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A comprehensive analysis of personality traits, procrastination and cognitive failures in college students: The impact of gender

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Abstract
The study aims to explore relationships between personality traits, procrastination, and cognitive failures, and also examines gender differences in these three variables. The sample consisted of a total of one hundred and sixty college students from the Punjab region of India. Data was collected using self-report measures, including the NEO Five-Factor Inventory-Revised, Cognitive Failures Questionnaire, and the General Procrastination Scale. A T-test was used to calculate the significant gender differences. The relationship between personality traits, procrastination and cognitive failures was analyzed using Pearson's correlation and linear regression. All statistical analysis was performed using Statistical Package for the Social Science (SPSS) software. The results showed that conscientiousness was negatively correlated with procrastination and cognitive failures. Males tend to procrastinate more and names of cognitive failures, whereas females experience more neuroticism and cognitive failures, particularly in distractibility and blunders. Agreeableness was negatively correlated with cognitive failures, blunders and distracters. Conscientiousness and agreeableness were found to be significant predictors of procrastination and cognitive failures.

Keywords: Cognitive failures, gender differences, personality traits, procrastination

Introduction
The transition to college represents a critical period in young adults' lives, characterized by increased independence, academic challenges, and the development of personal identity. Among the myriad of factors that contribute to academic success or failure, three elements emerge as particularly influential: personality traits, procrastination, and cognitive failures. Personality traits, often conceptualized through frameworks such as the Big Five, shape how students approach their studies, interact with peers, and manage stress [1].
Each of these traits exerts a unique influence on students' academic behaviors and outcomes. For instance, students high in openness tend to exhibit curiosity and a willingness to engage with new ideas [2], which can enhance their learning experiences and academic exploration. Conversely, those who score low in this dimension may prefer routine and familiarity, potentially limiting their academic engagement. Conscientiousness, is often regarded as a critical predictor of academic success [3]. Students who score high in conscientiousness are typically better at planning their study schedules, adhering to deadlines, and maintaining a consistent work ethic. In contrast, those low in conscientiousness may struggle with time management and exhibit erratic study habits, which can lead to poorer academic outcomes [4]. Extraversion and agreeableness also play significant roles in the academic environment. Extraverted students often thrive in collaborative learning settings, benefiting from peer interactions and group projects, while agreeable students may foster positive relationships with classmates and instructors, creating a supportive learning atmosphere [5]. On the other hand, high levels of neuroticism can lead to anxiety and self-doubt, which may hinder academic performance by impairing concentration and motivation [6].
Procrastination, a widespread phenomenon among students, can further complicate the academic landscape. It often stems from a combination of fear of failure, perfectionism, and poor time management skills.

Procrastination not only affects the quality of work produced but can also lead to increased stress and anxiety as deadlines loom closer [7].

Cognitive failures, which refer to lapses in attention and memory, can also significantly affect academic performance [8]. These failures might manifest as forgetfulness, distractibility, or difficulty concentrating, all of which can impede a student's ability to absorb and retain information [9]. In conclusion, the interplay of personality traits, procrastination, and cognitive failures creates a complex web of influences that shape student performance in higher education. By examining the relationships between individual differences in personality, tendencies toward procrastination, and the occurrence of cognitive errors, this research seeks to uncover valuable insights that can inform educational strategies and support systems tailored to diverse student needs.

Materials and Methods

It was a cross-sectional study wherein one hundred and sixty students (eighty males and eighty females) between the age ranges 18 to 25 years from 6 professional colleges of Punjab participated in the study. Purposive sampling was used. Data collection was done through different self-report questionnaires over a period of 6 months. The participants were well informed about the confidentiality of their information. A written consent was duly signed by all the participants.

Measures

Basic information was collected through a pre-designed socio-demographic proforma. The assessments tools used in this research are as follows:

1. Neo Five- Factor Inventory-Revised (NEO FFI-R) by Costa and McCrae (1992) [10] is a sixty-question inventory with twelve questions in each domain assessing: extraversion, openness to experience, agreeableness, conscientiousness and neuroticism personality traits. The responses are rated from strongly disagree (1) to strongly agree (5).
2. Cognitive Failures Questionnaire (CFQ) by Wallace, Kass and Stanny (2002) [11] was used to measure cognitive failures. It is a 25-item questionnaire requiring respondents to indicate their level of agreement for each question on a five-point scale from 1 = never to 5 = always, yielding scores on four domains: memory, blunders, distractions, and name recall. The scores on CFQ range from 0 to 100.
3. The General Procrastination Scale (GPS) - It is a twenty-item self-report scale developed by Lay (1988) [12]. Items are responded from extremely uncharacteristic (1) to extremely characteristic (5) on a 5 point-scale.

Statistical Analysis was performed using SPSS software. Descriptive statistics (mean ± standard deviation (±SD) and frequencies) were employed. Student's t-test was used to calculate the significant gender differences. The relationship between variables was analyzed using Pearson's Correlation and linear regression. $p< 0.05$ was considered statistically significant and $p< 0.001$ to be highly significant.

Results

Mean, standard deviation and t-test for all the variables were computed (neuroticism, extraversion, openness to experience, agreeableness, conscientiousness, CF Total, memory, distractibility, blunders, names and procrastination). Table 1 shows the gender differences for all the variables. Personality trait analysis indicated that females scored significantly higher on neuroticism (t = -5.02, p<.01) and conscientiousness (t = -2.97, p <.01). There was no significant gender difference observed in levels of extraversion, openness and agreeableness. For cognitive failures Females scored significantly higher on CF (Total) (t = 3.80, p<.01), distractibility (t = 3.58, p<.01) and blunders (t = 2.40, p<.01) whereas males scored significantly higher on names (t = 8.58, p<.01) domain. There were no significant differences in the memory domain. Males (M = 61.03, SD = 7.32) scored higher on procrastination than females (M = 57.72, SD = 8.55), t = 2.62, p<.01.

Table 1: Mean, standard deviation and t-test for males and females for all the variables; personality traits (Extraversion, openness to experience, agreeableness conscientiousness and neuroticism), cognitive failures (CF Total, memory, distractibility, blunders and names) and procrastination.

Variables	Males			Females		
	Total	Mean	SD	Mean	SD	t-test
Neuroticism	80	35.8	4.91	39.74	4.78	-5.02**
Extraversion	80	39.2	5.05	39.31	4.65	-.08
Openness to experience	80	38.37	5.00	38.76	4.19	-.53
Agreeableness	80	36.34	4.82	37.47	4.97	-1.46
Conscientiousness	80	39.18	4.33	41.16	4.11	-2.97**
CF Total	80	65.33	9.63	72.83	14.77	3.80**
Memory	80	19.89	4.73	20.91	5.63	1.24
Distractibility	80	23.73	4.24	26.59	5.73	3.58**
Blunders	80	18.46	3.59	19.94	4.15	2.40**
Names	80	5.39	1.95	3.25	1.06	8.58**
Procrastination	80	61.03	7.32	57.72	8.55	2.62**
*p<.05, **p<.01						

After applying correlation analysis between big five inventory, procrastination and cognitive failures, it was found that neuroticism was significantly correlated with memory (r =.16, p <.05) and distracter (r =.190, p <.05) cognitive failures. Conscientiousness was negatively correlated to CFQ Total (r = -.29) and all cognitive failure domains; memory (r = -.28), distracters (r = -.20), names (r = -.23), blunders (r = -.19) as well as with procrastination (r = -.30, p<.05). No other significant differences with any other personality factor were observed. Cognitive failure

domains memory (r =.28, p <.01), blunders (r =.29, p <.01), distracters (r =.31, p <.01), names (r =.23, p <.01) and CF Total (r =.36, p<.05) were positively correlated to procrastination (Table 2).

Table 2: Pearson's Correlation between personality traits, procrastination and cognitive failures.

	N	E	O	A	C	CFT	M	D	B	NM	PRO
N	1										
E	-.29**	1									
O	-.003	.10	1								
A	-.09	.06	-.05	1							
C	.48	.17*	.18*	.10	1						
CFT	.14	-.04	-.07	-.24**	-.29**	1					
M	.16*	-.09	-.12	-.13	-.28**	.84**	1				
D	.19*	.043	-.04	-.24**	-.20**	.85**	.58**	1			
B	.77	-.022	.037	-.24**	-.19*	.77**	.50**	.52	1		
NM	0.14	-.10	-.10	-11	-.23**	.56**	.34**	.38	.38**	1	
PRO	0.01	.032	-.04	-.13	-.30**	.36**	.28**	.28	.31**	.23**	1

*p<.05 **p<.01

(N = Neuroticism, E = extraversion, O = openness to experience, A = agreeableness, C =conscientiousness, CF Total= cognitive failures total, M=memory, D= distractibility, B =blunders, NM=names and pro=procrastination)

Linear regression between the variables revealed that conscientiousness is negatively associated with cognitive failures (CF Total, Memory, Blunders) and procrastination, indicating that individuals with higher conscientiousness experience fewer cognitive issues and procrastinate less. Strongest effect was on Memory (β= - 0.28). Neuroticism shows a positive relationship with distractibility (β =0.19), suggesting that higher neuroticism contributes to increased distractibility. Extraversion demonstrated a weak but significant negative relationship with distractibility (β= -0.24), while openness and agreeableness had no significant relationships with cognitive failures or procrastination (Table 3).

Table 2: Pearson's Correlation between personality traits, procrastination and cognitive failures.

	N	E	O	A	C	CFT	M	D	B	NM	PRO
N	1										
E	-.29**	1									
O	-.003	.10	1								
A	-.09	.06	-.05	1							
C	.48	.17*	.18*	.10	1						
CFT	.14	-.04	-.07	-.24**	-.29**	1					
M	.16*	-.09	-.12	-.13	-.28**	.84**	1				
D	.19*	.043	-.04	-.24**	-.20**	.85**	.58**	1			
B	.77	-.022	.037	-.24**	-.19*	.77**	.50**	.52	1		
NM	0.14	-.10	-.10	-11	-.23**	.56**	.34**	.38	.38**	1	
PRO	0.01	.032	-.04	-.13	-.30**	.36**	.28**	.28	.31**	.23**	1

*p<.05 **p<.01

(N = Neuroticism, E = extraversion, O = openness to experience, A = agreeableness, C =conscientiousness, CF Total= cognitive failures total, M=memory, D= distractibility, B =blunders, NM=names and pro=procrastination).

Discussion

The objective of our research was to examine the relationship between personality traits, procrastination and cognitive failures and the gender differences among these variables. Results revealed that a low level of conscientiousness was associated with more procrastinating behavior among college students. Our findings align with Watson (2001) [13], where procrastinating behavior had a strong positive correlation with a lack of conscientiousness. Ferrari *et al*. (2007) [14] reported people with high levels of procrastinating behavior tend to score low on the conscientious trait of personality. Conscientiousness involves traits such as self-discipline, organization, and a sense of duty, which help individuals manage their time effectively. Individuals with low conscientiousness may struggle with these skills, leading to hurdle in their task completion, achievement of goals and engaging in procrastination.

No significant correlation was observed between procrastination and personality traits of agreeableness, extraversion, neuroticism, and openness to experience. In part, this is due to the complexity of personality, as it is a multidimensional construct influenced by personal, social, and cultural factors.

A negative relationship was observed between conscientiousness and all four facets cognitive failures. Barrick and Mount (2001) [15] stated that conscientious individuals are well-planned and organized. Since they are meticulous and detail-oriented as a result highly conscientiousness individuals have a lower tendency to experience cognitive failures, accidents and safety violations. Wallace *et al*. (2003) [11] found that low conscientiousness is related to higher levels of cognitive failures which play a crucial role in a person's safety behavior.

Our results show that lower levels of agreeableness were related to higher cognitive failures and two of its facets: blunders and distracters. Aschwanden *et al*. (2002) [16] found

a negative correlation between cognitive failures and agreeableness. People who are less agreeable may be more likely to take risks and make more mistakes, which can lead to more cognitive failures.

No significant correlation was observed between personality traits of extraversion and openness to experience and cognitive failures which is supported by the work of Klockner and Hicks (2014) [17]. We also found a significant correlation between neuroticism and CF facets of memory and distracters. Payne and Schnapp (2014) [18] reported that negative affective experiences are significantly correlated with cognitive failures, memory, distractibility and, blunders but not with names.

The second objective of our research was to explore gender differences in personality traits, procrastination and cognitive failures. Our results indicated that females scored significantly higher on neuroticism compared to males. Costa *et al*. (2001) [19] stated that females have higher neuroticism and negative affect due to biological and socio-psychological factors. Goodwin and Gotlib (2004) [20] found that females have higher levels of neuroticism and are also more prone to depression. Females also scored significantly higher on conscientiousness which is in accordance to the previous literature Feingold (1994) [21].

No gender differences were found in extraversion, agreeableness and openness to experience. Costa *et al*. (2001) [19] stated that females are higher on openness to feelings while males are higher on openness to ideas, but overall differences in openness to experience were negligible. Atta *et al*. (2013) [22] reported that males and females exhibited similar levels of openness to experience in their study.

Our results indicated that males tend to procrastinate more than females. Our findings correspond to the study by Khan *et al*. (2014) [23], which also reported similar findings and emphasized motivation as an important predictor of procrastinating behavior.

Females scored significantly higher on cognitive failures, blunders and distracters, whereas males scored higher on names. This difference could be attributed to various factors, including societal pressures and multitasking demands often placed on females. Additionally, hormonal variations might play a role in influencing cognitive processes. It's also possible that reporting biases exist, where females are more likely to acknowledge and report their cognitive lapses. No significant gender differences were observed in memory. Kanai *et al*. (2011) [24] reported that distractibility is closely related to the structure and functioning of the parietal cortex.

Implications and Limitations

The results of our research hold significant potential for a variety of fields and industries. Mental health professionals can utilize these findings to develop therapeutic plans tailored for clients struggling with procrastination or cognitive failures. Further, industrial and organizational psychologists can apply these insights to enhance workplace efficiency by identifying employees prone to procrastination or cognitive errors based on personality traits. In professions requiring precision and diligence, cognitive failures could pose safety risks, making such insights crucial. Counselors can help students manage stress, reduce delays, and enhance focus, while educational programs emphasizing conscientiousness can minimize procrastination and foster personal growth, time management, and stress resilience.

This research has a few limitations which can be overcome in future studies. A total sample of one hundred and sixty college students was collected from Punjab, India, which limits the generalizability of the findings to a large population. The self-report measures used in the research might have introduced potential bias. Future researchers can include longitudinal data for a better understanding and also explore other important factors including socio-cultural factors.

References

1. Robbins SB, Lauver K, Le H, Davis D, Langley R, Carlstrom A. Do psychosocial and study skill factors predict college outcomes? A meta-analysis. Psychol Bull. 2004 Mar;130(2):261-288.
2. McCrae RR, Costa PT. Personality trait structure as a human universal. Am Psychol. 1997 May;52(5):509-16.
3. McCrae RR, Sutin AR. A Five-Factor Theory Perspective on Causal Analysis. Eur J Personal. 2018;32(3):151-166.
4. Komarraju M, Karau SJ, Schmeck RR, Avdic A. The Big Five personality traits, learning styles, and academic achievement. Personal Individ Differ. 2011 Sep 1;51(4):472-477.
5. Hayat AA, Kohoulat N, Amini M, Faghihi SAA. The predictive role of personality traits on academic performance of medical students: The mediating role of self-efficacy. Med J Islam Repub Iran. 2020 Jul 11;34:77.
6. Chamorro-Premuzic T, Furnham A. Personality predicts academic performance: Evidence from two longitudinal university samples. J Res Personal. 2003 Aug 1;37(4):319-338.
7. Steel P. The nature of procrastination: a meta-analytic and theoretical review of quintessential self-regulatory failure. Psychol Bull. 2007 Jan;133(1):65-94.
8. Broadbent DE, Cooper PF, FitzGerald P, Parkes KR. The Cognitive Failures Questionnaire (CFQ) and its correlates. Br J Clin Psychol. 1982 Feb;21(1):1-16.
9. Reason JT, Mycielska K. Absent-minded?: The Psychology of Mental Lapses and Everyday Errors. Prentice-Hall; c1982. p. 284.
10. Costa PT Jr, McCrae RR. Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual. Odessa (FL): Psychological Assessment Resources; c1992.
11. Wallace JC, Vodanovich SJ, Restino BM. Predicting cognitive failures from boredom proneness and daytime sleepiness scores: an investigation within military and undergraduate samples. Personal Individ Differ. 2003 Mar 1;34(4):635-644.
12. Lay C. The relation of procrastination and optimism to judgments of time to complete an essay and anticipation of setbacks. J Soc Behav Pers. 1988;3:201-2014.
13. Watson DC. Procrastination and the five-factor model: a facet level analysis. Personal Individ Differ. 2001 Jan;30(1):149-158.
14. Ferrari JR, Driscoll M, Díaz-Morales JF. Examining the self of chronic procrastinators: actual, ought, and undesired attributes. Individ Differ Res. 2007;5(2):115-123.
15. Barrick MR, Mount MK, Judge TA. Personality and performance at the beginning of the new millennium:

What do we know and where do we go next? Int J Sel Assess. 2001;9(1-2):9-30. DOI:10.1111/1468-2389.00160.
16. Aschwanden D, Sutin AR, Luchetti M, Allemand M, Stephan Y, Terracciano A. A systematic review and meta-analysis of the association between personality and cognitive failures/complaints. Soc Pers Psychol Compass. 2020;14(11):e12565. DOI:10.1111/spc3.12565.
17. Klockner K, Hicks RE. Cognitive failures at work, mindfulness, and the Big Five. GSTF J Psychol. 2014;2(1). doi:10.7603/s40790-015-0001-3.
18. Payne TW, Schnapp MA. The relationship between negative affect and reported cognitive failures. Depress Res Treat. 2014;2014:396195. DOI:10.1155/2014/396195.
19. Costa PT Jr, Terracciano A, McCrae RR. Gender differences in personality traits across cultures: Robust and surprising findings. J Pers Soc Psychol. 2001;81(2):322.
20. Goodwin RD, Gotlib IH. Gender differences in depression: The role of personality factors. Psychiatry Res. 2004;126(2):135-142.
21. Feingold A. Gender differences in personality: A meta-analysis. Psychol Bull. 1994;116(3):429.
22. Atta M, Ather M, Bano M. Emotional intelligence and personality traits among university teachers: Relationship and gender differences. Int J Bus Soc Sci. 2013, 4(17).
23. Khan MJ, Arif H, Noor SS, Muneer S. Academic procrastination among male and female university and college students. FWU J Soc Sci. 2014;8(2):65-70.
24. Kanai R, Dong MY, Bahrami B, Rees G. Distractibility in daily life is reflected in the structure and function of human parietal cortex. J Neurosci. 2011;31(18):6620-6626.