

# Comparing The Obsessions, Anxiety And Coping Mechanisms Due To Covid 19 Among Adult Population

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## **Abstract**

*This study aims to do a comparative analysis of obsessions, anxiety and coping mechanisms due to covid 19 pandemic among Indian adult population. This study also explores the relationships between the obsessions, anxiety and coping mechanisms. 84 participants took part in this study by filling the google form containing the informed consent form, demographic details form, Obsessions with Covid 19 scale, Coronavirus Anxiety scale and the Brief COPE inventory. Concerning the differences between obsessions across age and gender it was found that there was a significant difference with respect to obsessions across age and gender. Results concerning the differences between coronavirus anxiety indicated that there was no significant difference with respect to anxiety across age and gender. Results concerning the differences between the respective dimensions of coping mechanisms indicated that there was a significant difference with respect to humor as a coping mechanism across age and there was a significant difference with respect to active coping, denial, emotional support, instrumental support and planning across gender*

**Keywords:** *obsession, anxiety, coping mechanisms, COVID 19*

## **INTRODUCTION OBSESSIONS**

Obsession is characterised as a persistent distracting or inappropriate thought, concept, image, or impulse that causes severe anxiety, distress, or discomfort. Ego-dystonic obsessions are a common description for obsessions. Recurrent thoughts about contamination, a need to have specific items in a certain order or sequence, recurrent suspicions, violent urges, and sexual imagery are all common obsessions. There is a difference between obsessions and excessive worries because in obsessions people are not concerned with real-life problems

### **Cognitive Biases in Obsessions**

Cognitive Biases in thinking is common but more recently its persistent in people with OCD. (Nisbett and Ross, 1980) People with obsessional disorders, according to Lopatka and Rachman (1995), believe that the likelihood of misfortune is higher because they are responsible for it. For example if a person has been thinking repetitively about an accident of his close family member and if it happens really then the person may think that he is responsible for it even though he didn't have any control on that event. Furthermore, there is a connection between OCD and cognitive bias known as thought-action fusion. (Shafraan, et al., 1996). This bias may take two forms: the belief that having an unacceptable thought increases the probability of the aversive event happening, or the belief that having an unacceptable thought is morally equivalent to carrying out the relevant action. (Rachman, 1997). It has also been suggested that thought-action fusion involves misinterpretation of one's thoughts.

## **ANXIETY**

Anxiety is an emotion characterized by feelings of constant worry and apprehension about certain events and anticipating about danger and it also involves some biological changes like blood pressure and rapid heartbeat

### **Behavioural theories of Anxiety events**

1. Respondent Conditioning Theory- In this theory the two important concepts which need to be addressed are acquiring the capacity to respond to the stimulus and then maintaining the response to the stimulus. The original behavioural event (Watson and Morgan, 1917) focused on the ontogenetic (acquisition) and the Pavlovian conditioning procedure was proposed as the basic explanatory model in response to the query. In the original statement an unconditional stimulus is first presented to the person and this leads to anxiety naturally as an unconditional response. Then the conditional and unconditional stimulus are presented together to develop the association and then after certain pairings when only the conditional stimulus is presented the reaction is anxiety.

History and Current Statement- Watson and Morgan's theory of Classical conditioning was put to the test. Watson conducted a classic study on Albert B., an 11-month-old boy, to prove the theory of classical conditioning. After doing the

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experiment they provided a very reasonable assumption that if the pairings of CS and UCS can cause extreme fear and anxiety among the individuals then fear can also take place due to a neutral stimulus present in the environment.

### **COVID 19 Origin of Covid 19**

Covid 19 is an infectious disease caused by a newly discovered coronavirus strain, a type of virus that causes human respiratory infection. This latest strain was unknown prior to December 2019, when an outbreak of pneumonia with an unknown cause broke out in Wuhan, China. (WHO,2020). This has become a highly dangerous biological disaster affecting thousands of people in different parts of the country. In the past seven days The global incidence of new cases remained quite close to the previous week with just under 4 million new cases registered in the past seven days, while new deaths increased marginally to over 73000 new deaths. (WHO, 2020) While the number of cases in the European region remains high new cases the number of new deaths has decreased for a second week in a row. In South-East Asia and Eastern Europe regions the number of new cases have decreased. Since the start of the pandemic there have been 65.8. (WHO, 2020). In India from Jan 3 to 14 December, 2020 there have been 9,884,100 confirmed cases of Covid 19 with 143,355 cases.

### **Effect of Covid 19 on mental health**

Covid 19 pandemic not only led to the physical symptoms but there are also some mental health issues which needs to be taken into consideration. Individuals reported atleast one adverse mental health or behavioural condition including symptoms of anxiety disorder and depressive disorder. (CDC,2020). During this pandemic people are reporting symptoms of depression. The number of suicidal cases have also increased due to the pandemic. There are many reasons for the increase in the mental health issues. Quarantine, imposed by the government to stop the spread of coronavirus is leading to feelings of loneliness, frustration and boredom. Moreover the uncertain situation is leaving the individuals hopeless and helpless about the future and this may lead to severe depression and anxiety. Research studies have also reported that there has been an increase in sleep disturbances because of a disruption in the whole routine which was used to be followed before Covid 19. It has been found that people are becoming anxious and worried about the spread of infection when they are exposed to the information about coronavirus.

It has been very evident that any psychiatric disorder like depression or obsessive compulsive disorder or post traumatic stress disorder etc happens due to the interplay of biological, social and psychological factors. One of the most important guidelines given by government is handwashing. There may be some cleaning rituals or obsessions about handwashing in general though it cannot be called obsessive compulsive disorder because it also depends on the duration of the obsessions and the compulsions.

Thomas G. Adam et al., 2020 in his paper clearly describes that psychosocial stress has been identified as a factor that aggravates their symptoms. Though stress cannot be a definite cause for worsening of OCD symptoms but it can be a factor that triggers the pre existing diathesis. This indicates that Covid 19 can be a major stressful event for OCD and it can be a risk factor to worsen the symptoms of OCD but it may not be a definite cause. According to the journal given by Lancet Journal of Psychiatry, 2020 Obsessive-compulsive disorder patients are likely to avoid any unwanted interaction in order to minimise the perceived danger, but this avoidance can only prolong their external difficulties. They may also be worried that, despite being asymptomatic for more than 14 days, not being in touch with someone who has Covid 19, and following physical distancing and instructions, they may unwittingly spread Covid 19 and cause harm to others.(Hewson et al., 2020)

Dr Divya Singhal and Dr Padhamanbhan Vijayaraghavan, 2020 did a descriptive study on Indian Population to find out the psychological responses during Covid 19 pandemic and it can be observed that respondents were involved with social media, watching movies. According to Folkman et al., 1986 continuous rest or resting, as well as extended engagement, may be perceived as an escape or avoidance method. These maladaptive coping mechanisms often intensify stress rather than assisting the person in dealing with the causes of stress.(Dijkstra and Homan, 2016). Respondents have used social and emotional support as coping strategies by connecting with friends and family members and spending more time with them. This indicates that social support especially family support acts as a strong protective factor for anxiety and reinforces the belief that support resources are available for them.(Roohafza, 2014; Md Yasin and Dzulkipli, 2010 and Gurung and Belmont, 2006).

Limcaoco et al., 2020 along with the research team of doctors aimed to evaluate the anxiety, worry and stress due to the Covid 19 pandemic with the help of a web based survey and it was found that there were significantly higher number of scores observed among women, youth and students and they expressed great concern and higher level of susceptibility to Covid 19. There were some increase in affected symptoms due to Covid 19 and the findings indicate that participants are going through cognitive and effective alterations.

After reviewing the existing literature in great detail it can be observed that there are still some gaps on the obsessions, anxiety and coping mechanisms with respect to Covid 19 pandemic. The gender difference with respect to obsessions and anxiety is not studied in depth in human subjects. It can also be seen that there is very limited information available with

respect to gender and age differences in coping mechanisms in popular literature. As a result of these shortcomings, the current study acts to bridge the gap in existing literature.

### **Need of the study**

Taking the impact of Covid 19 on various domains into consideration it is necessary to explore the area of obsessions or in other words repetitive and disturbing thoughts and also the anxiety issues about the virus faced by the individuals in their day to day life because it can give an idea about how the information about the virus is affecting their mental health. Rarely studies have been done on the various coping mechanisms preferred by the Indian population during the pandemic and so it is necessary to make a comparison across the various age groups. This study can also give us an idea about the change in therapeutic field during pandemic. The coping mechanisms used by individuals can give us a brief overview of how they are handling the stressful situation during the pandemic and whether the nature of coping styles is helping to reduce mental health challenges like anxiety, depression, stress and fear.

### **METHODOLOGY**

The research study is aimed at understanding the differences in obsessions, anxiety due to Covid 19 among Indian adult population by doing a comparative analysis. The research study also intends to see if there is any difference with respect to the coping mechanisms across age and gender.

### **Research Questions**

Is there any difference with respect to obsessions about covid 19?

Is there any difference with respect to anxiety about covid 19?

Is there any difference with respect to coping mechanisms among adults during covid 19?

### **Objectives**

To compare the obsessions due to covid 19 among Indian adult population across a) Age and b) Gender

To compare coronavirus anxiety among Indian adult population across a) Age and b) Gender

To compare the coping mechanisms during Covid 19 among Indian adult population across age and gender

### **Operational Definitions**

The research deals with understanding the effects of a pandemic. Participants are chosen who have knowledge about Covid 19 pandemic.

**Covid 19.** It can be defined as an ‘an infectious disease caused by a newly discovered strain of coronavirus, a type of virus known to cause respiratory infections in humans. This new strain was unknown before December 2019, when an outbreak of a pneumonia of unidentified cause emerged in Wuhan, China’(WHO,2020)

**Obsession.** Obsessions can be defined as ‘recurrent and persistent thoughts, impulses or images that are experienced as intrusive and inappropriate and that causes marked anxiety or distress. (APA, 2004)

**Anxiety.** Anxiety can be defined as an ‘emotion characterized by feelings of tension, worry and physical changes like increased blood pressure.’ (APA,2004)

**Coping mechanisms.** Coping can be defined as ‘constantly changing cognitive and behavioural efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person.’

### **Hypotheses**

1.a) There is no significant difference with respect to obsessions with Covid 19 across age.

1.b) There is no significant difference with respect to obsessions with Covid 19 across gender.

2.a) There is no significant difference with respect to coronavirus anxiety across age 2.b) There is no significant difference with respect to coronavirus anxiety across gender.

3.a) There is no significant difference with respect to coping mechanisms during Covid 19 across age

3.b) There is no significant difference with respect to coping mechanisms during Covid 19 across gender

### **Variables**

1. Study Variable 1: Obsessions,

2. Study Variable 2: Anxiety

3. Study Variable 3: Coping mechanisms

4. Demographic Variable 1: Age

5. Demographic Variable 2: Gender

### **Research Design**

The study undertaken adopts an ex-post facto design. In ex post-facto research, it can be said the the experimenter, instead of creating a treatment, evaluates the effects of naturalistically occurring treatment after the treatment has occurred. This

study aims to evaluate the effects of covid 19 after the Covid 19 pandemic has occurred in India. The mean and the error scores of obsessions, anxiety and coping mechanisms across age is examined. This study also explores the gender difference with respect to obsessions, anxiety and coping mechanisms through a between groups experimental design.

### **Participants**

**Sample Size.** By the method of convenient sampling, a sample of 84 participants were chosen for the study. The sample consists of 32 males and 52 females in the age group of 20-60 years.

**Inclusion criteria.** Individuals belonging to the age group of 20-60 was chosen for the study.

**Exclusion Criteria.** Individuals who have previously been diagnosed with Obsessive Compulsive Disorder and Generalized Anxiety Disorder, Panic Disorder, Phobia etc have been excluded from the study.

### **Tools**

**The obsession with Covid 19 scale** is a self-report mental health screener of consistent and distorted thinking about coronavirus. Every aspect in life has been affected due to Covid 19 so the development of OCS will help the mental health professionals and clinicians identify the signs of dysfunctional thinking related to Covid 19. It was developed by Sherman A. Lee in the year 2020 and it focuses on the frequency of disturbed thoughts about coronavirus. Too much Covid 19 thinking can be defined as thinking about Covid 19 for at least three to seven days, dreams about coronavirus, thoughts coming frequently about coronavirus, having disturbing thoughts that one has contracted the coronavirus, and having disturbing thoughts that one has seen real individuals who might be infected with the coronavirus. It takes roughly 2 minutes to fill it and participants who have total score greater than 7 might be thinking persistently about coronavirus. The scale consists of 4 items and is rated on 5 point scale, from 0(not at all) to 4(nearly every day)

**The coronavirus anxiety scale** is a self-report mental health screener of dysfunctional anxiety associated with the coronavirus crisis. During this unprecedented crisis people are experiencing clinically significant anxiety associated with so it is very necessary to help the mental health professionals identify such cases of anxiety. The scale consists of 5 items and is rated on a 5 point scale, from 0(not at all) to 4(nearly every day) and roughly takes 2 minutes to fill this form. High scores on certain items or overall scores equal to greater than 9 may indicate problematic symptoms that might require further judgement and assessment

**Brief COPE Inventory** was developed by Carver(1997) and it deals with ways a person has been coping with the stress. The brief cope inventory consists of 28 items and is rated on a 4 point scale ranging from 1(I haven't been doing this at all) to 4( I have been doing this) and there are 14 scales in brief cope inventory consisting of 2 items each. The 14 scales are actually the different coping reactions that people use and while some of the reactions are generally adaptive others are problematic.

### **Procedure**

Individuals from different socioeconomic backgrounds were approached to be part of the study. They were given brief insight into the research study and their implications. Participants who were volunteered to be part of the study were asked to fill out an informed consent form. They were also asked to fill out demographic details in another form. Following this they were asked to form a short questionnaire called Obsessions with Covid 19 scale via online survey. The responses to the questionnaire were analyzed and those participants who had high scores on obsessions which essentially means that participants had clinical signs of dysfunctional thinking about coronavirus. Further the participants were also asked to fill a short questionnaire coronavirus anxiety scale via online survey and the responses were analyzed. Those participants who had high scores on this scale indicated that participants were frequently worrying about coronavirus and getting more anxious when they hear information related to Covid 19. Further they were given a brief COPE inventory to see how they are coping with the stress during the pandemic, what coping mechanisms are they mostly using whether it is avoidance or approach coping. The data from the participants was taken through Google Forms

### **Statistical Analysis**

IBM Statistical Package for Social Sciences SPSS Version 16 was used to collect all statistical computations. The data was tested for normality following which appropriate descriptive and inferential procedures were used.

### **Ethical Considerations**

The ethics prescribed by American Psychological Association was followed (APA). Permissions from relevant bodies were taken before proceeding with data collection. Informed consent was taken from all the participants and confidentiality of the data was assured. No harm direct or indirect was caused to participants of the study. Anonymity of the subject and confidentiality of the information provided by the subject will be maintained.

### **RESULTS**

The research study aimed at comparing the obsessions, anxiety and coping mechanisms across Indian adult population by assessing 84 individuals who are between the age of 20-60.

It also aimed to explore the gender differences in the obsessions, anxiety and dimensions of coping mechanisms during Covid 19 pandemic. It was hypothesized that there is no significant difference between obsessions, anxiety and coping mechanisms across age and gender. Statistical analyses was run on the data and the results are presented below.

*Table 1 shows the sample characteristics*

| Gender | Mean Age | N  | Std. Deviation |
|--------|----------|----|----------------|
| Male   | 41.28    | 32 | 14.946         |
| Female | 27.46    | 52 | 10.135         |
| Total  | 32.73    | 84 | 13.861         |

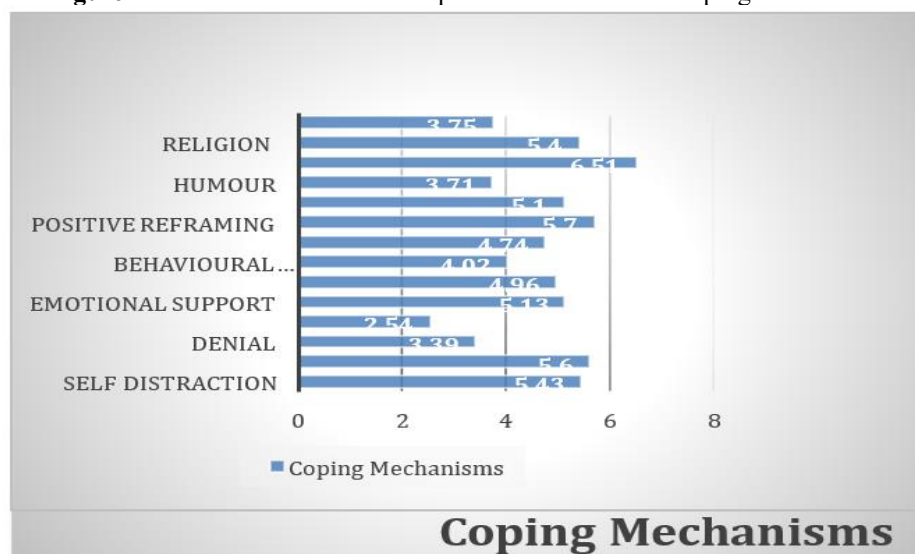
The screening device was sent to 100 individuals and out of that 84 people responded to it. Descriptive statistics was carried out initially and it was seen that the mean age of the whole sample chosen for the study was 32.73. There were 32 males and 52 females who took part in the study. The mean age of the females was found to be 27.46 while the average age of the males was found to be 41.28. The mean age of the respondents was 32.73 and more than one third were women.

*Table 2 shows the descriptive statistics for the responses given by the subject on obsessions, anxieties and all the respective dimensions of coping mechanisms.*

**Table 2** shows the descriptive statistics for the obsessions, anxiety and the respective dimensions of the coping mechanisms. The mean score of acceptance was 6.51 and the lowest is humour as a coping mechanism and the mean is 3.51.

| Variables          | N  | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|------|----------------|
| OCS                | 84 | 0       | 15      | 5.27 | 3.940          |
| CAS                | 84 | 0       | 18      | 4.40 | 4.704          |
| SD                 | 84 | 2       | 8       | 5.43 | 1.845          |
| AC                 | 84 | 2       | 8       | 5.60 | 1.715          |
| D                  | 84 | 2       | 8       | 3.39 | 1.686          |
| SU                 | 84 | 2       | 8       | 2.54 | 1.460          |
| ES                 | 84 | 2       | 8       | 5.13 | 1.842          |
| IS                 | 84 | 2       | 8       | 4.96 | 2.091          |
| BE                 | 84 | 2       | 8       | 4.02 | 1.777          |
| V                  | 84 | 2       | 8       | 4.74 | 1.864          |
| PR                 | 84 | 2       | 8       | 5.70 | 1.768          |
| P                  | 84 | 2       | 8       | 5.10 | 1.924          |
| H                  | 84 | 2       | 8       | 3.71 | 1.955          |
| A                  | 84 | 2       | 8       | 6.51 | 1.427          |
| R                  | 84 | 2       | 8       | 5.40 | 2.168          |
| SB                 | 84 | 2       | 8       | 3.75 | 1.829          |
| Valid N (listwise) | 84 |         |         |      |                |

**Figure 1** shows the means of the respective dimensions of coping mechanisms



**Table 3** shows the normality scores obtained in three rating scales

| Agegroup | Kolmogorov-Smirnov <sup>a</sup> |      | Sig. | Statistic | Shapiro-Wilk |      |
|----------|---------------------------------|------|------|-----------|--------------|------|
|          | Statistic                       | df   |      |           | df           | Sig. |
|          |                                 | .432 |      |           | 84           | .000 |
| OCS      | .147                            | 84   | .000 | .936      | 84           | .000 |
| CAS      | .175                            | 84   | .000 | .853      | 84           | .000 |
| SD       | .157                            | 84   | .000 | .926      | 84           | .000 |
| AC       | .141                            | 84   | .000 | .929      | 84           | .000 |
| D        | .260                            | 84   | .000 | .803      | 84           | .000 |
| SU       | .477                            | 84   | .000 | .418      | 84           | .000 |
| ES       | .146                            | 84   | .000 | .935      | 84           | .000 |
| IS       | .142                            | 84   | .000 | .905      | 84           | .000 |
| BE       | .170                            | 84   | .000 | .896      | 84           | .000 |
| V        | .134                            | 84   | .001 | .927      | 84           | .000 |
| PR       | .162                            | 84   | .000 | .915      | 84           | .000 |
| P        | .109                            | 84   | .014 | .928      | 84           | .000 |
| H        | .238                            | 84   | .000 | .811      | 84           | .000 |
| A        | .170                            | 84   | .000 | .859      | 84           | .000 |
| R        | .170                            | 84   | .000 | .876      | 84           | .000 |
| SB       | .235                            | 84   | .000 | .847      | 84           | .000 |

The ratings by the subjects on the three scales which are obsessions anxieties and 12 dimensions of coping mechanisms was used as test of normality. The Shapiro-Wilk test was used as test of normality. As it can be seen from the table the normality statistic for the ratings on obsessions, anxiety and coping mechanisms were found to be less than 0.05. This indicates that the normality statistic is not significant.

**Table 4** Mann Whitney Test for comparison of mean for the variables across age

|     | Agegroup | Mean Rank | Uvalue  | Asympto Sig |
|-----|----------|-----------|---------|-------------|
| OCS | 20-40    | 38.50     | 541.500 | .028        |
|     | 40-60    | 50.94     |         |             |
| CAS | 20-40    | 40.33     | 646.000 | .232        |
|     | 40-60    | 47.07     |         |             |
| SD  | 20-40    | 44.54     | 653.000 | .258        |
|     | 40-60    | 38.19     |         |             |
| AC  | 20-40    | 40.67     | 665.000 | .309        |
|     | 40-60    | 46.37     |         |             |
| D   | 20-40    | 41.35     | 704.000 | .507        |
|     | 40-60    | 44.93     |         |             |
| SU  | 20-40    | 43.57     | 708.500 | .368        |
|     | 40-60    | 40.24     |         |             |
| ES  | 20-40    | 41.12     | 691.000 | .447        |
|     | 40-60    | 45.41     |         |             |
| IS  | 20-40    | 40.90     | 678.000 | .378        |
|     | 40-60    | 45.87     |         |             |
| BE  | 20-40    | 42.07     | 745.000 | .810        |
|     | 40-60    | 43.41     |         |             |
| V   | 20-40    | 42.64     | 761.500 | .938        |
|     | 40-60    | 42.20     |         |             |
| PR  | 20-40    | 42.15     | 749.500 | .845        |
|     | 40-60    | 43.24     |         |             |
| P   | 20-40    | 39.74     | 612.000 | .127        |
|     | 40-60    | 48.33     |         |             |
| H   | 20-40    | 47.13     | 505.000 | .009        |
|     | 40-60    | 32.72     |         |             |
| A   | 20-40    | 43.49     | 713.000 | .576        |
|     | 40-60    | 40.41     |         |             |
| R   | 20-40    | 42.82     | 751.000 | .861        |
|     | 40-60    | 41.83     |         |             |
| SB  | 20-40    | 42.49     | 769.500 | .996        |
|     | 40-60    | 42.52     |         |             |

OCS=Obsessions with Covid 19, CAS=Coronavirus Anxiety, SD= Self Distraction, AC= Active Coping, D=Denial, SU=Substance Use, ES=Emotional Support, IS=Instrumental Support, BE=Behavioural Disengagement, V= Venting, PR=Positive Reframing, P=Planning, H=Humor, A=Acceptance, R=Religion, SB=Self Blame

Since the data was not normally distributed, a non parametric test equivalent of the t-test was used to see if the difference between means for the difference between two age groups is significant across the three variables and their respective dimensions.

Results of the analysis indicated that there was a significant difference,  $z=-2.193$ ,  $p<0.05$  between obsessions with Covid 19 and the age group and this also implies that the age group difference with respect to the means is significant.

With respect to humor there was a significant difference,  $z= -2.626$ ,  $p<0.05$  and this implies that the age group difference with respect to the means is significant.

**Table 5** Mann Whitney for the comparison of means for the variables across gender U value

| Variable | Gender | Mean Rank | U value | Asymp. Sig. |
|----------|--------|-----------|---------|-------------|
| OCS      | Male   | 50.84     | 565.000 | .014        |
|          | Female | 37.37     |         |             |
| CAS      | Male   | 48.05     | 654.500 | .099        |
|          | Female | 39.09     |         |             |
| SD       | Male   | 44.11     | 780.500 | .631        |
|          | Female | 41.51     |         |             |
| AC       | Male   | 50.36     | 580.500 | .019        |
|          | Female | 37.66     |         |             |
| D        | Male   | 49.73     | 600.500 | .024        |
|          | Female | 38.05     |         |             |
| SU       | Male   | 46.08     | 717.500 | .104        |
|          | Female | 40.30     |         |             |
| ES       | Male   | 52.42     | 514.500 | .003        |
|          | Female | 36.39     |         |             |
| IS       | Male   | 52.34     | 517.000 | .003        |
|          | Female | 36.44     |         |             |
| BE       | Male   | 46.81     | 694.000 | .194        |
|          | Female | 39.85     |         |             |
| V        | Male   | 47.84     | 661.000 | .111        |
|          | Female | 39.21     |         |             |
| PR       | Male   | 47.56     | 670.000 | .127        |
|          | Female | 39.38     |         |             |
| P        | Male   | 51.14     | 555.500 | .010        |
|          | Female | 37.18     |         |             |
| H        | Male   | 41.28     | 793.000 | .709        |
|          | Female | 43.25     |         |             |
| A        | Male   | 44.61     | 764.500 | .521        |
|          | Female | 41.20     |         |             |
| R        | Male   | 40.95     | 782.500 | .642        |
|          | Female | 43.45     |         |             |
| SB       | Male   | 42.86     | 820.500 | .912        |
|          | Female | 42.28     |         |             |

OCS=Obsessions with Covid 19, CAS=Coronavirus Anxiety, SD= Self Distraction, AC= Active Coping, D=Denial, SU=Substance Use, ES=Emotional Support, IS=Instrumental Support, BE=Behavioural Disengagement, V= Venting, PR=Positive Reframing, P=Planning, H=Humor, A=Acceptance, R=Religion, SB=Self Blame

Since the data was not normally distributed, a non parametric test equivalent of the t-test was used to see if the difference between means for the difference between the two genders is significant across the three variables and their respective dimensions.

For obsessions with Covid 19, it can be seen that the Mann Whitney U value is 565.000,  $Z=-2.470$  and the significance value is .028. This means that the gender difference with respect to means of obsessions across genders is significant.

For active coping it was observed that the Mann Whitney U value is 580.500,  $Z = -2.354$ , and the significance value is .019 and this implies that there is a significant gender difference with respect to the means of active coping.

For denial it can be seen that the Mann Whitney U value is 600.500,  $Z = -2.258$  and the significance value is .024 and this implies that there is a significant gender difference with respect to the means of denial.

With respect to emotional support as a coping mechanism it can be seen that the significant value is  $Z = -2.961$ ,  $p < 0.05$  and this implies that the gender difference with respect to means is significant

With respect to instrumental support it can be seen that the significance value is  $Z = -2.935$ ,  $p < 0.05$  and this implies that the gender difference with respect to the means is significant.

For planning it can be seen that the significance value is  $Z = -2.578$ ,  $p < 0.05$  and this implies that the gender difference with respect to the means is significant.

**Table 6** showing Spearman correlations between obsessions, anxiety and coping mechanisms

|     | OCS    | CAS    | SD     | AC     | D      | SU     | ES     | IS     | BE     | V      | PR     | P      | H      | A      | R      | SB     |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| OCS | 1.000  | .559** | .319** | .352** | .456** | .261*  | .248*  | .442** | .269*  | .465** | .142   | .318** | -.050  | .123   | .195   | .201   |
| CAS | .559** | 1.000  | .329** | .184   | .363** | .406** | .226*  | .372** | .313** | .400** | -.085  | .183   | .097   | -.061  | .100   | .436** |
| SD  | .319** | .329** | 1.000  | .586** | .374** | .334** | .335** | .324** | .398** | .496** | .274*  | .339** | .226*  | .280** | .176   | .409** |
| AC  | .352** | .184   | .586** | 1.000  | .390** | .150   | .415** | .457** | .368** | .431** | .414** | .627** | .063   | .307** | .289** | .185   |
| D   | .456** | .363** | .374** | .390** | 1.000  | .338** | .139   | .473** | .373** | .457** | .304** | .501** | .186   | .075   | .397** | .384** |
| SU  | .261*  | .406** | .334** | .150   | .338** | 1.000  | .348** | .341** | .394** | .314** | .196   | .164   | .342** | .099   | .088   | .189   |
| ES  | .248*  | .226*  | .335** | .415** | .139   | .348** | 1.000  | .582** | .398** | .486** | .272*  | .376** | .293** | .232*  | .026   | .258*  |
| IS  | .442** | .372** | .324** | .457** | .473** | .341** | .582** | 1.000  | .415** | .633** | .313** | .506** | .235*  | .173   | .247*  | .388** |
| BE  | .269*  | .313** | .398** | .368** | .373** | .394** | .398** | .415** | 1.000  | .383** | .302** | .270*  | .337** | .195   | .157   | .407** |
| V   | .465** | .400** | .496** | .431** | .457** | .314** | .486** | .633** | .383** | 1.000  | .218*  | .451** | .253*  | .196   | .169   | .593** |
| PR  | .142   | -.085  | .274*  | .414** | .304** | .196   | .272*  | .313** | .302** | .218*  | 1.000  | .401** | .130   | .514** | .135   | -.003  |
| P   | .318** | .183   | .339** | .627** | .501** | .164   | .376** | .506** | .270*  | .451** | .401** | 1.000  | .055   | .120   | .304** | .392** |
| H   | -.050  | .097   | .226*  | .063   | .186   | .342** | .293** | .235*  | .337** | .253*  | .130   | .055   | 1.000  | .236*  | .048   | .317** |
| A   | .123   | -.061  | .280** | .307** | .075   | .099   | .232*  | .173   | .195   | .196   | .514** | .120   | .236*  | 1.000  | .080   | -.065  |
| R   | .195   | .100   | .176   | .289** | .397** | .088   | .026   | .247*  | .157   | .169   | .135   | .304** | .048   | .080   | 1.000  | .120   |
| SB  | .201   | .436** | .409** | .185   | .384** | .189   | .258*  | .388** | .407** | .593** | -.003  | .392** | .317** | -.065  | .120   | 1.000  |

OCS=Obsessions with Covid 19, CAS=Coronavirus Anxiety, SD= Self Distraction, AC= Active Coping, D=Denial, SU=Substance Use, ES=Emotional Support, IS=Instrumental Support, BE=Behavioural Disengagement, V= Venting, PR=Positive Reframing, P=Planning, H=Humor, A=Acceptance, R=Religion, SB=Self Blame

Since the data was not normally distributed, a non parametric test for correlation i.e., Spearman's Rank Order Correlation was used to see if there is any significant relationship between obsessions with Covid 19, coronavirus anxiety and the respective dimensions of coping mechanisms.

The results completely show Obsessions has a significant strong positive correlation with coronavirus anxiety ( $r_s = .559$ ) and vice versa and with respect to coping mechanism obsession has a moderate significant relationship with self-distraction ( $r_s = .319$   $p > 0.01$ ), active coping ( $r_s = .352$   $p > 0.01$ ), denial ( $r_s = .456$   $p > 0.01$ ), substance use ( $r_s = .261$   $p > 0.05$ ), emotional support ( $r_s = .248$   $p > 0.05$ ), instrumental support ( $r_s = .442$   $p > 0.01$ ), behavioural engagement ( $r_s = .269$   $p > 0.05$ ), venting ( $r_s = .416$   $p > 0.05$ ) and planning ( $r_s = .318$   $p > 0.01$ ).

There is a strong positive correlation between coronavirus anxiety and self distraction ( $r_s = .329$   $p > 0.01$ ), venting ( $r_s = .400$   $p > 0.01$ ), self-blaming ( $r_s = .436$   $p > 0.01$ ), substance use ( $r_s = .406$   $p > 0.01$ ), behavioural disengagement ( $r_s = .313$   $p > 0.01$ )

There is a significant positive relationship between the respective dimensions of coping mechanisms like active coping, denial, emotional support, instrumental support, venting.

### Summary

This study aimed to evaluate the differences in psychological reactions specifically obsession, anxiety, and also the coping mechanisms used with respect to covid 19 pandemic among Indian adult population within the age range of 20-60. It also intended to explore if there is any gender difference with respect to obsessions, anxiety and coping mechanisms. The data was subjected to rigorous statistical analysis which showed that there is a significant difference in case of disturbing thoughts towards coronavirus with respect to age and gender and this rejects the null hypothesis postulated. It was also



observed that there was no significant difference in anxiety towards Covid 19 with respect to age and gender. The results of this study are consistent with the similar findings of previous studies where there was no significant difference with respect to anxiety. Furthermore the results showed that there was significant difference with respect to some dimensions of coping mechanisms across age and gender which partially rejects the null hypothesis.

### Limitations

The study fails to take a sample which is a representative of the normal population and this is one of the disadvantages of this study and due to which non parametric statistics has been used to analyze the results. Parametric statistics increases the chances of generalizability from a sample to population. So the results which have been obtained from the study have very low generalizability. Another disadvantage is that no comparison was made about the coping mechanisms before and after Covid 19 pandemic. Other demographic factors like profession, marital status, education were not taken into consideration for this study. Moreover the pandemic related factors like social isolation, quarantine, loss of loved ones might have acted as contributing factors behind the increase in obsession, anxiety and so this needs to be studied separately. These shortcomings of the study make it challenging to generalize the findings at large.

### Implications

This study supports the literature that Covid 19 pandemic did have an effect on mental health among Indian adult population and there are significant differences with respect to age and gender. It also fills in gaps that were identified in existing literature. Moreover, this important findings obtained from the study can guide the mental health professionals about forming a therapeutic treatment plan that will manage the mental health consequences due to this pandemic. Findings of the study provided a brief overview of the types of coping mechanisms used to overcome the stress, depression, anxiety and it can also work as important techniques in structured therapeutic interventions. Various therapies, such as cognitive behavioural therapy and dialectical behaviour therapy, may aid in reducing the psychological trauma caused by the pandemic. This research may also aid in identifying early warning signs of mental illness.

### Recommendations

Keeping in mind, the shortcomings of the study, subsequent studies can try to improve upon the experimental design, methodology so that a systematic review can be done about the mental health problems like obsessions anxiety, depression, stress, faced by the population during this pandemic and the data can also be compared with the patients who suffer from psychiatric illness. Moreover a comparison of the coping mechanisms could have given an understanding about how the phase of the pandemic has changed the use of coping mechanisms among the population The sample size can also be increased to enhance the generalizability of the findings. Longitudinal studies can be carried out to gain a deep understanding of the different phases of the pandemic and this helps support the findings with more concrete reasons.

### Conclusions

Findings from the current study indicated that there was significant difference in obsessions with respect to age. Moreover males experienced more challenging thoughts related to coronavirus in females. However with respect to anxiety related to the virus no significant difference was observed. Further the findings indicated that males are more likely to engage in problem solving coping strategies than females and this can act as a contributing factor to improve the mental health during pandemic.

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