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The moderation impacts of psychosomatic inflexibility and hypersensitivity towards uncertainty on the correlation between quarantine phase and emotional and psychological well-being during COVID-19.

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ABSTRACT

Purpose: Present study was an empirical attempt is to examine impacts of psychosomatic inflexibility and hypersensitivity towards uncertainty on the correlation between quarantine phase and emotional and psychological well-being during COVID-19.

Methodology: A survey research was conducted among the targeted set for the collection of data. The sample of the current study comprised of students and working individuals (N = 300). Sample was approached using convenience sampling technique. Depression anxiety stress scale (DASS), Valuing questionnaire (VQ) and WHO-5 Well-being Index were used to measure the relevant constructs. Analysis involved frequency, distributive, correlation, regression and moderation analysis to examine the required relationship between the constructs.

Findings: Correlation analysis showed that those individuals have high level of psychological inflexibility and uncertainty as they scored high on DASS and low on VQ and WHO 5 scale. In the end, limitations, suggestions, and practical implications have also been thoroughly discussed.

Keywords: *Psychological inflexibility, uncertainty, COVID 19, psychological and mental well-being.*

1. INTRODUCTION

In 2019, Wuhan, city of Hubei province of People's Republic of China got infected with COVID pandemic, a type of atypical pneumonia, which became a threat to entire world (Wang C, et al. 2020), Which was substantially an intense outburst of any illness after SARS (2000) resulting in devastating numbers of active cases and deaths around the globe. (Hawryluck L, et al. 2004). Till today, the northern part of the globe is mainly affected. (Kotta I) After the sudden outburst, Chinese healthcare authorities and government took serious steps to investigate about the characteristics of the virus and how to control its spread. Those steps include isolation of suspects, thorough observance of human proximity, epidemiological as well as clinical statistics from infected patients and initiation of diagnostic and therapeutic approaches. Till 7th of January, 2020 lab pathologists identified and isolated the culprit of infection, a novel COVID-19 virus in patients. (Wang C, et al., 2020) Alike SARS, COVID-19 is a highly transmissible beta-corona virus supposed to be spread via intermediary host like bat, seafood (Paules, et al.) due to being discovered in Chinese seafood wholesale market primarily, but in fact, it's transmitted by the inhalation of virus-loaded respiratory droplets (Wang C, et al., 2020).

COVID-19 spread is more likely a fusion chain reaction in which 1 infected people can infect up to 4 further persons (Kotta I) so the risk of spread is much higher. (Wang C, et al., 2020) The initial encounter with the virus can be asymptomatic, but can produce nonspecific symptoms of mild febrility, chill, dry cough, sore throat, coryza, shortness of breath, myalgia, malaise, nausea, emesis, diarrhea, and many other atypical symptoms reported. (Wang C, et al., 2020) Upper respiratory tract infection symptoms like runny nose, nasal congestion and sneezing are atypical and not observed. (Wang C, et al., 2020) Severe cases can bring about respiratory failure, acute respiratory distress syndrome (ARDS) and ultimately demise. Upon the revelation of COVID's first wave, world health organization declared worldwide public health emergency (Wang C., 2020) and the government of every other state implemented multiple health guidelines (Kotta, 2021) and decreed to implement partial or complete, if required, lockdown by increasing stay at home, work from home (Wang C, et al., 2020) if employed yet, (Leigh-Hunt N., et al., 2017) social distancing and banning social gatherings to retard the transmission of the virus. Nationwide lengthy lockdowns had been implemented by restricting transportation and incarcerating people in home, isolating them socially and cutting them off from typical sources for prevention of exponential infection spread (Leigh-Hunt N., et al., 2017; Pakenham K. & Wang C., 2020). Prevention at individual levels has been the best choice of pandemic control (Kotta, 2021).

For this purpose, quarantine centers were established. Quarantine not only isolates infected or exposed people from public but also the person at-risk of developing infection. (Hawryluck L, et al., 2004) In the context of today's reports, the entire globe got hit by the second wave of COVID-19, more severe and more damaging one. (Wang C, et al., 2020) But in current scenarios, lockdown has mainly been lifted, but still social gathering and businesses are restricted. Extensive and long-running restrictions of social interactions are monstrous in today's era and can cause potentially deleterious impacts on the individual's mental health and emotional well-being. Social isolation is stated precisely as "an objective lack of interactions with others or the wider community" (Leigh-Hunt N., et al., 2017) and collaterally comes up with mental health issues, including psychological distress (Espinosa A., et al., 2020), declined health (Liao K.Y.-

H., et al., 2018) and depression, (Santini Z.I., et al., 2015) especially in older adults. (Taylor H.O., et al., 2018) Similarly goes for quarantine. Staying in quarantine phase during illness provides safety to general public but comes up with the many negative health outcomes and affects the individual psychologically, emotionally and financially. (Hawryluck L, et al., 2004)

Evolving and uninterruptedly progressing pandemic and resulting lockdown give rise to a frightful condition and an uncertain and unforeseeable scenario leading to disturbing mental health status (Xiang, 2020). Literature has disclosed the intense and extensive ranging psychological impacts on humans at personal, social or international levels. Every single person is frightful in fear of catching vision, uncertainty of falling ill or dying. (Hall, et al., 1995) Lockdown or shuttering of businesses induces negative emotions and stressed people in the long run by making them anxious about their future health and financial doubts. (Van Bortel, 2016) This anguish is inflamed more and more by false and contradictory information about infecting agent, unavailability of treatment and medication or vaccine, news about deaths, active cases, overly accommodated health care centers and much more false information about endemic. Intrinsic stress factors such as incarceration, social separation, unemployment, participation restriction and weariness (Pakenham, 2020).

Psychological flexibility is an interpersonal as well as intrapersonal mastery of an individual to change or persist in some behavior. It is considered to be foundation of emotional and mental wellbeing due to its resilience property. An individual molds his behaviors while compromising his values to adapt according to changing circumstances. (Pakenham, 2020) It's a possible method of alleviating mental abnormalities by emphasizing on psychological experiences rather than changing them which would be arduous. Instead lead them to act accordingly meaningful goals of life. External and uncontrollable circumstances can cause psychological distress. Six therapeutic approaches encourage psychological flexibility, 1. Affirmation (receptive to intrinsic experiencing), 2. Defusion (observation of emotions and notions while being detached) 3. Instantaneous Awareness (consciousness at some instant), 4. Self-as-context (awareness of self-perspective), 5. Values (attachment with set values), 6. Commitment (actions guided by values) (Pakenham, 2020).

Conversely, psychological inflexibility is considered as stubbornness of an individual in response of psychological experiences, not lining up with the person's defined values resulting in psychological distress and dysfunction (Smith BM, et al., 2020). The resulting behavior of an individual would be rigid and reactionary against unfavorable and undesirable circumstances. Similarly, six approaches encourage psychological inflexibility (Pakenham, 2020). One of the patterns displayed is 1. Experiential avoidance (Hayes S.C., et al.) termed as avoidance of unfavorable and troublesome psychological experiences though problematical. (Lee J.K., et al., 2010) 2. Fusion (immersion in negative feelings and thoughts instead of setting them free), 3. Self-as-content (rigidly attached to one's concepts), 4. Moment unawareness, 5. Detachment with values, 6. Passivity and haste (Pakenham, 2020).

An individual responds to any existing threat by a protective reaction called fear. This response is often accompanied by adrenaline rush, a powerful physiological response of human endocrine system. It includes increased BP, increased muscle tension etc. while anxiety is a response of human body to any threat whose occurrence is not confirmed yet. An individual responds to any negative happening by worrying about it, thus heighten the levels of anxiety. Tolerance of a

person to uncertainty is depicted by his reaction towards the recurrences of impacts as how much he will worry or be anxious. High levels of hypersensitivity towards uncertain situations diminish problem solving abilities leading to passivity and nullifying uncertain situations. (Carleton RN, et al., 2007).

Emotional repression and intolerance towards uncertainty are also depictions of experiential avoidance or psychological inflexibility that emphasize on inflexible emotional check and trouble while accepting uncertainty. During COVID-19 epidemics, uncertainty and emotional experiences intensified. One of the best examples in today's situation is quarantine. Quarantines had been widely used since centuries to suppress and limit the dissemination of communicable diseases including, cholera, influenza and plague. Quarantines have been condemned all these years due threats, fear, ignorance, financial deprivations as well as insurgence of people against management (Hawryluck L, 2004). A therapeutic technique known as Acceptance and commitment therapy (ACT) is used to increase psychological flexibility (Smith BM, et al., 2020). This technique involves acceptance of present and adjustment of changing circumstances that are in alignment of personal values. This technique has been widely used is psychological treatments and recovery of disaster survivors such as war refugees (Pakenham. 2020).

1.1. LITERATURE REVIEW

Various global infectious disease epidemics in history such as, SARS (2000s) and H1N1 (2009), got the attentions of researchers to scrutinize their impacts on psychological and emotional wellbeing of the affected population. Throughout the SARS outbreak, mental health traits were studied among different populations such as anxiety, fear of contamination, depression and quality of sleep in Chinese students, Canadian health workers and Taiwanese nursing personal respectively (Wang C, et al., 2020). Anxiety, (Wheaton MG, et al., 2012) stress of afflicted beloved, (Elizarrarás-Rivas J, et al., 2010), readiness and precautionary measures was studied during the H1N1 pandemic (Prati G,2011). The response factor of fear of catching the virus was studies in Influenza pandemic (Rubin, 2010). During SARS pandemics, many studies were conducted on infected as well un-infected populations. Significant psychological disorders were revealed to be correlated with young age and self-criticism (Sim, 2010). Highly educated, anxious females with high risk perceptions of SARS and positive SARS medical history were revealed to be more cautious against infections in a study (Leung, 2003). Raised levels of depression, anxiety and mental stress in the Chinese citizens were revealed in studies (Wang, 2020). A study on Turkish adults reported association of intolerance of uncertainty with low wellbeing (Satici, 2020). According to study by Qiu et al (2020) and Wang Zhang Zhao, Zhang & Jiang (2020) nationwide lockdown in China resulted in peri-traumatic distress, moderate-to-severe depression and anxiety. A study conducted by Italian researchers Rossi et al (2020) found high levels of anxiety, stress, sleep deprivation and adjustment disorders (Pakenham, 2020). The depression and anxiety rate is three folds in 2019-2020 according to the U.S census bureau (Twenge, 2020). A strong association and direct relationship between social isolation and social phobia has been inferred in a systematic review (Teo, 2013). In another systematic review, a direct association between social isolation and mortality has been revealed in mediation of CVD and devastated mental health (Leigh-Hunt N., et al., 2017).

ACT has been widely used therapy in mental health arenas especially occurring due to uncontrollable external circumstances, for example, persistent illness and cancer (Hann K.E.J., et

al. 2014; González-Fernández S., et al. 2019). Currently, the existing situation of COVID-19 is also an uncontrollable external factor (Pakenham, 2020) helped researchers of Italy in revealing the moderation effect of psychological flexibilities on mental health. Depression, anxiety and social isolation stress can be mitigated by psychological flexibility while psychological inflexibility aggravate them, is revealed in literature (Waldeck D. et al., 2017).

Psychological flexibility revealed to increase the pliability, support the mental and emotional well-being, impose the moderation impacts on association between social isolation and mental well-being absorbing negative effects in Pakenham et al's study (2020) (Kotta I) and smith et al (2020) study. (Smith BM, et al.) In studies conducted by Polizzi et al., (2020); Presti et al., (2020); Landi et al, (2020) It is considered to be one of the powerfully effective therapeutic approaches to address mental health issues caused by social isolation implemented during COVID-19 pandemic (Kotta, 2021) and promotes long-lasting adaptation by implementing coping strategies explained in Dawson & Golijani-Moghaddam (2020) study. Psychological flexibility, not being a coping strategy, but assists individual to choose a fitter coping strategy for adaptation and lowering the chances of infection and mental health morbidities (Dawson, 2020).

Abramowitz, Brigidi & Foa (2003) has identified extreme distress and anxiety as the diagnostics of several psychological morbidities such as generalized anxiety disorder, OCD, and panic disorders. Heydayati et al (2003) stated in their study that the there's no way to predict any event to be negative but the person with intolerance towards uncertainty will predict any event harmful. This will make them anxious causing a physiological response of fight and flight. A scale naming intolerance of uncertainty scale (IUS) was designed to measure levels of intolerance towards uncertain situations by (Freeston et al 1994; Carleton RN, et al. 2007).

Gloster et al (2017) concluded in his study that psychological flexibility moderates the relation among stress and emotional health in public and negative impacts of life traumas and depression, studied by Fonseca, Trindade, Mendes, & Ferreira, (2019). Stabbe et al (2019) revealed that high levels of psychological inflexibility causes mental morbidities and predicts turmoil and emotional illnesses (Pakenham, 2020).

Previous studies clearly indicate current situations created due to COVID-19, increases social isolation, which is possibly exacerbating the negative health issues. Taken this together, psychological inflexibility and intolerance of uncertainty particularly catches the attention of psychologists and clinicians. Various studies have reported that Uncertainty and unpredictability of current circumstances has enhanced the levels of emotional and mental stress among individuals (Kotta, 2021). For this, the possible protective factors for mitigating these consequences of social isolation during COVID-19 lockdown should be studies (Smith BM, et al., 2020).

1.2. OBJECTIVES OF THE STUDY

The objectives of the study were;

1. To inquire the consequences of psychological inflexibilities and intolerance of uncertainty and regulation of emotions via suppression.

2. To correlate social isolation and negative mental such as depression, anxiety and mental stress, as well as positive mental health upshot like emotional wellbeing and cherished livelihood during confinements of COVID-19 pandemic.
3. An accompanying objective was to recruit the mental health predictors.

1.3. HYPOTHESIS

“Social isolation leads to negative consequences which exacerbates psychological inflexibility and intolerance towards uncertainty”

2. METHODOLOGY

Total population size of current cross-sectional study was 300. Undergraduates as well as professionals were part of the study. They'll be recruited via snowball sampling.

Individuals of 18 or greater age group, both male and female, fulfilling the definition of literacy and having access to the online survey was included.

2.1. DATA COLLECTION TOOLS

1. General demographic questionnaire
2. Depression anxiety and stress scale (DASS-21)
3. Valuing questionnaire (VQ)
4. World Health Organization Well-being index (WHO-5)

2.2. DATA COLLECTION PROCEDURE

Individuals fulfilling the inclusion criteria were included in the study via snowball sampling. Data was collected via emails, and social media websites. The questionnaire was uploaded online. Therefore, before filling questionnaires, the purpose of the study was explained and consent taken.

2.3. ETHICAL CONSIDERATIONS

- Informed consent will be obtained from participants.
- Study will cause no physical or emotional harm to any of the participants.
- Data will be kept confidential and will not be disclosed to anyone.
- Autonomy and confidentiality of any participant will be respected and protected.
- Maximum benefit and minimum harms of risk will be given to the participant.
- Right to withdraw from the study anytime will be given.
- Study will be fair with all participants and provide equal quality to everyone

RESULTS

Table 1

Frequency and percentage of participants (N=300)

Demographic variables	<i>f</i>	%
Gender		
Male	228	76
Female	72	24
Qualification		
Undergraduate	159	52.6
Graduate	129	42.7
Post graduate	12	4.0
Profession		
Student	237	78.5
Working	63	21.5
Age		
18-22	33	10.9
23-27	195	64.6
28-32	74	24.4

Table 1 shows frequency and percentage of participants with respect to gender. Male ($f=228$, 76%) were greater in number than female ($f= 72$, 24%). Undergraduate were greater in number ($f= 159$, 52.6%). There were more students ($f = 234$, 78.5%) than working.

Table 2

Psychometric properties of study variables (N =300)

Variables	<i>n</i>	M	SD	α	Range		Skewness	Kurtosis
					Potential	Actual		
DASS	300	30.38	3.48	.92	0-3	3-9	-.166	.113
VQ	300	41.22	3.88	.91	0-6	6-36	-.185	-.416
WHO	300	17.84	2.26	.78	0-5	5-25	-.200	-.331

DASS = depression anxiety stress scale, VQ = value questionnaire, WHO = world health organization

Table 2 shows psychometric properties of study variables. The reliability analysis indicate that the reliability coefficient of DASS is .92, which has excellent internal consistency. VQ has coefficient .91, which also indicates excellent internal consistency. Reliability coefficient of WHO is .78, which indicates satisfactory internal consistency. The value of skewness and kurtosis for depression anxiety stress scale, value questionnaire, world health organization are less than 1 which indicates that univariate normality is not problematic.

Table 3
Pearson correlation among study variables (N = 300)

Variables	DASS	VQ	WHO
DASS	-	-.08*	.219**
VQ	-	-	.154**
WHO	-	-	-

* $P < .05$, ** $P < .01$, *** $P < .001$

Table 3 shows Pearson correlation among study variables. The findings indicates that DASS has significant positive correlation with VQ ($r = .08$, $p < .05$), and WHO ($r = .219$, $p < .01$). VQ has positive correlation with WHO ($r = .154$, $p < .01$).

Table 4
Mean standard deviation and t-values for male and female on DASS, VQ and WHO.

Variables	Female		Male		$t(298)$	95% CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		LL	UL
DASS	30.25	3.66	30.79	2.84	7.96	-1.46	.386
VQ	41.34	3.94	40.83	3.69	10.41	-.524	1.54
WHO	18.09	2.11	17.04	2.55	8.36	.45	1.64

Results in table 4 shows the mean, standard deviation and t-values of male and female of depression, anxiety, stress, value and health outcomes . Male have slightly higher score on self-esteem and aggression as compare to female.

DISCUSSION

This research was conducted to explore the impacts of psychosomatic inflexibility and hypersensitivity towards uncertainty on the correlation between quarantine phase and emotional and psychological well-being during COVID-19. Furthermore, meditational role of social isolation was also investigated in relevance of the psychological inflexibility and hypersensitivity during the pandemic of Covid-19. The sample was comprised of the students as well as working individuals. The psychological inflexibility is measure in terms of anxiety, stress and depression due to ongoing critical situation of the pandemic and the fear which is generated in the individuals facing the pandemic as front line warriors and also working in other domains as well as the students whose studies are suffered a lot during Covid-19. Talking about the results, the

correlation and prediction values for DASS scale are significant and prediction the level of stress, anxiety and depression in the population due to havoc of this disease.

Mainly the study aimed at exploring the hypothesis that the social isolation is causing the inflexibility and uncertainty among the population, which leads to further negative symptoms. It is obvious from the present situation that the spread of this frightful disease is enormously high, causing greater risk to all age group individuals. To avoid the spread and the fatal effect of the disease, the lockdown is held as a preventive measure to stop this outflow spread of this virus. The lockdown is providing individuals with the opportunity of spending quality time with family, friend and relatives, on other hand this lockdown is also leading towards uncertainty as the earning of most of the private sector population is greatly affected by the disease and which is creating panic, anxiety, stress and depression in the individuals, this fact is also supported by the empirical support. A study conducted by the Patel et al., 2020 concluded that COVID-19 is likely to have increased distress for people. First, adapting to increased hygiene and sanitation recommendations, social isolation and social distancing will have broken the daily routines of people, causing distress. Second, the uncertainty surrounding COVID-19 and the constant stream of new information could overwhelm people, increasing distress. Third, caregivers were unable to give warning signals of impending change, which normally allow people to respond to change better and with less resistance. The absence of these warning signals due to the immediate (rather than gradual) enforcement of lockdown, would have led to people experiencing greater levels of distress.

Another study explored that If social uncertainty continues for an extended period, the teachers' concerns for their students' mental and physical well-being may take a toll on their own mental health and long-term commitment to the profession (Dornyei & Ushioda, 2011), which in turn can negatively affect student well-being (Han & Yin, 2016).

The COVID-19 pandemic is an ambiguous, complex, and constantly changing situation for organ recipients. There may be concerns about vulnerability to become infected with the virus, risks to the graft if they do, potential severity of the illness experience due to their reduced immune system, and chances of recovery and/ or mortality. There may be uncertainty regarding access to health care or reachability of professionals for advice, interpretation of the restrictions, safety measures in the hospital, and risks if one needed to be admitted. Information on these issues may be splintered or contradicting. Misinformation via (social) media has the potential to further exacerbate concerns. Therefore, uncertainty during the pandemic means that the situation is no longer predictable or structured. There is, therefore, a loss of coherence which can be a source of psychological distress.

LIMITATIONS AND SUGGESTIONS

The current study has certain restraints that must be seen cautiously in the upcoming studies.

In this research data was collected from a small sample. The sample was taken from limited locale. Generalizability of the results of this study might be low due to small sample size, therefore the researcher targeted and took large sample.

In the present study variables were explored quantitatively so depth of insight is lacking. It is suggested that the future researchers should try to explore these variables both qualitatively and quantitatively to get an in-depth insight.

In the present study responses were based on self-report measures, in which the respondents might not give true responses due to social desirability. So it is suggested that in future researches both self-report measures and observer-report measures should be used in combination to overcome this limitation.

With all these limitations, the study is still worthwhile to understand the role of social isolation and its affect in Covid-19.

IMPLICATIONS

These findings may help the counselors in increasing awareness about facts of covid 19 in the general population.

The findings of this study may be beneficial for the counselors, practitioners, parents and future researchers to keep these findings under consideration while planning, interventions, strategies, awareness, programs or research for this pandemic condition.

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