

Intellectual Styles as Predictors of Academic Stress

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ABSTRACT

Students have experienced academic stress over the years. According to studies, many students are having major issues as a result of the rising levels of academic stress. Despite additional aspects such as peer pressure, work load, academic environment and family expectations, academic stress still remains a big challenge. Intellectual styles are crucial in the control of academic stress. Students' degrees of academic stress have been found to differ depending on their intellectual styles. Academic stress brings changes in daily routine and can alter the behaviour. Subsequently, if student's academic stress is not dealt effectively, this may result in low academic performance. The main motive of the study intellectual styles as predictors of academic stress. The proposed study was carried out on a sample of 70 students in the age range of 18 to 25 years. Academic Stress Scale (Kumar et al., 2023) and Thinking Style Inventory (Sternberg, 1992) were used to measure the variables under study. Obtained data were analysed by using descriptive statistics, Pearson correlation and regression. Results revealed that the association between the variables intellectual styles and the academic stress was found to be significant. Regression analysis demonstrated that the internal intellectual style (IS) component of 13 intellectual styles was the predictor of academic stress.

Keywords: *Academic Stress, Intellectual Styles*

Academic stress describes the pressure and strain that students go through as a result of the requirements of their academic endeavours. It is a common occurrence that can have an impact on learners at all educational levels, from elementary school to university.

Academic Stress Factors High expectations: Whether it comes from parents, instructors, or even themselves, students frequently feel pressure to perform well in the classroom. Stress can result from the worry that one won't live up to these standards. Heavy workload: Too many assignments, projects, tests, and deadlines can cause stress in the classroom. The strain of juggling several activities at once can sometimes be too much. Academic competition: Stress can result from students feeling pressure to perform better than their peers in order to stand out, receive attention, qualify for scholarships, and other opportunities.

Academic Stress Effects Academic stress can cause a variety of emotional problems, including anxiety, sadness, impatience, and mood changes. Long-term stress can cause

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physical health issues like headaches, sleep disorders, exhaustion, and a compromised immune system. Decline in academic performance: Ironically, too much stress might make it harder to concentrate in class. It might impair one's ability to focus, retain information, and perform cognitively. Relationship problems: Stress can cause relationships with friends, family, and peers to suffer. Due to their academic pressures, students may experience social isolation or have trouble establishing good ties. Chronic academic stress can, in certain situations, result in burnout, which is mental, emotional, and physical exhaustion. Burnout may be difficult to recover from and take a lot of time.

Chen (2022) examined how intellectual types affect coping mechanisms among internal postgraduate participants in Hong Kong 1. The findings demonstrated that adaptive coping techniques was mainly predicted by type I intellectual types whereas, Type II intellectual types positively influenced dysfunctional coping strategies. Kumar et al. (2020) analysed the coping strategies for medical undergraduate students who were experiencing academic stress at a large Midwestern university 2. The findings showed that low, moderate, and severe levels of academic stress were experienced by 17%, 77.3%, and 5.7% of the participants, respectively. The coping mechanisms were unsatisfactory, especially for the participants who were men. Singh et al. (2020) explored the association between intellectual styles and academic stress related to schoolwork in secondary school pupils 3. The results revealed that there was a significant negative correlation between intellectual styles and academic stress. The internal intellectual style component of 13 intellectual styles was the predictor of academic stress.

Individual preferences, dispositions, or methods of information processing, learning, and problem-solving are referred to as intellectual styles. They showcase the various ways that people learn, think, and engage with the world intellectually. Different theories and models have been proposed to define and classify various intellectual styles. Intellectual styles refer to people's chosen methods of processing data and completing tasks (Sternberg & Zhang, 2005). These concepts include learning styles, cognitive styles, and thinking styles.

Using data from both theoretical and empirical sources, Zhang and Sternberg (2005) divided intellectual styles into three categories in their tripartite model of intellectual styles. Because they demand upper stages of creativity and cognitive complexity and are linked to additional adaptable qualities including better stages of career success, self-esteem, and self-efficacy, Type I styles are typically seen as having positive worth (Sternberg & Zhang, 2009). Type II styles are typically regarded as having low value because they often exhibit more maladaptive behaviours, show lower levels of cognitive complexity, and tend to be less creative. Type III styles are neutral in value because they depend on the context and situation for their effectiveness (Zhang & Sternberg, 2005).

Numerous empirical studies have examined Sternberg's (1988) notion of mental self-government, the most contemporary model of thinking types. (see Zhang, 2011 for a review). This theory proposes that people use different forms of mental self-government to regulate their intellectual processes. These forms are analogous to different types of government systems in the real world, such as monarchic, hierarchic, oligarchic, democratic, anarchic, and global. Each form has two dimensions: scope (internal or external) and level (local or global). The scope dimension refers to whether the style is oriented toward one's own or others' thoughts and actions. The level dimension refers to whether the style is focused on details or the big picture. The combination of these two dimensions results in 13 intellectual styles: legislative, executive, judicial, monarchic, hierarchic, oligarchic,

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democratic, anarchic, global, local, internal, external, and liberal. These intellectual styles are measured through Thinking Style Inventory (TSI) (Sternberg, 1992).

The relationship between intellectual styles and academic stress has been explored by several studies. For example, Zhang and Sternberg (2006) discovered that Type I styles were negatively correlated to the academic stress, while Type II styles were positively correlated to the academic stress. They also found that legislative, judicial, global, and internal types were negatively connected with the academic stress, although executive, local, and external types were positively connected with the academic stress. Zhang et al. (2010) replicated these findings in a sample of Chinese university students. They also discovered that the internal style was the strongest predictor of academic stress among the 13 intellectual styles.

Some recent studies have also investigated the role of thinking types in the academic stress and its coping mechanisms. For example, Li et al. (2019) examined the mediating effect of coping strategies on the relationship between intellectual styles and academic stress among Chinese college students. They discovered that while Type II styles were positively connected with the academic stress, Type I styles were found to be negatively connected with the academic stress. They also found that coping strategies partially mediated the relationship between intellectual styles and academic stress. Specifically, Type I styles had good interdependence with the problem-focused coping and negative interdependence with the emotion-focused coping, whereas Type II styles had negative interdependence with the problem-focused coping and positive interdependence with the emotion-focused coping. Problem-focused coping was negatively connected with academic stress, while emotion-focused coping was positively associated with academic stress.

Another recent study by Wang et al. (2020) examined how intellectual styles between mainland postgraduate participants in Hong Kong predict coping mechanisms. They found that Type I intellectual styles were positively associated with the problem-focused coping and the social support seeking, although Type II intellectual styles were positively associated with avoidance coping. They also found that problem-focused coping and social support seeking were negatively associated with academic stress, while avoidance coping was positively related to academic stress. Furthermore, they found that thinking styles had both direct and indirect effects on academic stress through coping strategies.

These studies suggest that intellectual styles are important factors in influencing academic stress and its coping mechanisms. Students who adopt more creative, complex, and adaptive intellectual styles tend to experience less academic stress and use more effective coping strategies, while students who adopt more rigid, simple, and maladaptive intellectual styles tend to experience more academic stress and use less effective coping strategies.

Aims:

The current study objectives to extend the previous studies by examining the association between thinking styles and the academic stress in a sample of Indian university students.

Specifically, it is hypothesized that:

H1: The association between the variable's intellectual styles and the academic stress was found to be significant.

H2: The internal intellectual style is the strongest predictor of academic stress among the 13 intellectual styles.

METHODOLOGY

Participants

The participants of this study were 70 university students from Central University of Haryana, India. They were selected by using convenience sampling method. The age range of the participants was 18 to 25 years ($M = 21.34$, $SD = 1.87$). There were 35 males and 35 females in the sample.

Measures

- **Academic Stress Scale (ASS) (Kumar et al., 2023):** This scale was developed to assess the academic stress among university students. It consists of 30 items that cover four dimensions of academic stress: pressure from parents, pressure from teachers, pressure from peers, and pressure from self. The items are based on a five-point Likert scale range from 1 to 5 (strongly disagree) to (strongly agree). The composite score ranges from 20 to 100, with upper scores indicating upper stages of the academic stress. The test reliability and validity are good (Kumar et al., 2023).
- **Thinking Style Inventory (TSI) (Sternberg, 1992):** The 13 intellectual types outlined in mental self-government theory of Sternberg's are measured by this inventory. It consists of 104 items are broken down into 13 subscales, each of which corresponds to a different intellectual type. The items are based on a seven-point Likert scale range from 1 to 7 (never) to (always). The subscale scores range from 8 to 56, with upper scores representative stronger preferences for each style. The inventory has good reliability and validity (Sternberg, 1992).

Procedure

The participants were contacted personally and invited to participate in this endeavour. They were informed about the purpose and procedure of the study and assured about the confidentiality and anonymity of their answers. They were also made aware of their ability to refuse participation in the study.

RESULTS AND DISCUSSION

The study, obtained data were treated through several statistical analyses. The analyses most appropriate to the objectives are multiple regressions. Descriptive statistics and product moment correlations were also worked out (Table 1 & 2). The results of these analyses are described here.

Table-2. It was found that Exam Stress is negatively correlated with Anarchic ($r = -0.26$) and Internal ($r = -0.31$) at 0.05 and 0.01 levels, respectively. It was revealed that Classroom Stress is negatively correlated with Hierarchic ($r = -0.25$) and Anarchic ($r = -0.26$) at 0.05 level. It was found that the composite score of Academic Stress is negatively correlated with Hierarchic ($r = -0.26$) at 0.05 level, Anarchic ($r = -0.30$) at 0.01 level, and Internal ($r = -0.31$) at 0.01 level of significance.

Regression

Table-3 representative dependent variable Academic Stress was regressed on predicting variable IS (Internal Intellectual Style) which significantly predicted Academic Stress $F(1, 68) = 7.61$, $p < .01$ which indicates IS (Internal Intellectual Style) as significant predictor of Academic Stress ($\beta = -.31$, $t = -2.75$, $p < 0.01$). Moreover, the $R^2 .10$ depicts that this model explains 10.1 % of variance in Academic Stress.

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The primary goal of the current investigation was to study the interdependence between thinking styles and the academic stress. The obtained result has revealed that there was a significantly negative correlation between academic stress and three components of intellectual styles that is Anarchic, Hierarchic and Internal Intellectual Styles. The second objective of the current investigation was to study the Intellectual Styles as predictors of Academic Stress. The obtained result has revealed that the internal intellectual style (IS) which significantly predicted Academic Stress. Thus, those participants are high on Anarchic and Internal Intellectual Style. Their level of Exam Stress will be low because the anarchic person prefers work, initiatives, and circumstances that allow for a lot of flexibility in approach and the freedom to attempt anything whenever, and as they like. This individual incline to be a systematic or even anti-systematic and the internal person prefers tasks, projects, and circumstances that call for actions that enable one to function independently of others. This person enjoys working alone, is often introverted, and finds it difficult to interact with others in a group setting. Those participants have strong on Hierarchic and Anarchic Intellectual Styles. They will be low on Classroom Stress because the hierarchical person prefers tasks, projects, and circumstances that allow for the formation of a hierarchy of objectives to be met. Although they prioritise different tasks differently, this person enjoys doing several things at once. People who are organised tend to be adaptable in situations where priorities must be established for completing some tasks before others or when it is required to identify which tasks are more important than others. Those participants score highly on the Hierarchic, Anarchic and Internal Intellectual Styles. They will be low on Academic Stress.

Comparatively speaking, Indian students used legislative, executive, local liberal, conservative, hierarchical, monarchical, and the internal styles more than their equals, but Tibetan students used oligarchic styles more frequently than Indian students, highlighting the key cultural influence. The results weren't in line with earlier research by Zhang et al. (2012) that examined the applicability of mental self-government theory of Sternberg's to students of Tibetan university from the minority group and compared their way of thinking to Han Chinese students from the majority group. Compared to Han Chinese students, Tibetan pupils in this study had a stronger inclination for norm-referenced intellectual types and a lower propensity for creativity-generating intellectual types. Similar outcomes were anticipated in the perspective of Indian vs. Tibetan students, which the investigation did not provide.

Female participants preferred legislative, executive, judicial, global, local, liberal, hierarchical, monarchic, oligarchy, and the anarchic thinking patterns substantially more than male students did. These findings appear to be at odds with a number of earlier research, such as Grigorenko and Sternberg (1997), Zhang (1999), Gridley (2006), and Chhabra (2008), which did not note significant differences in thinking styles depending on gender. Model made by Sternberg. However, several research have suggested that there is a gender difference in thinking style.

The hypotheses that were formulated which stated that Intellectual Styles is to correlate negatively with Academic Stress. Intellectual styles as the predictors of Academic Stress have been verified.

CONCLUSION

The main objective of the study focused on the major consequences of Academic Stress in view of their importance in overall well-being and healthy functioning of the student. The

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findings indicated that intellectual styles are in significant relationship with academic stress and plays a significant role in predicting academic stress. In nutshell, higher the level of intellectual styles lower will be the level of academic stress. This concludes that in order to remove or decrease the academic stress of students we need to inculcate and increase the level of intellectual styles and incorporate the nurturing right from the school age so that the students can perform better in their academic career.

Limitations

Data are based on a very small sample generalization may done with caution limited to small geographical area.

Suggestions

The future scope of present study can be carried forward by taking the broader area of study, by using a time series data to estimate the long run effectiveness of Intellectual Styles among the students within the age group 18 to 25 years.

Implications

This research may provide plausible ground in further for the investigation. The findings of this study may have insightful and vital value in dealing with academic stress among students and designing intervention strategies by taking with consideration the intellectual styles.

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Conflict of Interest

The author(s) declared no conflict of interest.

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APPENDIX

Table – 2 Correlation Matrix

Variables	LS	ES	JS	MS	HS	OS	AS	GS	LCS	IS	EXS	LBS	CS	EXAM	CLASS	COMPOSITE
LS	1	.732**	.760**	.666**	.805**	.623**	.618**	.591**	.631**	.476**	.594**	.647**	.664**	-.065	-.061	-.057
ES		1	.734**	.669**	.764**	.611**	.621**	.469**	.663**	.530**	.491**	.546**	.673**	-.064	-.112	-.113
JS			1	.679**	.713**	.609**	.653**	.577**	.678**	.445**	.646**	.737**	.685**	-.090	-.118	-.121
MS				1	.761**	.656**	.692**	.547**	.713**	.578**	.588**	.617**	.639**	-.178	-.205	-.203
HS					1	.757**	.751**	.673**	.767**	.616**	.593**	.691**	.718**	-.212	-.250*	-.265*
OS						1	.756**	.686**	.832**	.605**	.607**	.648**	.697**	-.190	-.168	-.231
AS							1	.634**	.761**	.550**	.598**	.679**	.537**	-.267*	-.265*	-.308**
GS								1	.718**	.482**	.659**	.599**	.457**	.001	.154	.037
LCS									1	.590**	.661**	.685**	.673**	-.146	-.161	-.196
IS										1	.503**	.460**	.631**	-.315**	-.214	-.317**
EXS											1	.740**	.624**	-.084	.005	-.066
LBS												1	.675**	-.192	-.189	-.230
CS													1	-.072	-.126	-.142
EXAM														1	.690**	.899**
CLASS															1	.879**
COMPOSITE																1

Table – 3 Regression analysis of Intellectual Styles as predictors of Academic Stress

Predictor	B	Std. Error B	β	t-value	p (Sig)
IS	-.63	.22	-.31	-2.75	.007
R ²	.10				
Adjusted R ²	.08				
F	7.6				.007

Dependent Variable: Composite Score

Predictor: (Constant), IS