

Research Paper

## Loneliness During the Covid-19 Pandemic: Moderating Effects of Extroversion and Introversion

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### ABSTRACT

Individuals were faced with a variety of challenges during Covid-19, one of which was adjusting to the "new normals" of the lockdown. The current study examines the moderating effects of extraversion and introversion on two dimensions i.e., loneliness and covid related anxiety. A total of 139 participants between the ages of 18 and 25 years old were considered. 60 men and 79 women were selected using convenience sampling. McCroskey Introversion Scale, UCLA loneliness Scale and SAVE-6 scale were used to assess extraversion, loneliness and covid-19 related anxiety for the participants. The relationship between variables was determined through the Pearson's Product moment correlation. The findings suggest that people higher on the extraversion were less likely to experience loneliness than introverts. No correlation was found between the two personality traits and covid-19 related anxiety. t-tests were conducted to check any gender differences on the three scales however, no significant differences were found.

**Keywords:** Covid-19, Introversion, Extraversion, Loneliness, Anxiety, Personality.

The Coronavirus disease (COVID-19) was proclaimed as a pandemic by WHO on the 11th of March 2020. It is an infectious disease spread by the transference of SARS-CoV-2 virus, chiefly through droplets of saliva or particles discharged from the nose when an infected person coughs or sneezes. Owing to its highly contagious nature, self-isolation and lockdown became a norm across countries. This meant stringent social restrictions, limiting people to government-regulated guidelines for socialisation.

Our personality plays a key role in predicting an individual's experiences in various situations. Over the years, personality psychologists have conceptualised personality into various theories, each having its own strengths and weaknesses. Psychologists have used personality traits to measure individual differences that arise in behaviour and use these to understand and predict a person's behaviour. One such widely discussed trait is that of introversion and extraversion. They were introduced to psychology by Carl Jung. Jung conceptualised them as, everyone having both the traits, but one being dominant over the

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other. Other than Jung, the concept on extraversion and introversion was also discussed in the works of Hans Eysenck's three-factor model (1967), Raymond Cattell's 16 personality factors (1965), the Minnesota Multiphasic Personality Inventory (1982), the Big Five Model of personality (1949, 1967, 1981, 1987), and the Myers–Briggs Type Indicator (1962).

Traditionally, introverts have been described using adjectives such as “inhibited,” “reserved,” and “undemonstrative” while extroverts have been described as “outgoing,” “friendly,” and “enthusiastic” (Wei, 2020). Extraversion as a trait, can be understood as obtaining gratification “outside oneself”. Extraverts are enthusiastic, talkative, assertive, and gregarious, and they enjoy human interactions. Extraverts enjoy being around other people. Extraversion has been linked to engaging in and enjoying social interactions and participating in social activities (John et al. 2008; Srivastava et al. 2008, Lee et al. 2008). On the other end of extraversion lies introversion. The interests of people with introversion as a dominant force lies “inwards”. Introverts feel more at ease when they are socialising in small groups with people they know (Waude, 2017). Being high on introversion does not correspond to a person being shy. Introversion may be seen as a person’s preference to avoid excess socialisation whereas shyness may arise from distress.

COVID-19 pandemic brought with it a plethora of challenges to be faced by us, as a society. This not only included the medical emergencies but also included its impact on our mental well-being. Two facets which may have been affected by isolation and fear of the disease are loneliness and anxiety.

Human beings are social creatures. It is described by a feeling of distress caused by a discrepancy between one’s desired level of social relationships and relatively low level of actual relationships in their life (Shovestul et al., 2020). Loneliness was on the rise even before the pandemic enforced social isolation on all. For example, in 2004, India reported that 4.91 million people in the country were both lonely and alone (Bubna, 2020). More recently, the Centre for the Study of Developing Societies (CSDS) reported that 8% of Indian youth reported feeling lonely on a regular basis (CSDS et al., 2017). Loneliness arising due to social isolation during the Covid-19 pandemic has also been associated with Covid-19 related anxiety (Gaeta, 2020). Covid-19 anxiety includes feelings of fear or apprehension towards the disease.

A cross-sectional study examined how neuroticism, emotional regulation, and extraversion were associated with loneliness as well as well-being during the initial 6 weeks of major public life restrictions in the Covid-19 pandemic in Switzerland. The outcomes from this study were firstly, extraversion might lose some of its protective value for loneliness as well as well-being in case of the situation wherein opportunities to engage in social activities are restricted; second, it was also seen that there was no decrease in loneliness and well-being over the 6 weeks of public life restrictions (Gubler et al., 2020).

Another study by Gaeta (2020) aimed to determine the prevalence of and associations between anxiety, social isolation, and loneliness in a sample of older adults. The study found that out of 514 participants 56.4% and 36.0% reported perceived isolation and feelings of loneliness, respectively. Loneliness was also found to be associated with both social isolation and COVID-19-related anxiety; however, social isolation and coronavirus-related anxiety were unrelated.

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A study by Wilson et al (2020) assessed the prevalence and predictors of stress, depressive, and anxiety symptoms among HCPs (Health care professionals) of India. The study found women had approximately two times the increased odds of developing moderate- or high-level stress, depressive symptoms requiring treatment, and anxiety symptoms requiring further evaluation.

Anecdotal evidence (Wahi, 2020) across social media platforms suggests that people who would be considered “introverts” have had an easier time adjusting to the lockdown and the lack of socialisation opportunities due to their “socially inwards” nature. Although more alone time should be welcomed by introverts, the question remains as to if people high on introversion actually benefited from COVID-19-related extraneous variables such as the lockdown.

Along these lines, the aim of the following study is to understand the moderating effects of extraversion and introversion on two dimensions i.e., loneliness and covid related anxiety.

### **METHODOLOGY**

#### *Sample*

A total of 139 participants (n= 139) within the age group of 18-25 years were included in the study. Out of these 60 were males and 79 were females. 53 respondents were located in Haryana. The other 86 respondents were distributed across the following states of India, including Delhi (n=47), Uttar Pradesh (n=20), Maharashtra (n=6), Karnataka (n=5), Rajasthan (n=2), West Bengal (n= 2), Bihar (n= 1), Madhya Pradesh (n =1), Andhra Pradesh (n=1), Uttarakhand (n= 1). Participants were selected through convenience sampling.

#### *Instruments*

Three measures were used in this study

- **SAVE-6 (2020)** Stress and anxiety to viral epidemics (SAVE-6) was developed by Chung et al. in 2020. This scale has six items which assess the general anxiety response to viral epidemics which in the present scenario is the Covid-19. The SAVE-6 scale had a good internal consistency (Cronbach’s  $\alpha = .82$ ) The SAVE-6 was found to be a reliable, valid, and useful brief measure that can be applied to the general population. The SAVE-6 may be useful for easily assessing the anxiety symptoms during the pandemic in the general population. (Chung, 2020)
- **UCLA Loneliness Scale (1980)** UCLA loneliness scale was originally developed by Russell in 1978, the revised version which is a 20 item scale was developed in 1980. It was designed in order to measure the subjective feeling of loneliness and feelings of social isolation within an individual. Participants have to rate from 1 (never) to 4 (often). (Russell, 1980)  
The measure has been found to be highly reliable, both in terms of internal consistency (coefficient  $\alpha$  ranging from .89 to .94) and test-retest reliability over a 1-year period ( $r = .73$ ). The scale showed both convergent and construct validity (Russell, 1996).
- **McCroskey Introversion Scale:** The Introversion-Extraversion Scale developed by Richmond and McCroskey (1998), and was used to measure Introversion-Extraversion as a continuous dimension. This scale was created using the Extraversion subscale of the Eysenck Personality Questionnaire (Eysenck et al., 1985). There are six such statements which are not scored and act as distractors. The initial validation study by Richmond and McCroskey (1998) yielded alpha reliability

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estimates above.80. Scores range from 12 to 60, with higher scores indicating higher extraversion and lower scores indicate low extraversion or in other words introversion.

### Procedure

Quantitative research design was followed. Data was collected through a structured and standardized questionnaire, Stress and anxiety to viral epidemics (SAVE-6) (2020), UCLA loneliness scale (1980) and McCroskey Introversion Scale (1998). The objective was to determine the differences in the levels of anxiety and loneliness as experienced by Extroverts and Introverts. Gender differences, if any, would also be studied.

The present study aimed to understand the moderating effects of extraversion and introversion on two dimensions i.e., loneliness and covid related anxiety. For this purpose, a google form was created and circulated through social media platforms among males and females of age group 18-25. Post the data collection, Pearson product moment correlation was conducted to determine the relationship between the three variables and t-tests were conducted to compare any gender differences.

## RESULTS

*Table 1 Correlation between extraversion, covid-19 related anxiety and loneliness.*

	Covid-19 related anxiety	Loneliness
Extraversion	-0.012	-0.29**

Note- \* $p < .05$ . \*\* $p < .01$

*Table 2 Results comparing males and females on Covid-19 related anxiety, Extraversion and loneliness.*

	Males		Female		t(137)
	M	SD	M	SD	
SAVE-6	13.283	5.33	13.62	4.886	-0.39
Extraversion	34.533	9.97	32.18	8.713	1.47
Loneliness	44.616	11.27	41.56	11.046	1.6

Note, since  $t$  calculated is less than  $t$  critical, the difference between males and females is not significant.

## DISCUSSION

Covid-19 was a difficult time globally due to its unprecedented nature of a severe pandemic, populations all over had to deal with a variety of challenges one of them being adapting to the “new normals” of the lockdown. The general portrayal of people high on introversion was largely shown as them enjoying the lockdown as they are assumed to be “socially inwards”. Whereas for extroverts it was thought it was a tougher time as they are supposed to be “socially outgoing”, therefore they would have missed having to meet people in a more in-person setting. The current study assesses whether these two traits act as moderators for loneliness and anxiety during the pandemic. Thus, the aim of our study was to observe the moderating effects of extraversion and introversion on the dimensions of loneliness and covid related anxiety.

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Personality eventually shapes our reaction to different situations such as that of the lockdown as to how we cope with demanding situations. This also predicts our disposition to feelings of loneliness and anxiety.

Table 1 shows the correlations between the scores on extraversion, perceived loneliness and covid-19 related anxiety. It was found that there was a statistically significant negative correlation between extraversion and loneliness ( $r = -0.29^{**}$ ,  $p < .01$ ). This implies that people with higher extraversion levels reported feeling less lonely than those with higher introversion. One thing that may be taken into account is that when experiencing negative emotions, introverts are more likely to turn inwardly to cope which may result in decreased help-seeking behaviour (Atik and Yalçın, 2011; Kakhnovets, 2011; Shapiro and Alexander, 1975).

Furthermore, and possibly as a result, introversion has been linked to more adjustment problems in particular (Janowsky, 2001; Jylha et al., 2009; Fadda and Scalas, 2016). Studies have shown that introverts struggle more than extroverts in adjusting to life events that involve changes in day-to-day life (Bauer and Liang, 2003; Davidson et al., 2015). A change as big as that of the pandemic would thus, have been a struggling time for them.

However, no correlation was found between these personality types and Covid-19 related anxiety ( $r = 0.012$ ,  $p < 0.05$ )

An independent sample t test was performed to evaluate the data, with males and females as the two variables. Table 2 shows the t-test results. It can be seen that the t test values on UCLA scales that measures the domain of loneliness for males ( $M = 44.61$ ,  $SD = 11.27$ ) and females ( $M = 41.59$ ,  $SD = 11.04$ ) were not significant enough for any major difference to exist between the two groups. Next, the t-test value on McCroskey Introversion scale which measures the domain of introversion and extraversion for males ( $M = 34.53$ ,  $SD = 9.97$ ) and females ( $M = 32.18$ ,  $SD = 8.71$ ) were not significant for any major difference to exist between the two groups. Similarly, for the SAVE-6 scale which measures the domain of Covid related anxiety for males ( $M = 13.28$ ,  $SD = 5.33$ ) and females ( $M = 13.62$ ,  $SD = 4.88$ ) were not significant for any major difference to exist between the two groups.

Information about the living situations of the participants, employment and financial status would have further helped refine the research outcomes. Further, since this was a self-report survey, responses were subject to participant's manipulation.

The Covid-19 pandemic brought with it some novel challenges one might not have expected. Loneliness and anxiety have often been studied with relation to social isolation. The current study assesses how these are experienced when it became a necessity and how personality traits help moderate their negative experience. It paves ways for further studies to be conducted on experiences of people during the novel Covid-19 waves. It emphasises the role of personality as a moderating factor for loneliness.

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### **Conflict of Interest**

The author(s) declared no conflict of interest.

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