

The Study on Trends in Psycho Emotional Impact of Self Isolation Due to Covid-19 Pandemic on Behaviour of Individuals From Organized Sector in India

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ABSTRACT

Government of India ordered a nationwide lockdown for limiting movement of the population as a preventive measure against the COVID-19 pandemic in India. The lockdown and the self isolation influenced have individuals at a great deal. Open portability has declined sharp. various examinations carried out by international psychiatric institutions hypothesized that the self isolation and social distancing would create socio-emotional behavioral disorder in individuals. These facts put forth that, due to lockdown in India, there is a high chance of individuals to develop various psychological and emotional disorders. An ambiguity in respect to the psycho emotional impact of the social isolation due to COVID 19-pandemic on Individual's mental state in India could be identified in this juncture. This study attempts to identify the psycho emotional impact of isolation due to COVID 19-pandemic on Individual's in India. By virtue of 200 samples determined through convenient sampling method collected through an open sample frame it could be found out that level of aggression in the initial period of lock down or self isolation is relatively low compared to level of aggression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks. level of Depression in the initial period of lock down or self isolation is relatively low compared to level of Depression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks. Thus permitting to make a conclusion that social behavior has been affected due to self isolation. There is significant trend in the difference in influence towards social behaviour.

Keywords: Self isolation, Behaviour, Pandemic, Lockdown

INTRODUCTION

The COVID-19 pandemic in India is part of the overall pandemic of the novel corona virus disease 2019 caused by severe acute respiratory syndrome corona virus, scientifically addressed as SARS-CoV-2 (World Health Organization, 2009). The first case of COVID-19 was accounted for on 30 January 2020. As of 8 June 2020, it has been confirmed that a total of 256,611 cases, 124,430 recoveries (including 1 migration) and 7,200 deaths in the nation (M, Geetha and Seshadri, 2020). The outbreak has been declared an epidemic in excess of twelve states and union territories, where provisions of the Epidemic Diseases Act, 1897 have been invoked, leading to the temporary closure of educational and commercial establishments (Ps and Rakesh, 2016). By early to mid-March, the government had drawn up plans to deal with a worsening of the pandemic in the nation (Bapaye *et al.*, 2020) n. On 24 March 2020, the Government of India under Prime Minister Narendra Modi ordered a nationwide lockdown for 21 days, limiting movement of the whole 1.3 billion population of India as a preventive measure against the COVID-19 pandemic in India, after the 14 hour long Janta Curfew (Srivastava *et al.*, 2020).

The government imposed lockdown 5 phases, the main phase of lockdown was imposed between 25th march 2020 and 14th April 2020, by the finish of the phase one, various states recommended for extension for lockdown (Kishor *et al.*, 2020; M, Geetha and Seshadri, 2020). On 14 April, PM Modi extended the nationwide lockdown till 3 May, with a conditional relaxation promised after 20 April for the regions where the spread had been contained by then (Bapaye *et al.*, 2020; Dore, 2020). On 1 May, the Ministry of Home Affairs (MHA) and the Government of India (GoI) further extended the lockdown time frame to about fourteen days beyond 4 May, with certain relaxations. On 17 May, the National Disaster Management Authority (NDMA) and the Ministry of Home Affairs (MHA) extended the lockdown for a period for about fourteen days beyond 18 May, with additional relaxations (Bhattacharyya, Bhowmik and Mukherjee, no date). In contrast to the past extensions, states were given a larger say in the demarcation of Green, Orange and Red zones and the implementation roadmap. Red zones were further separated into to containment and cradle zones (Narayanan and Saha, no date). The local bodies were given the authority to demarcate containment and cradle zones (Sharma, 2020). The MHA issued new guidelines for the month of June, stating that the phases of reopening would "have an economic core interest". Lockdown restrictions would only be imposed in containment zones, while activities would be allowed in other zones in a phased manner (Kumar *et al.*, no date).

The lock down and the self isolation influenced individuals at a great deal. open portability

declined sharp. In India, retail and recreational places saw the steepest fall within the sight of individuals between February 16 and March 29 compared to the traffic between January 3 and February 6 (Mishra *et al.*, 2020). Phone traffic from living arrangements saw a considerable increase, indicating that more individuals were staying at home. It could be stated that the regular activities of individuals is controlled due to the lockdown.

On the global context, various examinations carried out by international psychiatric institutions hypothesized that the self isolation and social distancing would create socio-emotional behavioral disorder among individuals in self isolation (Bhattacharyya, Bhowmik and Mukherjee, no date; Food and Agriculture Organization of the United Nations *et al.*, 2018). These facts put forth that, due to lockdown in India, there is a high chance of individuals to develop various psychological and emotional disorders, leaving an ambiguity in respect to the psycho emotional impact of the social isolation due to COVID 19-pandemic on Individual's mental state in India. Thus study attempts to identify the psycho emotional impact of isolation due to COVID 19-pandemic on Individual's from organised sector in India.

REVIEW OF LITERATURE

Individual Attitude and Behaviour

In psychology, attitude is a psychological construct, a mental and emotional entity that inheres in, or characterizes a person (Cunningham, 2017). They are perplexing and are an acquired state through experiences (Kennedy, 1969). It is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression towards oneself, a person, place, thing, or occasion (the attitude object) which in turn influences the individual's idea and action. Prominent psychologist Gordon Allport described this latent psychological construct as "the most distinctive and indispensable concept in contemporary social psychology. Attitude can be formed from a person's past and present ('Building a human behaviour community', 2017). Key topics in the study of attitudes include attitude quality, attitude change, consumer behavior, and attitude-behavior relationships (Rabett, no date; 'Building a human behaviour community', 2017).

Behavior is the actions and mannerisms made by individuals, organisms, frameworks or artificial entities in conjunction with themselves or their environment, which includes the other frameworks or organisms around as well as the (inanimate) physical environment (Eysenck, 1983; 'Building a human behaviour community', 2017). It is the computed response of the framework or organism to various stimuli or inputs, whether internal or external, conscious or subconscious, clear or undercover, and voluntary or involuntary.

Factors influencing behaviour

The way an individual addresses a situation single-handedly or say in a group is influenced by many factors. The key factors influencing an individual's attitude in personal as well as social life are –

- Abilities
- Gender
- Race and culture
- Attribution
- Perception
- Attitude

The psychological, physical, self-assurance traits owned by a person defines the behavior of a person in social and personal life (White and Rogers, no date). Research proves that men and women both stand equal in terms of job performance and mental abilities; however, society still emphasizes differences between the two genders (Thorpe, 2018). Absenteeism is one area in an organization where differences are found as women are considered to be the primary caregiver for children. A factor that might influence work allocation and evaluation in an organization is the manager's perception and personal values (Ford, 2015; Thorpe, 2018).

Behavior is a product of both the situation (e.g., cultural influences, social roles, and the presence of bystanders) and of the person (e.g., personality characteristics). Subfields of psychology tend to focus on one influence or behavior over others. Situationism is the view that our behavior and actions are determined by our immediate environment and surroundings. In contrast, dispositionism holds that our behavior is determined by internal factors. An internal factor is an attribute of a person and includes personality traits and temperament (Foley, 2003). Social psychologists have tended to take the situationist perspective, whereas personality psychologists have promoted the dispositionist perspective (Schrekenberg and Selten, 2004; Ford, 2015). Modern approaches to social psychology, however, take both the situation and the individual into account when studying human behavior.

RESEARCH METHODOLOGY

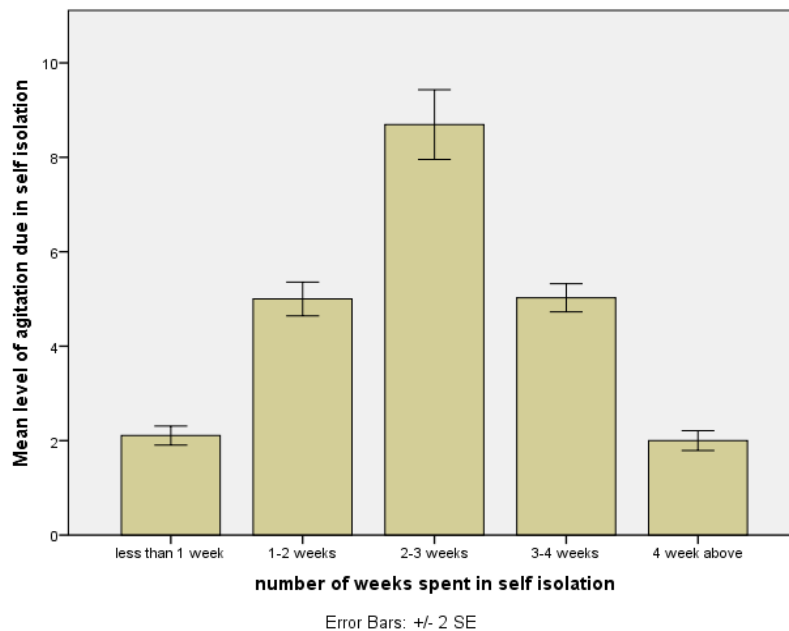
This socio-legal, empirical study is carried out to identify the psycho emotional impact of self isolation through lockdown on the behaviour of individuals from organised sector

This research is carried out by determining the level of each narcissistic trait among the respondents using different social media networking sites. The study includes both qualitative as well as quantitative methods. Since analyzing the level of each trait is required the study also includes an analytic method. Present study is based on Primary as well as Secondary sources of data, which are as Primary Sources collected by interview from victims and Secondary Sources collected through literature of N.G.O. reports, Government Reports, Websites, Research Articles, Newspapers. The study is dependent on Independent variables like age and Dependent variable.

The study is carried out with the help of a convenient sampling method, having 253 sample size from an open sample frame. The statistical tools used for the purpose of deriving results are graphs, pie charts, Pearson correlation, Mann Whitney U test, independent t test and Kendall's tau_b test.

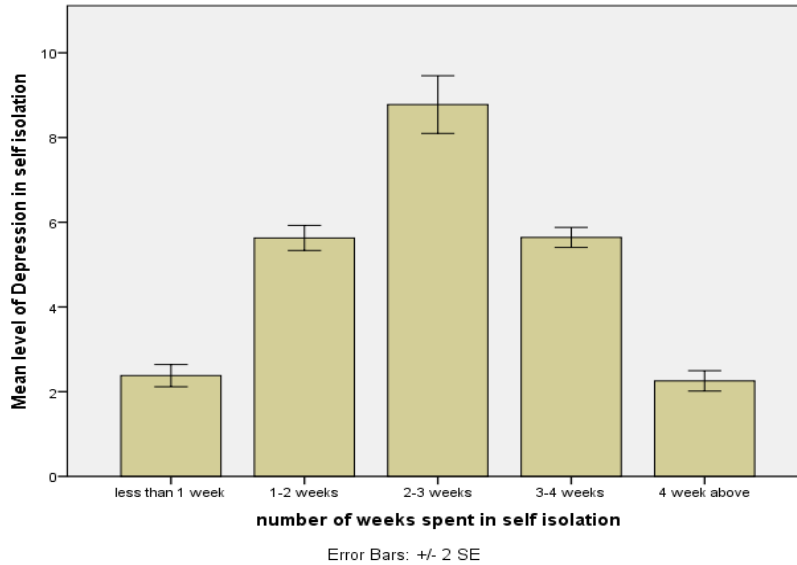
GRAPHS AND ANALYSIS

Graph 1: Bar graph showing the level of agitation in self isolation in different weeks of self isolation



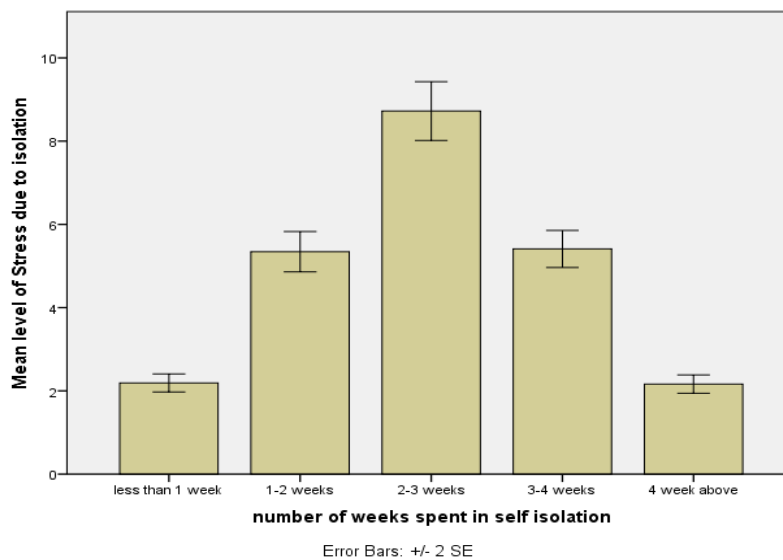
The graph attempts to show the relationship between number of weeks spent in self isolation and the level of aggression in self isolation in the x axis and y axis respectively, for the purpose of identify the impact in individual social behaviour.

Graph 2: Bar graph showing the level of depression due to self isolation in different weeks of self isolation



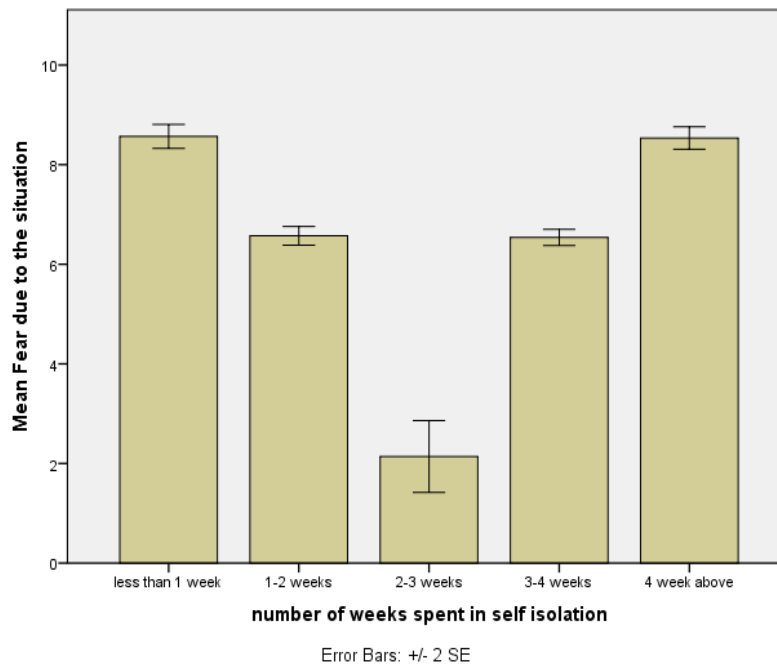
The graph attempts to show to relationship between number of weeks spent in self isolation and the level of depression in self isolation in the x axis and y axis respectively, for the purpose of identify the impact in individual social behavior.

Graph 3: Bar graph showing the level of stress due to self isolation in different weeks of self isolation



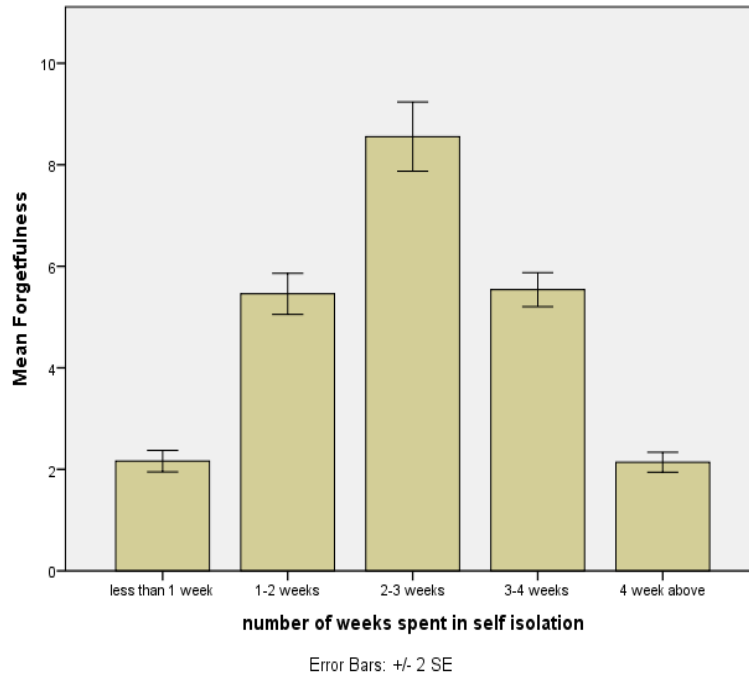
The graph attempts to show to relationship between number of weeks spent in self isolation and the level of stress in self isolation in the x axis and y axis respectively, for the purpose of identify the impact in individual social behavior.

Graph 4: Bar graph showing the level of fear due to self isolation in different weeks of self isolation



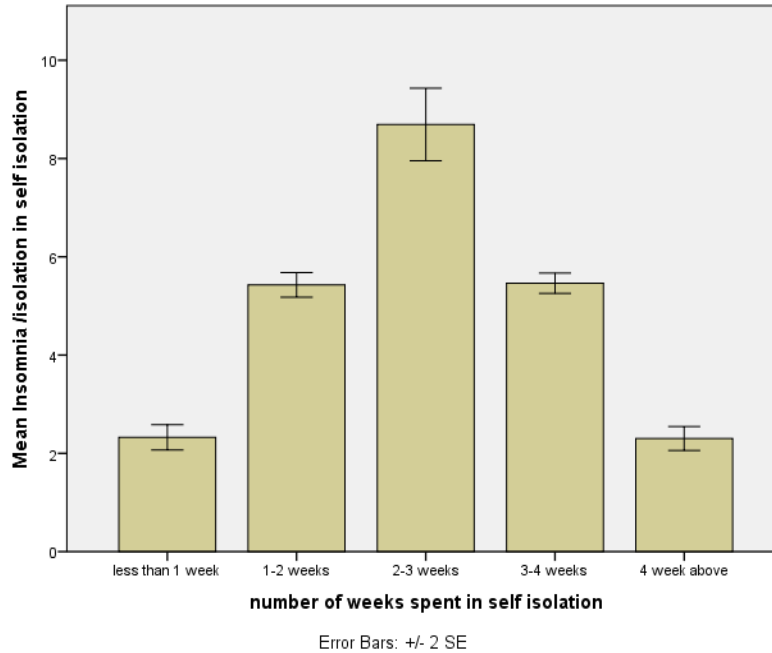
The graph attempts to show to relationship between number of weeks spent in self isolation and the level of fear due to self isolation in the x axis and y axis respectively, for the purpose of identify the impact in individual social behavior.

Graph 5: Bar graph showing the level of forgetfulness due to self isolation in different weeks of self isolation



The graph attempts to show the relationship between number of weeks spent in self isolation and the level of forgetfulness in the x axis and y axis respectively, for the purpose of identify the impact in individual social behavior.

Graph 6: Bar graph showing the level of insomnia in different weeks of self isolation



The graph attempts to show to relationship between number of weeks spent in self isolation and the level of insomnia in self isolation in the x axis and y axis respectively, for the purpose of identify the impact in individual social behavior.

Analysis 1: One sample t test for level of agitation due in self isolation

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
level of agitation due in self isolation	200	4.46	2.731	.198

One-Sample Test

	Test Value = 0				
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower
level of agitation due in self isolation	22.530	189	.000	4.463	4.07

The table depicts the mean of the variable and difference in the average difference in the levels

One-Sample Test

	Test Value = 0
	95% Confidence Interval of the Difference
	Upper
level of agitation due in self isolation	4.85

The table depicts the mean of the variable and difference in the average difference in the levels

Analysis 2: One sample t test for level of Depression in self isolation

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
level of Depression in self isolation	200	4.83	2.681	.195

One-Sample Test

	Test Value = 0				
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower
level of Depression in self isolation	24.840	189	.000	4.832	4.45

One-Sample Test

	Test Value = 0
	95% Confidence Interval of the Difference Upper
	level of Depression in self isolation

The table depicts the mean of the variable and difference in the average difference in the levels

Analysis 3: One sample t test for level of Anger and Aggression in self Isolation

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
level of Anger and Aggression in self isolation	200	4.85	2.957	.215

One-Sample Test

	Test Value = 0				
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower
level of Anger and Aggression in self isolation	22.596	189	.000	4.847	4.42

One-Sample Test

	Test Value = 0
	95% Confidence Interval of the Difference
	Upper
level of Anger and Aggression in self isolation	5.27

The table depicts the mean of the variable and difference in the average difference in the levels

Analysis 4: One sample t test for level of stress in self isolation

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
level of Stress due to isolation	200	4.66	2.784	.202

One-Sample Test

	Test Value = 0				
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower
level of Stress due to isolation	23.091	189	.000	4.663	4.26

One-Sample Test

	Test Value = 0
	95% Confidence Interval of the Difference
	Upper
level of Stress due to isolation	5.06

The table depicts the mean of the variable and difference in the average difference in the levels

Analysis 5: One sample t test for level of fear due to the situation

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Fear due to the situation	200	6.56	2.568	.186

One-Sample Test

	Test Value = 0				
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
Fear due to the situation	35.194	189	.000	6.558	6.19

One-Sample Test

	Test Value = 0
	95% Confidence Interval of the Difference
	Upper
Fear due to the situation	6.93

The table depicts the mean of the variable and difference in the average difference in the levels.

Analysis 6: One sample t test for level of forgetfulness in self isolation

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Forgetfulness	200	4.67	2.694	.195

One-Sample Test

	Test Value = 0					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Forgetfulness	23.883	189	.000	4.668	4.28	5.05

The table depicts the mean of the variable and difference in the average difference in the levels.

Analysis 7: One sample t test for level of Depression in self isolation

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Insomnia /isolation in self isolation	200	4.74	2.649	.192

One-Sample Test

	Test Value = 0				
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower
Insomnia /isolation in self isolation	24.674	189	.000	4.742	4.36

One-Sample Test

	Test Value = 0
	95% Confidence Interval of the Difference
	Upper
Insomnia /isolation in self isolation	5.12

The table depicts the mean of the variable and difference in the average difference in the levels.

Analysis 8: Mann Whitney U test between gender and level of agitation due to self isolation

Ranks

	Gender	N	Mean Rank	Sum of Ranks
level of agitation due to self isolation	male	107	93.36	9989.00
	female	83	98.27	8156.00
	Total	200		

Test Statistics^a

	level of agitation due in self isolation
Mann-Whitney U	4211.000
Wilcoxon W	9989.000
Z	-.618
Asymp. Sig. (2-tailed)	.537

a. Grouping Variable: Gender

This test is done between a nominal and a scale variable in order to find the correlation between 2 independent samples.

Analysis 9: Mann Whitney U test between gender and level of Depression due to self isolation

Ranks

	Gender	N	Mean Rank	Sum of Ranks
level of Depression in self isolation	male	107	94.97	10162.00
	female	83	96.18	7983.00
	Total	200		

Test Statistics^a

	level of Depression in self isolation
Mann-Whitney U	4384.000
Wilcoxon W	10162.000
Z	-.152
Asymp. Sig. (2-tailed)	.879

This test is done between a nominal and a scale variable in order to find the correlation between 2 independent samples.

Analysis 10: Mann Whitney U test between gender and level of anger and aggression due to self isolation

Ranks

	Gender	N	Mean Rank	Sum of Ranks
level of Anger and Aggression in self isolation	male	107	94.34	10094.00
	female	83	97.00	8051.00
	Total	200		

Test Statistics^a

	level of Anger and Aggression in self isolation
Mann-Whitney U	4316.000
Wilcoxon W	10094.000
Z	-.336
Asymp. Sig. (2-tailed)	.737

a. Grouping Variable: Gender

This test is done between a nominal and a scale variable in order to find the correlation between 2 independent samples.

Analysis 11: Mann Whitney U test between gender and level of stress due to self isolation

Ranks

	Gender	N	Mean Rank	Sum of Ranks
level of Stress due to isolation	male	107	93.89	10046.50
	female	83	97.57	8098.50
	Total	200		

Test Statistics^a

	level of Stress due to isolation
Mann-Whitney U	4268.500
Wilcoxon W	10046.500
Z	-.463
Asymp. Sig. (2-tailed)	.644

a. Grouping Variable: Gender

This test is done between a nominal and a scale variable in order to find the correlation between 2 independent samples.

Analysis 12: Mann Whitney U test between gender and level of fear due to self isolation

Ranks

	Gender	N	Mean Rank	Sum of Ranks
Fear due to the situation	male	107	98.83	10574.50
	female	83	91.21	7570.50
	Total	200		

Test Statistics^a

	Fear due to the situation
Mann-Whitney U	4084.500
Wilcoxon W	7570.500
Z	-.964
Asymp. Sig. (2-tailed)	.335

a. Grouping Variable: Gender

This test is done between a nominal and a scale variable in order to find the correlation between 2 independent samples.

Analysis 13: Mann Whitney U test between gender and level of forgetfulness

Ranks

Gender	N	Mean Rank	Sum of Ranks
Forgetfulness Male	107	93.19	9971.50
Forgetfulness Female	83	98.48	8173.50
Total	200		

Test Statistics^a

	Forgetfulness
Mann-Whitney U	4193.500
Wilcoxon W	9971.500
Z	-.666
Asymp. Sig. (2-tailed)	.506

a. Grouping Variable: Gender

This test is done between a nominal and a scale variable in order to find the correlation between 2 independent samples.

Analysis 14: Mann Whitney U test between gender and level of insomnia due to self isolation

Ranks

	Gender	N	Mean Rank	Sum of Ranks
Insomnia /isolation in self isolation	male	107	94.00	10058.50
	female	83	97.43	8086.50
	Total	200		

Test Statistics^a

	Insomnia /isolation in self isolation
Mann-Whitney U	4280.500
Wilcoxon W	10058.500
Z	-.432
Asymp. Sig. (2-tailed)	.666

a. Grouping Variable: Gender

This test is done between a nominal and a scale variable in order to find the correlation between 2 independent samples.

Analysis 15: Jonckheere-Terpstra Test between age and different psycho emotional variable

Jonckheere-Terpstra Test^a

	level of agitation due in self isolation	level of Depression in self isolation	level of Anger and Aggression in self isolation	level of Stress due to isolation	Fear due to the situation	Forgetfulness	Insomnia /isolation in self isolation
Number of Levels in Age	5	5	5	5	5	5	5
N	200	200	200	200	200	200	200
Observed J-T Statistic	6806.500	7205.000	6782.500	6894.000	7538.000	6906.500	7025.000
Mean J-T Statistic	7184.500	7184.500	7184.500	7184.500	7184.500	7184.500	7184.500
Std. Deviation of J-T Statistic	423.141	423.241	422.058	423.754	420.892	422.900	422.285
Std. J-T Statistic	-.893	.048	-.952	-.686	.840	-.657	-.378
Asymp. Sig. (2-tailed)	.372	.961	.341	.493	.401	.511	.706

a. Grouping Variable: Age

This test is done between a ordinal and a scale variable in order to find the correlation between many independent samples.

RESULTS

From graph 1. It could be understood that the level of aggression in the initial period of lock down or self isolation is relatively low compared to level of aggression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks.

From graph 2. It could be understood that the level of Depression in the initial period of lock down or self isolation is relatively low compared to level of Depression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks.

From graph 3. It could be understood that the level of Anger and Aggression in the initial period of lock down or self isolation is relatively low compared to level of Anger and Aggression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks.

From graph 4. It could be understood that the level of stress due to self isolation in the initial period of lock down or self isolation is relatively low compared to level of stress due to self isolation in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks.

From graph 5. It could be understood that the level of fear due to the situation in the initial period of lock down or self isolation is relatively low compared to level of fear due to the situation in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks.

From graph 6. It could be understood that the level of forgetfulness in the initial period of lock down or self isolation is relatively low compared to level of in between 1st and 2nd week, the level of forgetfulness reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks.

The Analysis 1. Show that the mean level of agitation in individuals due to self isolation is comparatively higher than the normal levels in a social behaviour.

The Analysis 2. Show that the mean level of depression in individuals due to self isolation is comparatively higher than the normal levels in a social behaviour.

The Analysis 3. Show that the mean level of anger and aggression in individuals due to self isolation is comparatively higher than the normal levels in a social behaviour.

The Analysis 4. Show that the mean level of anger and agitation in individuals due to self isolation is comparatively higher than the normal levels in a social behaviour

The Analysis 5. Show that the mean level of stress in individuals due to self isolation is comparatively higher than the normal levels in a social behaviour.

The Analysis 6. Show that the mean level of forgetfulness in individuals due to self isolation is comparatively higher than the normal levels in a social behaviour.

The Analysis 7. Show that the mean level of insomnia/isolation in individuals due to self isolation is comparatively higher than the normal levels in a social behaviour.

The Analysis 8. Show that there is no difference in the level of insomnia across gender however in a very few population in there is difference

The Analysis 9. Show that there is no difference in the level of agitation across gender however in a very few population in there is difference across gender

The Analysis 10. Show that there is no difference in the level of depression across gender however in a very few population in there is difference across gender

The Analysis 11. Show that there is no difference in the level of anger and agitation across gender however in a very few population in there is difference across gender

The Analysis 12. Show that there is no difference in the level of stress across gender however in a very few population in there is difference across gender

The Analysis 13. Show that there is no difference in the level of forgetfulness across gender however in a very few population in there is difference across gender

The Analysis 14. Show that there is no difference in the psychological emotional indicators across age however in a very few population in there is difference across age.

DISCUSSION

From the current study it could be found out that the level of aggression in the initial period of lock down or self isolation is relatively low compared to level of aggression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks. After the 2nd and 3rd week there is decrease because of the changes in the nature of lockdown.

It could be understood that the level of Depression in the initial period of lock down or self isolation is relatively low compared to level of Depression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks. After the 2nd and 3rd week there is decrease because of the changes in the nature of lockdown.

It could be understood that the level of Anger and Aggression in the initial period of lock down or self isolation is relatively low compared to level of Anger and Aggression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks. After the 2nd and 3rd week there is decrease because of the changes in the nature of lockdown.

It could be understood that the level of fear is high in the initial days reduced between the 2nd and

3rd week and increase because the number of COVID19 cases reported is low compared to the 3 and 4th week. Further the response towards pandemic was positive in nature; the government assured that there is no social spread. From the 3rd week the level of fear is increasing due to increase in number of cases reported.

The study shows that there is no significant difference between male and female population, but in certain cases the level of agitation in male could found higher compared to that of the females because, it is well founded principle that social movement of male is high compared to female, thus the levels are higher.

The study shows that only certain cases, the level of psychological and emotional factors differ across age groups, this may be due to rate of movement, socialization, obsessive traits etc..

CONCLUSION

From the current study it could be found out that the level of aggression in the initial period of lock down or self isolation is relatively low compared to level of aggression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks. level of Depression in the initial period of lock down or self isolation is relatively low compared to level of Depression in between 1st and 2nd week, the level of reaches maximum between 2nd and 3rd week followed by substantial decrease in subsequent weeks. Thus permitting to make a conclusion that social behavior has been affected due to self isolation. There is significant trend in the difference in influence towards social behaviour.

REFERENCES

- [1] Bapaye, M. M. *et al.* (2020) ‘Resurgence of “bow and arrow” related ocular trauma: Collateral damage arising from COVID-19 lockdown in India?’, *Indian journal of ophthalmology*, 68(6), pp. 1222–1223.
- [2] Bhattacharyya, A., Bhowmik, D. and Mukherjee, J. (no date) ‘Forecast and interpretation of daily affected people during 21 days lockdown due to COVID 19 pandemic in India’.doi: 10.1101/2020.04.22.20075572.
- [3] ‘Building a human behaviour community’ (2017) *Nature Human Behaviour*. doi: 10.1038/s41562-016-0033.
- [4] Cunningham, C. (2017) ‘Behaviour, development and evolution’, *Animal Behaviour*, p. 57. doi: 10.1016/j.anbehav.2017.07.018.
- [5] Dore, B. (2020) ‘Covid-19: collateral damage of lockdown in India’, *BMJ*, p. m1711. doi: 10.1136/bmj.m1711.
- [6] Eysenck, H. J. (1983) ‘Explaining human behavior. Consciousness, human action and

- social structure', *Behaviour Research and Therapy*, p. 587. doi: 10.1016/0005-7967(83)90056-6.
- [7] Foley, R. (2003) *The Origins of Human Behaviour*. Routledge.
- [8] Food and Agriculture Organization of the United Nations *et al.* (2018) *The State of Food Security and Nutrition in the World 2018: Building climate resilience for food security and nutrition*. Food & Agriculture Org.
- [9] Ford, J. (2015) *Human Behaviour: Towards a practical understanding*. Psychology Press.
- [10] Kennedy, J. S. (1969) 'Studies in invertebrate behaviour', *Animal Behaviour*, p. 396. doi: 10.1016/0003-3472(69)90035-9.
- [11] Kishor, K. *et al.* (2020) 'Cardiovigilance in COVID 19', *Journal of the Pakistan Medical Association*, 70(Suppl 3)(5), pp. S77–S80.
- [12] Kumar, S. *et al.* (no date) 'Environmental Impact of Corona Virus (COVID-19) and Nationwide Lockdown in India: An Alarm to Future Lockdown Strategies'. doi: 10.20944/preprints202005.0403.v1.
- [13] M, G., Geetha, M. and Seshadri, L. N. (2020) 'COVID-19: A "Violent" pandemic for health care workers in India', *COVID-19 Special Issue*, pp. 32–40. doi: 10.18231/j.ijirm.2020.023.
- [14] Mishra, D. *et al.* (2020) 'The impact of COVID-19 related lockdown on ophthalmology training programs in India - Outcomes of a survey', *Indian journal of ophthalmology*, 68(6), pp. 999–1004.
- [15] Narayanan, S. and Saha, S. (no date) 'Urban Food Markets and the Lockdown in India', *SSRN Electronic Journal*. doi: 10.2139/ssrn.3599102.
- [16] Ps, R. and Rakesh, P. S. (2016) 'The Epidemic Diseases Act of 1897: public health relevance in the current scenario', *Indian Journal of Medical Ethics*. doi: 10.20529/ijme.2016.043.
- [17] Rabett, R. J. (no date) 'Regional Trajectories in Modern Human Behaviour', *Human Adaptation in the Asian Palaeolithic*, pp. 68–84. doi: 10.1017/cbo9781139087582.004.
- [18] Schreckenberg, M. and Selten, R. (2004) *Human Behaviour and Traffic Networks*. Springer Science & Business Media.
- [19] Sharma, D. C. (2020) 'Lockdown poses new challenges for cancer care in India', *The lancet oncology*. doi: 10.1016/S1470-2045(20)30312-0.
- [20] Srivastava, S. *et al.* (2020) '21-Day Lockdown in India Dramatically Reduced Air Pollution Indices in Lucknow and New Delhi, India', *Bulletin of environmental contamination and toxicology*. doi: 10.1007/s00128-020-02895-w.
- [21] Thorpe, W. H. (2018) 'The Development of Human Behaviour', *Animal Nature and Human Nature*, pp. 212–391. doi: 10.4324/9780203712269-7.

- [22] White, J. and Rogers, S. (no date) 'Keynote Presentation: Making animal welfare sustainable - human behaviour change for animal behaviour: the human element', *Proceedings of the 11th International Veterinary Behaviour Meeting, 14-16th September 2017, Samorin, Slovakia*, pp. 54–58. doi: 10.1079/9781786394583.0054.
- [23] World Health Organization (2009) *WHO Guidelines on Hand Hygiene in Health Care: First Global Patient Safety Challenge: Clean Care is Safer Care*. World Health Organization.