

## Locus of Control, Perceived Stress and Anxiety due to COVID-19 in Indian College Students

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### ABSTRACT

The outbreak of the novel coronavirus leading to the declaration of a global pandemic is one of those events that has not spared anyone of its impact. However chronic the stressor may be, the tendency of human beings to respond in unique ways have always fascinated the realm of psychology. The following study aims to identify whether variables such as locus of control, perceived stress and coronavirus anxiety operate in significant patterns among the college students of India. Despite being relatively on the safer end in being infected, emerging adults are more prone to its psychological risks. The results of the online survey taken by 154 participants between ages 18-25, reported a higher degree of externality and perceived stress in the sample. While perceived stress positively correlated with an external locus of control and coronavirus anxiety, the latter two were not related significantly. In addition to lending a hand toward further measures taken to study the current and upcoming psychological patterns due to the pandemic, this study emphasizes the vitality of adopting strategies that reduce one's perception of stress, accurate information transmission about the virus and boost internality.

**Keywords:** *Locus of control, Perceived Stress, Anxiety, Coronavirus, College students, India*

The country of India, home to over 1.3 billion inhabitants, was subject to 'the biggest and most severe' measure adopted, when the Prime Minister announced a 21-day lockdown from the 24th of March 2020 (Gettleman & Schultz, 2020). An action following the declaration of a global pandemic, by the World Health Organization (WHO), centered on the life-threatening disease caused by coronavirus SARS-CoV-2, otherwise known as the COVID-19. Even though, after the lockdown, certain relaxations have been made, other measures that restrict outdoor activities, or working, were implemented. While one accepts the dire need of these steps in order to tackle the situation, and safeguard one's physical health, it is essential to recognize the threat posed on the mental health of people. With an expected increase in the cases of anxiety disorders, somatoform disorders, depression, claustrophobia, withdrawal syndromes, and the like; a 'mental health crisis' is now considered, an inevitable consequence of the pandemic (Sood, 2020). Replacing the term 'social distancing' with 'physical distancing' by WHO (2020), thereby indicating that

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one has several methods to stay connected to their loved ones, or carry out particular tasks, without feeling 'socially' distant, is one of the many ways in which the psychological well-being of people is being prioritized. Conducting studies with the intent of gaining further insights into the better equipping the world in the process of identifying the different ways and patterns in which such a crisis would surface, has been considered relevant under the present circumstances (Sood, 2020; Rajkumar, 2020).

Having taken more than 1.5 lakh human lives (Worldometer, 2020), COVID-19 has led the whole world to stay indoors, maintain distance, practice stringent hygiene along with a fair share on the financial, educational and psychological aspects on one's life as well. The unavailability of a vaccine to combat the disease presents itself in a rather fear generating and anticipatory image of the future. Hence, the ongoing areas of concern, are not only for the health care workers, or the law enforcers, but also the general population, irrespective of demographic factors, who now face a higher degree of these obstacles that include medical and educational strains in addition to financial issues, that could all possibly add on to the development of psychological distress (Kundu & Bhowmik, 2020). Such anxiety-provoking situations can cause disturbances in thought patterns, overt expression, or activities that one engages in, bodily functions, or even result in making people fearful or angry. These consequences cover the cognitive, behavioral, physiological and emotional manifestations of anxiety, respectively, as a response to one or several triggers, in this case, those associated with COVID-19, quite popularly termed as 'coronaphobia'. The former, along with locus of control and perceived stress comprise the variables of the study.

### ***Locus of Control***

Opposing Freud's Psychoanalytic theory and Skinner's Behaviorism, Julian B. Rotter was convinced that every human has the inherent capacity to make choices by themselves concerning the environment and not be wholly taken over by the latter. In 1954 he distinguished an individual who believes that they have an effect on their lives and outcomes, as opposed to another who doesn't. Specifically, Rotter (1990, p. 489) defines the concept of internal versus external locus of control as "the degree to which persons expect that a reinforcement or an outcome of their behavior is contingent on their own behavior or personal characteristics versus the degree to which persons expect that the reinforcement or outcome is a function of chance, luck, or fate, is under the control of powerful others, or is simply unpredictable".

A higher internal locus of control seems to play a protective role against negative or stressful life events, by producing lesser anxiety, in enhancing their ability to use social support, relevant information, and previous experience similar to the given set of instances (Sandler & Lakey, 1982; Mishra et al., 2009). Externality can both result from and contribute to depression and anxiety (Stimpson, 2006). Bandura (1986) adds that in attributing a sense of determinism to external factors, the search for valuable information will be perceived as futile and avoiding the same might even seem like an 'attractive response to threat' (Mishra et al., 2009). It might be safe to question the heightened importance of one's locus of control in situations that are unpredictable and challenging. In response to stress, anxiety and depression people low on externality adopt task-focused coping related to lower anxiety opposed to those with greater externality resorting to emotion-focused coping (Leandro & Castillo, 2010).

Externality, as mentioned has not been found favorable in situations that demand stress management, effective coping, and performance accomplishments (Anderson, 1976; Baron

et al., 1996; Bernardi, 1997). This leads the belief that favors people with an internal locus of control. However, it might also reflect the long-held bias in placing a higher value for internality in the predominantly individualistic countries (Marks, 1998). In the Indian context, Kumar suggests that the importance of culture and “cosmic order” supersedes the concept of being in control of one's own reinforcements (as cited in p. 253, Marks, 1998). Nevertheless, the idea that people who belong to either of the extreme ends of locus of control are maladjusted as they are “essentially unrealistic” has been put forth (p. 4, Rotter, 1966). It is a construct that is quite often associated with the researchers' desire to attribute causality to many human behaviors that are observed in real-life scenarios.

Perhaps it is the severity of an event that decides where one stands on this construct. It is both the puzzling yet expected nature of contradictions within the realm of research to point the finger at the association itself, whether it is significant enough to be taken into consideration during COVID-19. Singhal and Vijayaraghavan (2020) demonstrated the psychological response of the general population of India during the pandemic, specifically health anxiety, locus of control and coping mechanisms. Participants between 18-24 had higher levels of health anxiety and significantly lower externality, when compared with older participants. Compared to the previous studies that have been mentioned, this one seems to paint a contradictory image regarding emerging adults, anxiety and externality that will be addressed in the following paper.

### ***Perceived Stress***

The extent to which individuals assess or appraise the circumstances that they face in their lives, as uncontrollable, uncertain and overpowering, is termed as perceived stress (Cohen et al., 1983). Alternatively, perceived stress refers to one's thoughts and feelings regarding the amount of stress that they are experiencing at a given point of time. According to Lazarus and Folkman (1984), events that are integral for one's healthy functioning or those that indicate impending harm are perceived to be stressful by them, thereby supporting the prevalence of both positive and negative stress (Bernardi, 1997). In fact, distress, or the stress generated during adverse life events, at higher levels can even lead to various mental or physical health issues (American Psychological Association, 2019). Cohen et al. (1983) states that the concept of perceived stress is not restricted to the major incidents in one's life, but also their everyday routine. A chronic stressor such as the pandemic does not lay an impact on everyone to the same degree, and therefore, might not result in everyone perceiving a similar amount of stress.

A study identified education, finances, family and personal relationships as stressors prevalent to the student community, specific to the present research. Greater uncertainty and lesser social support during higher levels of such stress was associated with ineffective stress management and heightened anxiety (Peer et al., 2015). Perceived stress, a relevant by-product of lower internality and life satisfaction, increased in prevalence during the pandemic in the general population and to a greater extent in emerging adults, working individuals and females (Hossain, 2020; Karaman et al., 2019). Change considerably impact stress and was primarily attributed to financial concerns and lockdown during COVID-19, across all age groups as demonstrated in a qualitative survey involving middle and lower-income families in Tamil Nadu, India (Kuang et al., 2020). Charles et al. (2020) found that despite lower risk of being affected by the virus in university students, the disruption caused by the global pandemic such as the shift to online classes led to an increase in anxiety, mood disorders and alcohol use. Further, concerns for loved ones, and their lack of adopting

preventive measures against the virus caused depression, perceived stress and anxiety in the participants.

### ***Anxiety due to COVID-19***

Lee (2020) defines Coronavirus Anxiety (CA) in terms of a cluster of dimensions that include “the cognitive (i.e., repetitive thinking; worry; processing biases; dreaming; planning), behavioral (i.e., dysfunctional activities; avoidance; compulsive behaviors), emotional (i.e., fear; anxiety; anger), and physiological (i.e., sleep disturbances; somatic distress; tonic immobility;)” (p. 3). Heightened intensity of such anxiety has been found to be associated with diagnosis and impairment due to the virus, maladaptive coping measures like substance use, negative religiosity, feeling hopeless, social attitudes and suicidal ideation (Lee, 2020).

The pandemic has been causing quite a bit of imbalance in everybody's lives one way or the other and studies are being conducted to assess the reach of the same on one's mental health. A vast majority of people in India were psychologically affected by the events post lockdown to differing lengths and manifestations. In fact, 80% of the subjects in a study were preoccupied with thoughts related to the virus (Roy et al., 2020). Females, unmarried, self-employed individuals, Muslims, or people who report a poor health status were found to be vulnerable to higher levels of anxiety (Ahmad, 2020).

It has been demonstrated that the mere presence of people in a collective society does not protect one from having to face the negative impact on their mental health and even if there exists significant concern for each other, it only led to the aggravation of one's anxiety (Germani, 2020). While emotional intelligence equipped people to gather social support effectively, share and use crucial information, a sense of meaning a purpose contributed to overcoming obstacles better, all leading to lower anxiety (Milman et al., 2020; Zysberg & Zisberg, 2020). Social support had a positive consequence, for which it needs to be psychological (reassurance and comfort) and not instrumental (performing tasks) in nature.

### ***Objectives and Need for the Study***

The present focusses on the college going population. Attending college has been said to be one of the essential factors that give rise to many sources of increased stress in emerging adulthood, i.e., between the ages of 18-25 (Bland et al., 2012). The age group is vulnerable to the long-term consequences of stress and uncertainty during COVID-19, leading to depression and problems in psychological adjustment (Germani et al., 2020). The following research aims to study the prevalence of anxiety, the perception of stress and the role of one's locus of control among Indian college students during the pandemic. The purpose is consistent with the need for researches to identify the possible predictors, mediators, and implications of the psychological factors that become significant at the time of the pandemic.

### ***Problem and Hypothesis***

Human lives have been impacted by the present condition of the global pandemic in many ways, one of which is the impact on their psychological well-being. Researches have also created an alarming picture of how prevalent anxiety and perceived stress have become. Potential factors that are protective in nature have also been identified, such as meaning-making, internal locus of control, social support and the like. Emerging adults who attend college face a unique disruption in their ongoing exploratory phase considered crucial in establishing meaningful relationships and a career path. As a result of which, it has become

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crucial for the broadening of scientific knowledge to understand further, manage and note the possible downfalls/strengths of human psychological functioning during COVID-19.

The research addresses the relationship between one's external locus of control, perceived stress, and anxiety due to the coronavirus, in Indian college students. Thus, the following hypotheses have been formulated,

External locus of control and perceived stress will be significantly related to each other in emerging adults.

External locus of control and anxiety due to the Coronavirus will be significantly related to each other in emerging adults.

Perceived stress and anxiety due to the Coronavirus will be significantly related to each other in emerging adults.

### METHODOLOGY

#### Sample

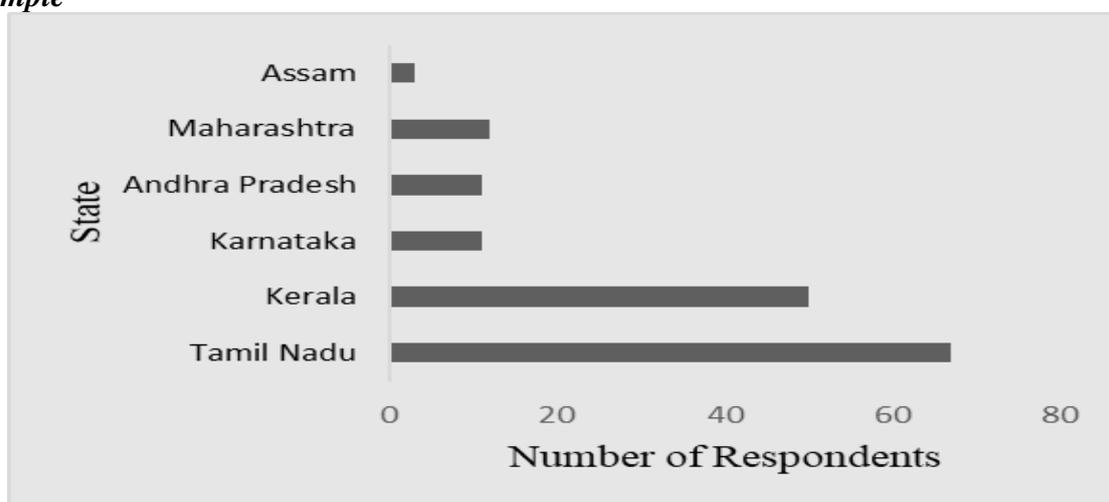


Figure no. 1 state-wise distribution of the sample

One hundred and eighty-nine college students across the various states of India (figure 1), answered the survey, out of which 154 respondents met the inclusion criteria, and was therefore taken as the sample of the research. The age of the participants ranged between 18 and 25 years ( $M= 20.31$ ,  $SD=1.54$ ), and of all the participants, 82 were female, and 72 were male. The study excluded married, employed individuals or those with poor health status. Convenience sampling method was employed to collect data, and the google forms containing the questionnaires were circulated with the help of WhatsApp and Instagram. The respondents did not receive any incentives upon taking part in the survey.

#### Research Design

An ex post facto research design was followed to find out if significant relationships exist between the following variables: locus of control, perceived stress, and anxiety due to COVID-19. The extraneous variables that were identified include marital status, a current location outside of India and health status, on account of their potential impact on the variables under study. They were controlled by informing/removing the data from people who were married, overseas, and those who reported 'poor' health status.

### ***Instruments***

The participants were asked to answer a survey that consisted of three main questionnaires, in addition to the collection of demographic variables such as age, current location, educational and health status.

- 1. Internal-External Locus of Control Scale:** The questionnaires comprised of Julian B. Rotter's (1966) Internal-External Locus of Control Scale that reports the extent to which an individual attributes control over their own life events either to themselves (internal), or things beyond their abilities (external). The scale has a test-retest reliability that ranges between 0.49-0.83, and a median correlation of -.22 with the Marlowe-Crowne Social Desirability Scale (Zerga et al., 1976). For all the 29 questions, participants were expected to choose one out of two statements that they agree with, in each set. For example, the participants chose between the viewpoints- 'Becoming a success is a matter of hard work, luck has little or nothing to do with it' or 'Getting a good job depends mainly on being in the right place at the right time' in one item.
- 2. The Perceived Stress Scale (PSS-14):** The scale devised by Cohen et al. (1983, p.385), provided a measure of how often the previous month was considered as uncertain and overwhelming, i.e., it “measures the degree to which situations in one's life are appraised as stressful”. The scale is found to have high reliability ( $\alpha=.78$ ), and validity, with respect to Job Responsibilities Scale and life events scale. The 14-item questionnaire was attempted using a five-point Likert scale (0 = Never to 4 = Very Often), which included prompts like 'In the last month, how often have you felt nervous and stressed?' and 'how often have you been upset because of something that happened unexpectedly?'.
- 3. Coronavirus Anxiety Scale (CAS):** Lastly, the Coronavirus Anxiety Scale or the CAS put forth by Lee (2020), measured the anxiety in the respondents due to the pandemic. Participants were asked to choose, using a five-point Likert scale (0 = Not at all to 4 = Nearly every day over the last 2 weeks), how often they experienced the given activities over the past 2 weeks. Each of the five items in the questionnaire assessed the unique forms of anxiety, namely the cognitive, behavioural, emotional and physiological manifestations. Sample items include 'I felt dizzy, lightheaded, or faint, when I read or listened to news about the coronavirus' and 'I had trouble falling or staying asleep because I was thinking about the coronavirus.' The CAS is a suitable tool that can be used to measure COVID-19-related anxiety in the Indian context (Chandu et al., 2020). The tool demonstrated good internal consistency reliability with Cronbach's Alpha = 0.736, construct validity as it was negatively correlated (Pearson's  $r = -0.417$ ) with the self-rated mental health, and is a reliable ( $\alpha > .90$ ) and valid (correlates with depression, suicidal ideation, anxiety, drug/alcohol coping) tool for measurement.

### ***Procedure***

An online, structured questionnaire was created on google forms, with an informed consent and participant debrief form. The link of the questionnaire was circulated through WhatsApp and Instagram. Participation was on a voluntary basis. The participants got directed to the consent form on clicking the link, which clearly stated out relevant information about the study, participant's eligibility, the confidentiality of their data, anonymous participation, and the freedom to withdraw at any point while taking the survey, without being held accountable for the same. This was followed by collection of socio-demographic details like age, gender, education, location and health status (ranging from poor to excellent). The set of several questions corresponding to each of the three scales mentioned above - the locus of

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control, perceived stress and coronavirus anxiety scale, appeared consecutively. Before submitting their answers, respondents also received a debrief at the end of the survey that acknowledged their participation and provided the information required to contact the researcher on account of queries. The data were collected between the 10th of June, 2020 and the 10th of July 2020. The collected data was filtered at first, such that it only included the sample of interest based on the inclusion criteria, followed by conducting the correlational analysis.

### RESULTS

*Table No. 1 Descriptive statistics of Study Variables for n = 154*

Variable	M	SD
External Locus of Control	12.27	3.45
Perceived Stress	34.61	5.95
Coronavirus Anxiety	4.16	4.67

*Table No. 2 Correlations for External Locus of Control, Perceived Stress and Anxiety due to Coronavirus (n=154)*

Variable	1	2	3
External Locus of Control	-	-	-
Perceived Stress	0.28**	-	-
Coronavirus Anxiety	0.01	0.20*	-

\* $p < .05$ , two tailed \*\* $p < .01$ , two-tailed

Descriptive statistics among the variables are contained in Table 1, which indicates that the participants of the study, on an average had a greater external locus of control. Additionally, the participants, in general, perceived high-moderate stress levels in the thirty days prior to answering the survey. Among the college students of India who took part in the survey, results as per the data in table 2, correlational analysis revealed that external locus of control positively correlated with perceived stress,  $r(152) = 0.28$ ,  $p < .01$ ; thereby hypotheses 1 can be accepted. The direction of the relationship signifies that higher externality was associated with a greater perception of stress. On the contrary, the relationship between external locus of control and anxiety were not related in a statistically significant manner,  $r(152) = 0.01$ ,  $p > .05$ ; which in turn leads to the rejection of hypothesis 2. Since perceived stress and anxiety due to the virus were found to be positively correlated with each other  $r(152) = 0.20$ ,  $p < .05$ ; hypothesis 3, remains upheld.

### DISCUSSION

There are three main findings of the present research pertaining to adults in India between the ages of 18-25, pursuing undergraduate or postgraduate studies in the country. First, external locus of control and perceived stress was found to be significantly related, positively, which remains in line with the previous literature (Baron et al., 1996; de Carvalho et al., 2009; Stimpson, 2006). Second perceived stress was positively related to anxiety due to the coronavirus in the population, in a significant manner. This is consistent with Peer et al.'s (2015) work that claimed to study the contemporary world stressor relevant to emerging adults, and also Charles et al.'s (2020) very recent set of findings that equated the two variables within the context of the pandemic, in specific.

However, the third finding is that the relationship between the respondents' externality and anxiety due to COVID-19 is non-significant in nature. The most compelling explanations for which stems from the past literature accounted by the relationship between internal locus of

control and anxiety about one's health in specific, during the pandemic (Singhal & Vijayaraghavan, 2020). A contradiction comes to light when the previous finding faces the researched tendency of individuals with higher internality to use task-focused coping, which unlike emotion-focused coping, is not associated with anxiety and also the significant relationship between externality and anxiety in general (Leandro & Castillo, 2010). This tends to leave out the possibility that the participants of the current research with a greater external locus of control, might be prone to developing anxiety that might not be directly related to the pandemic alone. Alternatively, personal attributes of emotional intelligence and meaning-making, along with social support (India being a collectivistic society) might help weaken the probability of anxiety (Milman et al., 2020; Zysberg & Zisberg, 2020). Thereby, it could also be associated to a greater extent with its indirect consequences on the different aspects of their personal lives, especially considering how the lockdown has had an impact on education, finances and familial and interpersonal relationships – major sources of stressors and anxiety among emerging adults.

Rotter (1990) also notes how the ambiguity of a particular situation might lessen the degree to which a person reacts to it in relation to their locus of control, which might further substantiate the lack of significant relationship between locus of control and the resultant anxiety due to the unpredictable nature of the virus. Taken together, the findings indicate that having an external locus of control is associated with higher degrees of perceived stress, and the latter is associated with anxiety due to the coronavirus.

A potential limitation of this particular research stems from the choice of sampling employed for the purpose of this study- convenience sampling. Using a probability sampling technique was towards the more challenging end considering the community guidelines and restrictions placed on reaching out to people. Nevertheless, this limitation, along with the small sample size puts a hold on the generalizability of the results of this study to the addressed population. The use of self-report measures to collect data followed by correlational analysis might have interfered with obtaining an unbiased and causal relationship. Another limitation that is to be highlighted is the lack of emphasis placed on finding out if socio-demographic variables have a role to play in directing the variables, which resulted in the inability to identify potential confounding variables that should have been taken into consideration.

However, the present study is among the initial attempts to address the three variables locus of control, perceived stress and coronavirus anxiety under the same title. Consequently, conducting further research that examines other age groups, among people of differing social status, gender may shed light on how these variables operate, and if it varies. For future research, it would be more credible if a study is carried out with a larger sample using a probability sampling technique for the same. Researchers will be able to draw from the present research, an idea to compare the possible changes in the psychological variables of interest after the pandemic, as an indicator of how effectively the measures to safeguard both the mental and physical health of people in the country, are being implemented. Even though the generality of the current findings is yet to be established by future research, the present study has successfully provided clear support for identifying and understanding how a population generally accounted for as physically secure, might actually be at risk and therefore, addressed at the immediate short-term level and long term, in order to avoid “intergenerational transfer of experiences” (Baron et. al., 1996, p. 515).

## CONCLUSIONS

The purpose of this research was to study how the three variables- locus of control, perceived stress and coronavirus anxiety operate in the college going population of India. Not only was there a halt to attending classes on-campus, but the much-needed guidelines on social distancing created a novel and challenging atmosphere for all. In an attempt to understand one of the many aspects of how emerging adults (18-25 years) navigate through such a pandemic, the results obtained from the correlational study calls for three main inferences. External locus of control and perceived stress among emerging adults in India, pursuing their college education are positively associated. When it comes to the anxiety due to coronavirus, perceived stress is related to anxiety, whereas locus of control is not, during the pandemic.

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### ***Conflict of Interest***

The author(s) declared no conflict of interest.

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