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## RESEARCH ARTICLE

### PREVALENCE OF TYPE D PERSONALITY, DEPRESSION AND THEIR ASSOCIATION AMONGST COLLEGE GOING STUDENTS OF DELHI

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#### ABSTRACT

**Introduction:** Type D personality has been observed to be associated with mental health issues later in life.

**Methods:** This was a descriptive, cross sectional study conducted among college students of Delhi University. A sample size of 419 was calculated by taking into account the prevalence rate of negative affectivity as 55.3%, relative error of 5% in formula  $4pq/l2$  and a non-response rate of 10%. Type D personality was assessed by means of 14-item questionnaire based on DS-14. Those scoring high on both social inhibition and negative affectivity taking cut off value as 10 or >10 were considered as type D personality. Also, PHQ9 was administered for depression. Participants were selected from 5 Co-educational colleges under Delhi University from North Campus. 100 questionnaires per college were given to collect the relevant information. A total of 500 questionnaires were distributed, of which 422 completed questionnaires were received. Data was analyzed using SPSS licensed version 21, Chi-square test for association was used and  $p < 0.05$  was considered for statistically significant association.

**Results:** Prevalence of type D personality was 39.6%. There was no statistically significant association between personality type and whether students stayed at home with parents or in hostel and paying guest accommodation or the course pursued by them in college ( $p > 0.05$ ). Based on PHQ9, 97(23%) had moderate and 18(4.3%) had severe depression. There was a statistically significant association between Type D personality and depression amongst college going students ( $p < 0.05$ ).

**Conclusion:** Both type D personality and depression are common in college going students and also there is a statistically significant association between the two.

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## INTRODUCTION

Personality has been defined as the dynamic organization of the psychophysical systems that determine an individual's characteristic behavior and thought. (Pervin and Cervone, 2009) Personality characteristics are established early in life and develop into a mature personality around the age of 20. (Pervin and Cervone, 2009) Type D personality has been described as the tendency to experience a high joint occurrence of negative affectivity and social inhibition (Pervin and Cervone, 2009). People that score high on negative affectivity have the tendency to experience negative emotions, while people that score high on social inhibition have the tendency

not to express these emotions, because of fear of rejection or disapproval by others. Persons with high levels on both personality traits are classified as having a Type D personality. (Denollet, 2005) Type D personality has been negatively associated with mental health status and more remembered alienation from parents and control by parents while growing up. (Broek Van den *et al.*, 2009) Furthermore, adults with a Type D personality experienced more symptoms of depression and anxiety compared to non-Type D adults. (De Fruyt and Denollet, 2002; Pedersen *et al.*, 2009) Type D personality is a vulnerability factor that not only affects people with medical conditions, but also apparently healthy individuals from the general population. Although Type D is a stable construct (Martens *et al.*, 2007) this does not imply that the individual's level of distress cannot be modified. Individuals with a Type D personality have a limited ability to cope adequately with stressful life events (Doering *et al.*, 2004), and for this reason may benefit from psychological

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interventions that are aimed towards improving their coping skills in order to decrease the acute and chronic stress that they experience. Youth in India are defined as those aged 15 to 29. (GOI, 2014) 'Youth' is often indicated as a person between the age where he/she leaves compulsory education, and the age at which he/she finds his/ her first employment. Youth policy. (GOI, 2014) This stage of transition is associated with stress and as per WHO at least 20 per cent of young people are likely to experience some form of mental illness - such as depression, mood disturbances, substance abuse, suicidal behaviors, eating disorders and others. (World Health Organization, 2011) The present study was planned against this background amongst college going students who are the youth of today to find out the prevalence of personality D, Depression and association between the two.

## MATERIALS AND METHODS

This was a descriptive, cross sectional study conducted among students of 5 colleges under Delhi University. A sample size of 419 was calculated by taking into account the prevalence rate of negative affectivity as 55.3% (Denollet, 2005), relative error of 5% in formula  $4pq/l^2$  and a non-response rate of 10%. For data collection, Type D personality was assessed by means of valid and reliable 14-item questionnaire based on DS-14. Each of them was presented with one copy of questionnaire to assess the type -D personality (DS 14). In Type D scale (DS-14) 7 questions refer to negative affectivity and other 7 questions refer to Social Inhibition. Likert scale, which is a 5 point scale; where 0=false, 1=rather false, 2=neutral, 3=rather true, 4=true. The question numbers 2, 4, 5, 7, 9, 12, 13 refers to negative affect and question numbers 1, 3, 6, 8, 10, 11, 14 refers to Social inhibition. Those scoring high on both or either subscales taking cut off value as 10 or >10 were considered as type D personality. Also, Patient Health Questionnaire 9 (PHQ9) was administered for depression scoring among them. Over the past 2 weeks how often the 9 problems mentioned in the questionnaire were experienced by an individual were scored. All those who scored between 5-9 were categorized to be having mild depression, 10-14 moderate and 15 or more severe depression. (inclusive of both moderately severe depression 15-19 and severe depression 20-27) (Kroenke and Spitzer, 2002). The data was collected and analyzed subsequently. All the data were tabulated. The data was collected and analyzed subsequently. All the data were tabulated. Participants were selected from 5 Co-ed colleges under Delhi University from North Campus. 100 questionnaires per college were given to collect the relevant information. 30 minutes were given to each student to fill the questionnaire and discussion among group of students was discouraged. A total of 500 questionnaires were distributed, of which 422 completed questionnaires were received, giving response rate of 84.4%. Data was analyzed using SPSS licensed version 21, Chi-square test for association was used and  $p < 0.05$  was considered statistically significant.

## RESULTS

Out of a total of 422 study subjects, 76(18%) belonged to age group of 16-18 years, majority 249(59%) belonged to 19-21 years of age and 97(23%) to 22-24 years. 228(54%) were males and 194(46%) were females. B.A. course was pursued by 132(31.3%), B.Sc. by 141(33.4%) and B.Com by 149(35.3%) of the students. 189(44.8%) stayed with their parents while pursuing graduation whereas 233(55.2%) stayed either in a hostel or at a paying guest accommodation. 219 (51.9%) had

negative affectivity and 56 (60.7%) social inhibition. Over all, prevalence of type D personality was there in 167 (39.6%) study subjects. There was no statistically significant association between personality type and whether students stayed at home with parents or in hostel and paying guest accommodation or the course pursued by them ( $p > 0.05$ ). Only 4 subjects (0.9%) said they made fuss about unnecessary things. 65(15.4%), often felt unhappy. 57(13.5%) often got irritated. 33(7.8%) had gloomy view of things. 32(7.6%) often found themselves in bad mood. 89(21.1%) admitted that they felt themselves worrying about something and 48(11.4%) often found themselves down in the dumps (Table 1). On being inquired about social inhibition questions 178 (42.2%) said they may contact easily if they met people. 37(8.8%) often talked to strangers. 81(19.2%) felt inhibited in social interactions. 72(17.1%) found it hard to start a conversation. 84(19.9%) admitted to being a closed person. 71(16.8%) stated they would rather keep others at a distance and 88(20.85%) did not find the right things to talk while socializing (Table 2). Based on PHQ9, 97(23%) had moderate and 18(4.3%) severe depression (Table 3). As per table 4 there is a statistically significant association between Type D personality and depression amongst college going students ( $p < 0.05$ ).

## DISCUSSION

In the present study 51.9% had negative affectivity and 56 60.7% had social inhibition. Over all, prevalence of type D personality was 39.6%. Prevalence of mild depression was 36.25%, moderate 23% and severe 4.3%. In another study by Gupta *et al* in under graduate medical students from Midnapore medical college, West Bengal Type D personality was present in 70% cases of which 15.3% had only negative affectivity, 23.3% had only social inhibition and 31% had both the components. Both depression & Type D personality were present in 36% cases. Negative affectivity component was significantly associated with depression. Prevalence rate of depression was 45.3%, which was mostly of mild type (34%). (Gupta and Basak, 2013) Prevalence of personality D in our study at 39.6% was similar to that found in study of Gupta where 31% had both the components of social inhibition and negative affectivity the, criteria which were taken in our study to label a person to be having personality D. In our study PHQ9 tool was used to screen depression whereas in their study Beck's Depression Inventory was used and the difference in this tool may have contributed to higher prevalence of depression in our study. In our study also there is a statistically significant association between personality D and depression. In another study conducted among medical students at Tirupati by Nagari *et al* among the study population 55.3% had negative affectivity and 76.3% had Social Inhibition. And also authors observed a significant association between negative affectivity and social inhibition. (Nagari *et al.*, 2015) Rishi *et al* conducted a study in women in Jalandhar city, Punjab, in their study, social inhibition was observed in 72% of participants, negative affectivity in 71% and type D personality was found in 72%. The reason for higher prevalence of personality D in their study as compared to ours could be because of the fact that their study was done only in women population and depression is known to be more prevalent in women. (Rishi, 2015) Naushad *et al* in their study among college students of Mangalore city, Bengaluru found depression to be present in 79.2% students. A majority (41.2%) were found to be suffering from moderate followed by mild (26.6%) depression. (Naushad *et al.*, 2014)

**Table 1. Responses to Negative Affectivity questionnaire from study participants (N=422)**

Questions	False Score=0 n (%)	Rather false Score=1 n (%)	Neutral Score=2 n (%)	Rather true Score=3 n (%)	True Score=4 n (%)
Q2.I often make a fuss about unimportant things	288 (68.2)	33 (7.8)	75 (17.8)	22 (5.2)	04 (0.9)
Q4 I often feel unhappy	128 (30.3)	76 (18.0)	88 (20.85)	65 (15.4)	65 (15.4)
Q5 I often get irritated	102 (24.2)	49 (11.6)	129 (30.6)	85 (20.1)	57 (13.5)
Q7 I have a gloomy view of things	141 (33.4)	122 (28.9)	88 (20.85)	38 (9.0)	33 (7.8)
Q9 I am often in a bad mood	172 (40.75)	119 (28.2)	67 (15.9)	32 (7.6)	32 (7.6)
Q12 I often found myself worrying about something	62 (14.7)	65 (15.4)	108 (25.6)	98 (23.2)	89 (21.1)
Q13 I am often down in the dumps	139 (32.9)	124 (29.4)	49 (11.6)	62 (14.7)	48 (11.4)

**Table 2. Responses to Social Inhibition questions from study participants (N=422)**

Question	False Score=0 n(%)	Rather False Score=1 n(%)	Neutral Score=2 n(%)	Rather true Score=3 n(%)	True Score=4 n(%)
Q1 I may contact easily when I meet people	58 (13.7)	24 (5.7)	31 (7.3)	131 (31.0)	178 (42.2)
Q3 I often talk to strangers	213 (50.5)	101 (23.9)	24 (5.7)	47 (11.1)	37 (8.8)
Q6 I often feel inhibited in social interactions	167 (39.6)	34 (8.0)	68 (16.1)	72 (17.1)	81 (19.2)
Q8 I find it hard to start a conversation	142 (33.6)	46 (10.9)	76 (18.0)	86 (20.4)	72 (17.1)
Q10 I am a closed kind of person	97 (23)	80 (18.95)	79 (18.7)	82 (19.4)	84 (19.9)
Q11 I would rather keep other people at a distance	104 (24.6)	48 (11.4)	109 (25.8)	90 (21.3)	71 (16.8)
Q14 When socializing I do not find the right things to talk	56 (13.3)	62 (14.7)	119 (28.2)	97 (23.0)	88 (20.85)

**Table 3. Distribution of the study subjects as per PHQ9 score (N=422)**

PHQ 9 Score	n	%
No depression<4	154	36.5
Mild depression5-9	153	36.25
Moderate depression10-14	97	23.0
Severe depression>15	18	4.3

**Table 4. Association between Type D personality and depression**

	Depression present	Depression absent	Total
Personality D present	93	74	167
Personality D absent	22	233	255
Total	115	307	422

Chi-square value=112.734,p<0.05, df=1

Their results are similar with that of our results. In a study conducted among medical students and physicians from two different countries of Europe, for Lithuanian medical students and physicians the prevalence of personality D was respectively 27.17% and 35%, the difference was not significant ( $\chi^2 = 1.37$ ,  $df = 1$ ,  $p = .24$ ). Thus, the two groups were pooled and the prevalence of the type D personality for all the Lithuanian subjects was 31.25% (95% CI = 24.7-37.8%). For Belgian medical students the prevalence was 31.86% (95% CI = 25.5-38.3%).When the two samples were pooled the prevalence (31.57%) (Lapyte *et al.*, 2015) In our study there was a statistically significant association between personality D and depression similar results that adults with a Type D personality experienced more symptoms of depression and anxiety compared to non-Type D adults have been reported by others also. (Broek Van den *et al.*, 2009; Pedersen *et al.*, 2009) individuals with a Type D personality manifested significantly more symptoms of mental health disorders (Oginska-Bulik, 2006), had more symptoms of mental distress (Broek Van den *et al.*, 2009), and exhibited higher feelings of subjective stress than non-Type D individuals (Van Hiel and De Clercq, 2009). There is a high prevalence of personality D and depression among college going students, since youth is the time one focuses on one's career and makes vital decisions about one's future there is an urgent need to assess the personality of students so that intervention may be undertaken and they don't have to undergo the stress associated with a mental health condition.

## Conclusion

This study suggests that prevalence of personality D is common in general population and it is also associated with depression and hence additional attention is justified for those with this personality type.

## Implications and future studies

A cross-sectional study can only provide association between personality type and depression, the most appropriate way to clarify the predictive value of the DS14 would be to follow a population over a longer period of time and measure Type D personality before illness occurs. The cognitive and affective processes of Type D personality need to be studied in longitudinal research. A longitudinal approach would help us understand better the causal relationships between Type D personality and depression as well as possible impacts on health.

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## Conflict of interest: none

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