



Mindset and Personality Dimensions as Predictors of Depression

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Abstract

The study aims to examine the role of mindset orientations and personality dimensions in predicting the magnitudes of depression. A sample of 100 postgraduate students was randomly selected from different colleges of Patna (Bihar) who volunteered to participate. Mindset orientations were assessed using a 40-item self-developed questionnaire, while personality dimensions (Bhushan, 1969) and depression (Lakshmi, 1992) were measured using standardized scales. Results of the multiple regression analysis showed that the overall model was significant, explaining 53 per cent of the variance in depression scores. Neuroticism emerged as the strongest positive predictor, indicating the higher level of neuroticism was associated with greater depressive symptoms. The factor, "fixed and defensive mindset" also contributed significantly to depression where as extraversion, growth oriented self-belief, social anxiety and open-minded orientation did not significantly predict depression.

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INTRODUCTION

Mindset refers to the beliefs that people hold about their basic qualities such as intelligence, ability, and personality (Dweck, 2016). According to Dweck and Leggett (1988) individuals may be broadly categorized as having fixed mindset (viewing abilities as unchangeable) or growth mindset (believing that abilities can be developed). Research showed that individual differences in mindset and personality significantly influence vulnerability to psychological problems including depression (e.g., Dweck, 2017; Dweck & Leggett 1988; Romero et al. 2014; Yeager & Walton, 2011; Sinha, Lakshmi & Lakshmi, 2025).

Depression is one of the most prevalent mental health concerns worldwide, with an estimated 332 million people affected globally (Global Burden of Disease, 2021). Personality traits especially extraversion and neuroticism have been consistently linked to depression (e.g., Ali zadeh et al., 2018; Jylha & Isometsa, 2006). Individuals high in neuroticism and with a fixed mindset are more prone to rumination and negative affect and psychological distress. In contrast, those with growth-oriented mindsets and adaptive personality traits (openness, responsibility, conscientiousness, extraversion, and emotional stability) tend to show better psychological adjustment (Lindgren et al., 2019). More recent evidence also indicates that growth mindsets are negatively related to

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psychological distress, including depressive symptoms (Burnette et al., 2020).

Several theoretical and empirical contributions support the proposed relationships among mindset, personality, and depression. Dweck's (2016, 2019) theory of mindsets provides a social-cognitive framework for understanding motivation, adjustment, and psychological well-being. Growth mindsets are associated with resilience, adaptive coping, and reduced vulnerability to psychological distress (Yeager & Walton, 2011). Conversely, fixed mindsets foster maladaptive responses such as helplessness and rumination, which can exacerbate depressive symptoms (Romero et al., 2014). Personality dimensions, particularly neuroticism and extraversion, are well-established predictors of depression. Neuroticism, reflecting emotional instability and susceptibility to stress, is strongly correlated with depression and anxiety (Jylhä & Isometsä, 2006; Alizadeh et al., 2018). Extraversion, characterized by sociability and positive affect, often acts as a protective factor (Chaudhary, Sinha & Sinha, 1996). However, findings have been inconsistent across contexts, with some studies reporting weaker associations between extraversion and depression. Recent work has attempted to integrate personality and mindset perspectives. Burnette et al. (2020) conducted a meta-analysis showing that growth mindsets buffer psychological distress and enhance resilience across different populations. Lindgren et al. (2019) further demonstrated that growth mindsets moderate the negative effects of risky behaviors such as problem drinking. Together, these findings suggest that the combined influence of mindset and personality traits may explain unique variance in depression beyond what either framework predicts alone.

Examining mindset and personality together provide a framework for predicting depression. Against this background, the present study aims to explore mindset components and personality dimensions as predictors of depression. Two hypotheses were formulated:

- *The factors of mindset will not be significantly related to each other.*
- *The factors of mindset and personality dimensions will significantly predict the magnitude of depression.*

METHOD

Sample

The sample comprised of 100 postgraduate students randomly selected from different colleges of Patna (Bihar) who were willing to participate in the study. The mean-age of the participants was

approximately 22. Majority of them were girls (78%) with urban background (60%). Their fathers were either in farming (47%), business (25%), or government/private job (28%) being matriculates (62%), graduates (26%), and postgraduates (12%). They were reported to belong low (55%), middle (31%), and high (14%) income groups. Data were collected in the month of June and July 2025.

MEASURES

Eysenck Personality Inventory (EPI)

Maudsley Personality Inventory (MPI) introduced by Eysenck (1959) for clinical use in Maudsley Hospital was developed with a change name, Eysenck Personality Inventory (EPI). It is a revised and improved version which measured extraversion and neuroticism-stability dimension of personality. The EPI consisted of two parallel forms (of which the present report is related to Form A), each containing 57 items out of these, 24 items are related to each of the extraversion and neuroticism scale, and 9 questions constituted the new lie-scale. Neuroticism has been considered as emotional liability of a person, his emotional over responsiveness, and his liability to neurotic breakdown under conditions of stress and extraversion, as outgoing, inhibited social inclination of a person. In the present study the scale used was an adopted Hindi version of Bhushan (1969). The temporal stability and internal consistency reliabilities ranged from .50 to .78.

Depression Scale (Lakshmi, 1992)

Depression Scale consisting of 83 items was developed on a sample of the age that ranged between 16 to 22 years. The test-retest reliability ($\alpha=.76$) and split-half reliability ($\alpha=.73$) are high enough to warrant application of the test. The scale was also validated against Beck, Ward, Mendelson, Mock & Erbaugh (1961), Depression scale ($\alpha=.63$). Sample statements for measuring depression were (i) Are you often depressed? (ii) Do you speak very little? , and (iii) Do you have difficulty meeting strangers?

Personal Data Blank

Personal demographic variables such as gender, age, types of family, birth-order, and economic status were asked to respondents through personal data blank. Data were collected with the help of three sets of questionnaires in the month of June to July 2025.

RESULTS

Measuring Mindset

Initially, forty statements were included to measure the respondents' mindset. However, eight

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statements such as 'I learn from mistakes' ($M = 4.18, SD = .88$), 'Success from hard work' ($M = 4.04, SD = 1.16$), 'If any of my friends gets disappointment, I boost his morale' ($M = 4.01, SD = .82$), 'I would like to have a job in which I can work peacefully and go home on time' ($M = 4.03, SD = .88$), 'I am always ready to help my friends' ($M = 4.06, SD = .76$), 'I would like to do such job in which I get a chance to learn new things everyday' ($M = 4.05, SD = .85$), 'The success of others intimidates me' ($M = 1.96, SD = .98$), and 'There is no limit to achieving success through efforts' ($M = 4.05, SD = .97$) had not been included in analyzing for factor analysis due to either mean values were less than two or more than four on 5-point Likert scale.

Further, a principal component analysis was conducted on the 32 statements with orthogonal rotation with varimax solution on the criteria that Eigenvalue should not be less than 1 (one) and the factor

must have acceptable reliability ($\alpha > .60$). The rotation method determines how initially extracted factor pattern with simple structure. First, the Kaiser-Meyer-Olkin (Kaiser, 1970) measure was applied to examine the sample adequacy for applying the exploratory factor analysis, $KMO = .68$ which was well above the acceptable limit of .50 (Field, 2009). Barlett's test of sphericity ($\chi^2 = 1168.95, df = 496, p < .001$) indicated that correlations among statements were adequately large enough for using principal component analysis. Finally, an initial analysis (SPSS- 21 version) was run to obtain Eigenvalue for each component in the data. In the component analysis, each variable contributes a value of 1(one) to the total Eigenvalue. Thus, only the factors having Eigenvalue greater the one was considered significant. Results of the exploratory factor analysis were reported in Table 1.

Table 1: Factor Structure of Mindset

Factor 1: Growth oriented self-belief (N=10, M=39.03, SD= 6.11, $\alpha = .83$, V= 37.30, Eigenvalue = 6.28)				
Items No.	Statements	λ	M	SD
31	There should be sharing of ideas among friends.	.80	4.00	.84
16	I encourage my teammates to try harder.	.79	3.98	.90
28	I like peace of mind very much.	.69	3.97	.74
11	If my elders encourage me, I can do everything.	.64	3.87	1.12
40	Efficiency of behavior depends on nature of person.	.58	3.86	1.01
09	I want to learn new things all the time.	.54	3.96	.89
21	Behavior efficiency can be improved with efforts.	.51	3.97	.93
29	I have intelligence; I will do well in the examination.	.40	3.87	.74
04	I like to do challenging work.	.49	3.62	1.06
07	I like to visit new places for sightseeing.	.41	3.61	1.25
Factor 2: Fixed & defensive mindset (N=7, M= 18.5, SD= 4.84, $\alpha = .73$, V=13.42, Eigenvalue = 3.71)				
33	Whatever knowledge I have is enough.	.42	2.27	1.88
30	I try to be good in front of others.	.74	2.61	1.13
32	I want people to think I am good.	.69	3.48	1.03
24	A person with sharp intellect doesn't need to try.	.60	2.40	1.11
27	I say yes to everything else in other matters.	.54	2.32	.98
20	Whatever good has to happen will happen on its own.	.44	2.88	1.25
36	Difficult to change the understanding that I have formed.	.50	2.61	1.10
Factor 3: Social anxiety (N= 3, M= 9.68, SD= 2.49, $\alpha = .67$, V= 6.18, Eigenvalue = 1.92)				
5	I feel nervous about doing anything new.	.81	3.23	1.03
6	I get anxious in new situation.	.73	3.37	1.02
15	I hesitate to get close to new people.	.63	3.08	1.14
Factor 4: Self acceptance & responsibility (N=3, M=9.84, SD=2.14, $\alpha = .40$, V=4.60, Eigenvalue = 1.70)				
14	I am satisfied with whatever I achieve.	.61	3.21	1.19
22	I have to suffer the mistakes of others.	.54	2.63	1.10

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10	When I fail, I look at my mistakes.	.53	4.00	.86
Factor 5: Open minded orientation (N= 3, M= 10.73, SD= 2.40, α = .61, V= 5.76, Eigenvalue = 1.67)				
03	I accept my criticism easily.	.76	3.22	1.16
13	More ability you have, more success you will achieve.	.62	3.88	.96
18	I have different things in my mind; I will do whatever the opportunity presents me.	.46	3.63	1.06

Note. Factor loadings (λ) greater than .40 are shown.

Table 1 showed the factor loadings after rotation, five factors were extracted from exploratory factor analysis. The varimax rotation method was then used to perform orthogonal rotation to eliminate statements with factor loading <.40. The rationale behind the selection of factor loadings of .40 and above as the sample size was 100 participants. The extracted factors are as follows:

Factor I: *Growth oriented self-belief* consisted of ten statements. This factor explained 37.30 per cent of the common variance and also showed high reliability (α > .83).

Factor II: *Fixed & defensive mindset* comprised of seven statements. This factor explained 13.42 per cent of the common variance and also showed high reliability (α = .73). Factor III: Social anxiety: Three statements loaded on Factor III were considered as *Social anxiety*. This factor also explained 6.18 per cent common variance and reported high reliability (α = .67). Factor IV: Three statements were loaded on the factor, *Self acceptance & responsibility*. This factor explained 4.60 per cent common variance and showed low reliability (α = .40). This factor did not include in the regression analysis due to low reliability. Factor V: *Open minded orientation*: Three statements were loaded on the factor indicated 5.76 per cent common variance and also showed high reliability (α = .61).

Exploratory factor analysis of the mindset questionnaire yielded five factors: *growth oriented self-belief*, *fixed & defensive mindset*, *social anxiety*, *self-acceptance & responsibility*, and *open-minded orientation*. Except for *self-acceptance & responsibility* (α = .40), all factors showed acceptable reliability and were retained for regression analysis.

In order to examine the relationship between a single criterion variable i.e. depression and a set of predictor variables such as personality factors- extraversion and neuroticism and four other reliable factors of mindset was employed for computing multiple regression analysis. The summary of the multiple regressions analysis was reported in Table 1.

Table 2: Regression Analysis of Personality & Mindset Factors Predicting Depression

Model	R	R ²	Adjusted R ²	B	Std. β	T
1.00	.730a	0.53	0.50	-2.49	-	.29
Extraversion				-.53	-.08	1.15
Neuroticism				1.91	.59	7.55**
Growth oriented self belief				-3.70	-.16	-1.85
Fixed & defensive mindset				4.43	.21	2.80**
Social anxiety				1.54	.09	1.13
Open-minded orientation				1.96	.11	1.27

Note. * p < .05, ** p < .01

Model Summary: R = .730, R^2 = .53, Adjusted R^2 = .50, Std. Error = 10.11, $F(6/93)$ = 17.71

Table 2 displayed the R values (R = .73) for assessing the overall fit of the model. The adjusted R^2 value was .50 which showed that six predictor variables in this model accounted for 53% variance in the criterion variable-depression. The standardized beta weight of neuroticism (β = .59, p < .01) was the strongest significant dimension of personality. Factor, fixed and defensive mindset (β = .21, p < .01) also contributed significantly. However, extra version dimension of personality (β = -.08, p > .05), and the factors, growth oriented self belief (β = -.16, p > .05), social anxiety (β = .09, p > .05), and open-minded orientation (β = .11, p > .05) were not found significant predictors of depression.

It is also of interest to see the pattern of relationship among five factors of mindset, correlations coefficients were computed. The findings indicated that the factor, *growth-oriented self-belief* was not significantly related to factor *fixed & defensive mindset* $r(98)$ = .08, p > .05. Conversely, *growth oriented self-belief* was significantly associated to social anxiety $r(98)$ = .21, p < .05, *self acceptance & responsibility* $r(98)$ = .35, p < .01, and *open minded orientation* $r(98)$ = .53, p < .01. Similarly, *fixed & defensive mindset* was positively correlated to

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social anxiety $r(98) = .31, p < .01$, *self acceptance & responsibility* $r(98) = .31, p < .01$, and *open minded orientation* $r(98) = .18, p < .05$. *Social anxiety* was positively and significantly related to *self acceptance & responsibility* $r(98) = .25, p < .01$ and *open minded orientation* $r(98) = .20, p < .01$. *Self acceptance & responsibility* was also positively related to *open minded orientation* $r(98) = .28, p < .01$. However, *growth oriented self beliefs* had the highest mean scores ($M = 3.90, SD = .61$) followed by *open minded orientation* ($M = 3.57, SD = .80$), *self acceptance & responsibility* ($M = 3.28, SD = .83$), *social anxiety* ($M = 3.23, SD = .83$), and *fixed & defensive mindset* ($M = 2.65, SD = .69$).

DISCUSSION

The results of the multiple regression analysis revealed that the overall model was significant, explaining 53 per cent of the variance in depression scores. Among the predictors such as extraversion, neuroticism dimensions of personality and four factors of mindset, for example, *growth oriented self-belief*, *fixed & defensive mindset*, *social anxiety*, and *open-minded orientation*, neuroticism emerged as the strongest and most significant predictor, indicating the higher levels of neuroticism were associated with higher depression scores. The factor, self acceptance and responsibility did not include in regression analysis as it had less reliability ($\alpha = .40$). The findings suggest that neuroticism contributes to depression through heightened emotional reactivity, negative affect, and maladaptive coping, whereas a fixed and defensive mindset promotes feelings of helplessness, hopelessness, and avoidance of challenges. Together, these factors may reinforce negative thinking patterns and reduce resilience, thereby increasing vulnerability to depressive symptoms. The finding of the present study was also supported by the earlier findings of Chaudhary, Sinha and Sinha (1996) who found that neurotic disposition tend to contribute substantially towards depression. Alizadeh et al. (2018) also found that high level of neuroticism was highly associated with depression. In addition, fixed and defensive mindset also contributed significantly to the predictor. However, extraversion, growth oriented self belief, social anxiety, and open-minded orientation did not show significant effects, suggesting that their contribution to the model were minimal. On the whole, the findings highlight the central role of neuroticism and fixed and defensive mindset in predicting the depression scores, while other predictors appeared less influential. The finding also showed that growth oriented self-belief was not significantly related to fixed and defensive mindset

indicating that both were independent and supported the view of Dweck (2019) that fixed mindset is a fixed and unchangeable whereas a growth mindset is human abilities which are not fixed but may be developed overtime.

The major findings were as follows:

- Neuroticism dimension of personality was significant predictor of depression.
- Fixed & defensive mindset was also significant predictor of depression.
- Extraversion dimension of personality did not show significant effect on the magnitudes of depression.
- Mindset factors such as *growth oriented self-belief*, *social anxiety*, and *open-minded orientation* were not found significant predictors of depression.

CONCLUSIONS

The study's generalization is limited by its sample size. As all the respondents were young postgraduates from a single district, which may not represent other age, region or ethnic groups. Future research should cover diverse sample across different geographical and various cultural settings along with comparison to clinical and non-clinical respondents. In addition, self-report measures may be subject to social desirability bias. Future studies could use mixed methods to better capture how mindset orientations and other personality dimensions influence together on magnitudes of depression.

Implications of the study

The present findings have important implications for understanding the psychological correlates of depression. Neuroticism emerged as an important predictor, suggesting that individuals who experience greater emotional instability may be more vulnerable to depressive symptoms. The results also highlight the importance of considering both personality traits and mindset-related factors in understanding and addressing depression. While extraversion, growth-oriented self-belief, social anxiety, and open-minded orientation did not show a significant direct influence in the present sample, further research is needed to explore other factors that may contribute to depression. Overall, the study adds to existing knowledge by demonstrating that personality and mindset factors play different roles in shaping depressive experiences.

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