score high on measures of high sensitivity are at increased risk for the development of anxiety and mood disorders, including OCD (Aron, 1996). This may be due, in part, to the fact that highly sensitive individuals are more sensitive to potential threats and may be more prone to worry and rumination.

While more research is needed to fully understand the indirect relationship between lifestyle and OCD outcomes, it is clear that factors such as high sensitivity and social media use may play a role in the development and maintenance of OCD symptoms. It is important for individuals with OCD, as well as their loved ones and mental health professionals, to be aware of these potential mediators and to consider them when developing treatment plans and strategies for managing the disorder (Shuja, Aqeel, Jaffar, & Ahmed, 2020).

Corroborating the current findings, Benham (2006) found that sensitivity correlated with a wide range of physical health problems. A possible explanation for the positive relationship between sensitivity and OCD is that highly sensitive people are more sensitive to and aware of somatic sensations, paying attention to minor changes that others may not notice. This explanation corroborates the hypervigilance model of sensitivity (McDermid, Rollman, & McCain, 1996), which suggests that fear in these people has a heightened sensitivity (e.g., low threshold and tolerance). This sensitivity, the model proposes, stems from their being more receptive to external stimuli. Since they worry more about internal fear, this worrying might tempt them to interpret small cues as an indicator of coronavirus (Wyller et al., 2017). Also, environmental reasons may explain a comparatively strong mediation effect of sensitivity on the relationship between social media and OCD in light of previous literature documenting the importance of the environment in explaining sensitivity (Wyller et al., 2017; Shuja, Aqeel, Jaffar, & Ahmed, 2020). The current sample was collected from a metropolitan city where people are highly interconnected with global issues. Moreover, their extensive exposure to social media has sensitized them to the devastating effects of the current pandemic. Therefore, future research in this area is warranted to replicate the mediating roles of individual sensitivity and the OCD link among different age groups (adolescents, emerging adults, and older adults).

The present findings contribute knowledge by adding that COVID-19 continues to moderately mediate the connection between lifestyle and individual sensitivity while the COVID-19 pandemic is still going on and lockdowns are imposed again, keeping people away from social interaction. Notably, although there was an increase in the total effect of COVID-19 on OCD remained consistent in the regression model, the effect of COVID-19 remained a significant predictor. That suggests that although FOC partially explains this effect, the larger driving force is on individual sensitivity and OCD. The mediating effect of hypersensitivity seems robust,

particularly in the current study, for many reasons, of the most important are the sample demographics, including age, living in a collectivistic culture of the joint family system (more residents with less space), and their use of social media through various applications cannot be undermined. The current study uses a sample of adults who are at a sensitive stage of either career making, relationship problems, or other emotional health problems. Unfortunately, fear might have caused more harm to this population than any other population.

Hence, sensitivity fully mediated the effects of individual sensitivity and social media use, and OCD symptoms. Notably, this pattern of mediation was unique, highlighting the importance of the hypersensitivity variable. Contrarily, most of the previous literature have addressed mental health problems as a consequence of the fear of COVID-19 (Stein, 2020), but only one study has supported the role of sensory sensitivity of the environment in arising fears regarding possible infections and death due to COVID-19 (Wyller et al., 2017), the current findings still hold unique by addressing the personality trait of sensitivity.

Limitations, Strengths, and Future Directions

Certain limitations should be considered when interpreting the findings and implications of this study, all of which guide future investigations. First, although the assessment of meditational models is guided by and supports the directional effects as conceptualized by the hypervigilance model and Aron and Aron's (1997) theory of sensitivity, the correlation study design limits our ability to draw causal inferences. It is suggested that potential mediators should be assessed along with psychosocial resources in a multi-mediation model to assess which variables are powerful mediators of the link. Third, as suggested previously, future research should be conducted to examine the moderated mediated correlation between fear of a pandemic, individual sensitivity, social media use, and OCD across different age groups, different countries, different cultures, and across individuals with different socioeconomic statuses. Finally, a positive correlation between study variables may likely be the result of common method variance or social desirability bias. However, several methodological remedies, including obtaining different scales from different sources, counterbalancing scale order, and protecting respondents' anonymity, have been used in the study to control for this error.

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Declaration of interests

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