

Correlates of Academic Procrastination among Undergraduate Students – An Exploratory Study Sudeep Chandra* and P. Swathi**

Abstract

Academic procrastination is a type of dilatory behaviour which involves delaying beginning or completion of an intended course of action despite the resultant deleterious consequences. The present study aimed at examining the Big Five traits, Locus of Control, and their relationship with academic procrastination in undergraduate students. The present study employed a quantitative, exploratory research approach with a cross-sectional survey design to assess the degree of academic procrastination, Locus of Control and the Big Five traits using demographic datasheet, Procrastination Assessment Scale for Students (PASS), Rotter's Locus of Control Scale (RLOC) and the Big Five Inventory (BFI) on a purposive sample of 128 undergraduate psychology students (98 females, 30 males) studying in degree colleges in Hyderabad, India. Data were analyzed using Pearson's product-moment correlations, independent samples t-test, and stepwise regression and p-value of <0.05 was considered significant. This study found that there was no significant difference between male and female undergraduate students in the prevalence of academic procrastination. The results supported a significant relationship among locus of control, conscientiousness, neuroticism, extraversion, and academic procrastination. Academic Procrastination was associated with higher neuroticism, external locus of control and lower levels of conscientiousness and extraversion. No relationship was found among agreeableness, openness, and academic procrastination. Stepwise regression produced five models and the final model explained 11.19% of the variance of the criterion variable ($R^2 = .12$, $p < .001$). Conscientiousness and extraversion were found to be significant predictors of academic procrastination and predicted academic procrastination negatively. Undergraduate students with an external locus of control, lower levels of conscientiousness and extraversion, and higher levels of neuroticism exhibited greater levels of academic procrastination. The study also discussed the findings considering studies previously done and potential intervention targets.

Keywords: academic procrastination, big five traits, locus of control, undergraduate students

Academic procrastination is a type of dilatory behaviour that entails postponing initiation or completion of an intended course of action despite the resultant adverse consequences (Schouwenburg, 2004; Steel, 2007). It is estimated that 30% to 60% of undergraduate students report procrastination of educational tasks including exams preparation, term paper submission, and weekly assignments (Pychyl, Lee, Thibodeau, & Blunt, 2000; Solomon LJ, Rothblum, 1984). Students with strong procrastination tendencies produce substandard performances during evaluation and face the real risk of dropping out from college (Eerde, 2003; Ferrari & Scher, 2000; Tice & Baumeister, 1997). Chronic academic procrastination can lead to adverse life outcomes in the form of lost opportunities, strained relationships, and increased health risks (Tice & Baumeister, 1997; Beswick, Rothblum, & Mann, 1988; Rothblum, Solomon, & Murakami, 1986). Existing research corroborates the notion the Big Five personality traits influence the manifestation, evolution, and strengthening or weakening of academic procrastination in undergraduate students (Schouwenburg & Lay,

1995; Swaraswati et al 2017). Previous studies using undergraduate student samples reported that academic procrastination was related to low conscientiousness (Eerde, 2004; Schouwenburg & Lay, 1995; Steel & Klingsieck, 2016; Swaraswati et al 2017). On the contrary, the conscientiousness factor has consistently proven to positively influence the academic achievement of students (Poropat, 2009). Additionally, neuroticism is positively correlated with procrastination (Klingsieck, 2013; Schouwenburg & Lay, 1995; Steel, 2007). Higher levels of neuroticism indicate emotional instability in the form of negative feelings like fear, anxiety, sense of guilt, and rage. Extraversion has been found to be negatively associated with different aspects of procrastination (Eerde, 2004). Agreeableness and Openness to experience have very little to no relation to procrastination (Eerde, 2004; Steel & Klingsieck, 2016; Swaraswati et al 2017). Due to the equivocacy of results concerning the relationship of personality traits with academic procrastination, many researchers propose the justifiability of continuing such kind of research queries (Tibbett & Ferrari, 2015). Furthermore,

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Locus of Control (LOC) is also known to affect procrastination, partly because it is related to performance and motivation (Weiner, 1979). LOC is a generalized expectancy reflecting the degree to which individuals perceive consequences as dependent on their behaviour and abilities or other external factors such as fluke, chance, destiny, or powerful others (Rotter, 1966). Individuals with an external LOC are more likely to engage in the behaviour of procrastination (Carden, Bryant & Moss, 2004; Deniz et al., 2009). Students with an external LOC tend to return their work later and volunteer for university studies later (Wang & Jentsch, 1998). Students who show internal LOC tendencies know that their academic success depends on themselves and pay more attention to the information to reach their target and consequently procrastinate less (Carden, Bryant & Moss, 2004). In addition, the relationship between academic procrastination and students' gender is inconclusive (Eerde 2003; Steel, 2007). To our knowledge, there are only three Indian studies that have investigated the relationship between academic procrastination and the Big Five personality traits among college undergraduates, the findings of these studies have been inconclusive. Jasmine Kaur (2016) found that the Big Five personality traits play a role in procrastination, with high procrastinators being more on neuroticism and agreeableness and less on extraversion and conscientiousness. Vijay and Kadhavan (2016) found that out of the Big Five traits only neuroticism was associated with academic procrastination. A study by Varma (2017) found that there was no relation between the Big Five personality traits and procrastinating behaviour among university students. Although previous research suggests links between big five personality traits and some aspects of academic procrastination, not much research has examined the relationship among the Big Five traits, academic procrastination, and locus of control within the same study. We focus on this gap by directly analyzing the role of the Big Five personality traits and locus of control in explaining variations in undergraduate student's academic procrastination.

Method

Sample

One hundred and twenty-eight participants pursuing undergraduate psychology course were recruited from colleges in Hyderabad using purposive sampling. The selection of the sample was carried out in two stages. College's meeting criteria for the medium of instruction and located in urban Hyderabad were contacted for consent to participate. From the colleges that provided consent, classes were selected for administration. The participants were explained about study

objectives and a written informed consent was obtained from all students. Measures were administered to the participants through google form links, which were shared via class WhatsApp groups. The data was collected in the period between mid-August and mid-September 2021.

Ethical Consideration

A brief research proposal was submitted to Department of Psychology, Osmania University, India for ethical approval. Ethical permission was obtained after meeting all the requisite ethical principles, i.e., consent, anonymity, and confidentiality. The consent of the college authorities was sought before the commencement of the study. Participants were contacted for consent from colleges that provided permission. All participants provided written informed consent.

Tools

Demographic sheet-It was used to collect information about name, age, gender.

The Procrastination Assessment Scale for Students (PASS)

PASS is a 44-item 5-point Likert scale used to evaluate one's academic procrastination in two-parts (Solomon & Rothblum, 1984). PASS evaluates the frequency with which one procrastinates on academic tasks. The higher the score an individual has, the more self-reported procrastination he or she indicates.

Rotter's Locus of Control Scale (RLOC)

RLOC developed in 1966 contains 29-items including six filler items and 23 items in which individuals choose between two statements and pick the one they agree with most. Individuals with low scores have an internal locus of control, while those with high scores have an external locus of control. The scale has an adequate internal consistency ranging from $r = .65$ to $.79$ (Rotter, 1966).

The Big Five Inventory (BFI):

Neuroticism, conscientiousness, extraversion, agreeableness, and openness to experience were measured by BFI (John & Srivastava, 1999). BFI consists of 44 short phrases to be scored on a 5-point Likert scale. In scoring each scale, some items are reversed (denoted by R), the coded responses are added, and an average score is then computed. The BFI has a high reliability with Cronbach alpha ranging from $.81$ to $.88$ (Soto & John, 2009).

Design

The present study used a descriptive correlation design to examine the association among academic procrastination, locus of control and big five personality traits. These variables were measured to identify any pattern of relationship between them and their strength. Specifically, this study investigated the degree to which locus

of control and big five personality traits predict academic procrastination among undergraduate students.

Results and Discussion

Data were examined for normality using the Kolmogorov Smirnov test and was found to be normally distributed. Data were analyzed using independent sample t-test, Pearson’s correlation,

undergraduates participating in the study procrastinate when writing term papers, 47% procrastinate when studying for exams, and 46% when reading weekly assignments. The mean score on RLOC was 10.07 (±3.58) (table 1). Among the participants, (N= 68) 54% of them had an internal LOC and the remaining participants, (N= 60) 46% had an external LOC.

Table 1: Showing the Descriptive Statistics of the Total Sample (N=128)

Measure	Total sample	Mean	SD
Openness	128	3.618	0.48
Conscientiousness	128	3.240	0.64
Agreeableness	128	3.674	0.62
Extraversion	128	3.199	0.84
Neuroticism	128	3.139	0.84
PASS	128	35.25	6.82
RLOC	128	10.07	3.58

Note: PASS=Procrastination Assessment Scale for Students, RLOC=Rotter’s Locus of Control Scale, SD: Standard Deviation

and stepwise regression analysis with backward elimination method in *jamovi* (Version 1.6).

Demographic profile, Prevalence of Academic Procrastination, Locus of control

Of the 128 participants in the study, 98 (77%) were females (mean age = 19.59 ±1.33), and 30 (23%) were males (mean age = 20.2 ±1.44). From among the participants, 60 (46.87%) were studying the first year, 40 (31.25%) were studying the second year and 28 (21.87%) were studying final year Psychology course. The average age of the participants was (19.73 years).

Bivariate Correlations among the Big Five traits, LOC, and academic procrastination

To analyze the associations among variables, a Pearson Product-Moment Correlation Coefficient matrix was calculated (Table 2). The table-3 showed the relationship among academic procrastination, big five traits and locus of control of undergraduate students. There was a significant negative correlation between academic procrastination and Conscientiousness ($r = -.30, P=0.0004$) as well as Extraversion ($r = -.25, P=0.003$). There was a significant positive

Table 2: Associations among academic procrastination, big five traits and locus of control

	PASS	1	2	3	4	5	6
PASS	1						
1.E	-0.25339*	1					
2.A	0.00068	0.297797	1				
3.C	-0.30767*	0.269686	0.290885	1			
4.N	0.183483*	-0.36162	-0.27628	-0.32067	1		
5.O	-0.03605	0.173311	0.059365	0.269755	-0.14704	1	
6.LOC	0.234433*	-0.2671	-0.08818	-0.3192	0.255971	-0.06738	1

* $p < .05$. ** $p < .01$, PASS= Procrastination Assessment Scale for Students, E=Extraversion, A=Agreeableness, C=Conscientiousness, N=Neuroticism, O= Openness, LOC=Locus of Control

The majority (44.8%) of the undergraduate students were in the age group of 18-19 years.

The overall academic procrastination mean score was 35.25 (±6.82) (table 1), with a range between 21 and 53. We used a median split from scores of the first part of the PASS (median = 35.0) to determine academic procrastinators ($\geq 35; n = 72$) from non-procrastinators ($\leq 34; n = 56$). The results indicated that 29% of the

correlation between academic procrastination and locus of control ($r = .23, P=0.007$) as well as neuroticism ($r = .18, P=0.038$). There were no significant associations between academic procrastination and traits of Openness to Experience and Agreeableness.

Analysis of differences between high and low procrastinators

Mean differences in academic procrastination, found in academic procrastination, LOC, the big five traits and LOC among high and low openness to experience, agreeableness,

Table 3: Showing the results of Analysis of differences between high procrastinators (N=72) and low procrastinators (N=56)

Logistic Parameter	High Procrastinators		Low Procrastinators		t (126)	P	Cohen's d
	M	SD	M	SD			
RLOC	10.69	3.64	9.28	3.38	2.259	025*	0.400
O	3.561	0.46	3.692	0.50	1.514	132	0.273
C	3.067	0.54	3.462	0.69	-3.498	000**	0.641
E	3.029	0.85	3.417	0.78	-2.670	008**	0.473
A	3.686	0.65	3.658	0.58	0.254	799	0.044
N	3.246	0.81	3.002	0.87	1.615	108	0.290

Note: M: Mean, SD: Standard Deviation, RLOC=Rotter's Locus of Control Scale, O= Openness, C=Conscientiousness, E=Extraversion, A=Agreeableness, N=Neuroticism, * Significant at $P < .05$, ** Significant at $P < .01$

procrastinators were examined using an independent sample *t*-test (two-tailed) (Table 3). The results of *t*-test indicated a significant difference in conscientiousness and extraversion at $P < 0.01$ level among high and low procrastinators. Additionally, there was a significant difference in the locus of control among high and low procrastinators at $P < 0.05$ level. No significant difference was found in agreeableness, openness to experience and neuroticism among high and low procrastinators.

Analysis of Gender Differences

Mean differences in academic procrastination, the big five traits and LOC among males and females were examined using *t*-test (Table 4). The results of *t*-test (two-tailed) showed a significant difference in neuroticism concerning

conscientiousness, and extraversion concerning gender.

Predictors of academic procrastination

The Big Five personality traits, LOC were used in a stepwise regression analysis employing a backward elimination method to predict academic procrastination. All the independent variables were examined for co-linearity before performing the stepwise regression analysis. Results of the variance inflation factor (all less than 2.0), and co-linearity tolerance (all greater than .74) suggested that the estimated β s were well established in the regression model (Table 5). The results of the stepwise regression analysis (See Table 6) produced five models. The final model indicated that the two predictors, collectively, ($R^2 = .12$, $F(2, 125) = 9.008$,

Table 4: Showing the results of Analysis of Gender Differences Among the Overall Sample

Logistic Parameter	Male		Female		t (126)	P	Cohen's d
	M	SD	M	SD			
RLOC	9.4	3.53	10.28	3.59	1.194	237	0.247
O	3.506	0.54	3.653	0.46	1.336	188	0.303
C	3.181	0.58	3.258	0.66	0.611	543	0.119
E	3.408	0.87	3.135	0.82	-1.517	135	0.325
A	3.555	0.73	3.710	0.58	1.053	298	0.249
N	2.825	0.97	3.235	0.78	2.114	040*	0.493
PASS	36	5.78	34.93	7.12	-0.830	409	0.155

Note: M: Mean, SD: Standard Deviation, RLOC=Rotter's Locus of Control Scale, O= Openness, C=Conscientiousness, E=Extraversion, A=Agreeableness, N=Neuroticism, PASS=Procrastination Assessment Scale for Students, *Significant at $P < .05$

gender at $P = 0.040$. No significant difference was ($P = 0.0002$) accounted for 11.19% of the variance

in academic procrastination. It was found that conscientiousness significantly predicted frequency of self-reported academic procrastination on tasks like writing a term

Table 5: Showing the summary of Stepwise regression analysis for Variables Predicting Undergraduate Student’s Academic Procrastination (N = 128)

Model		Standard Error	Standardized Coefficient	T	P	Collinearity Statistic	
						Tolerance	VIF
1	(intercept)	7.227	36.017	4.983	0.001		
	E	0.095	-0.195	-2.052	0.042*	0.780	1.281
	A	0.110	0.190	1.728	0.086	0.839	1.191
	C	0.113	-0.320	-2.826	0.005**	0.746	1.339
	N	0.094	0.055	0.588	0.557	0.784	1.274
	O	0.122	0.107	0.876	0.382	0.910	1.098
	LOC	0.172	0.191	1.114	0.267	0.843	1.185
2	(intercept)	5.999	38.374	6.396	0.001		
	E	0.092	-0.208	-2.256	0.025*	0.824	1.212
	A	0.108	0.180	1.663	0.098	0.858	1.164
	C	0.111	-0.331	-2.965	0.003**	0.765	1.305
	O	0.122	0.103	0.850	0.396	0.912	1.096
	LOC	0.170	0.205	1.205	0.230	0.858	1.165
3	(intercept)	4.908	41.302	8.415	0.001		
	E	0.091	-0.198	-2.169	0.031*	0.837	1.193
	A	0.108	0.176	1.624	0.106	0.860	1.161
	C	0.108	-0.308	-2.846	0.005**	0.813	1.228
	LOC	0.169	0.211	1.246	0.214	0.860	1.162
4	(intercept)	4.002	44.860	11.207	0.001		
	E	0.089	-0.222	-2.473	0.014**	0.874	1.143
	A	0.108	0.183	1.691	0.093	0.863	1.158
	C	0.104	-0.344	-3.302	0.001**	0.878	1.138
5	(intercept)	3.268	48.826	14.939	0.001		
	E	0.087	-0.185	-2.116	0.036*	0.927	1.078
	C	0.102	-0.304	-2.972	0.003**	0.927	1.078

Note: The dependent variable was Academic Procrastination, E= Extraversion, A= Agreeableness, C= Conscientiousness, N= Neuroticism, O= Openness, LOC= Locus of Control, * Significant at $P < .05$, ** Significant at $P < .01$.

academic procrastination, as did extraversion. Looking at the unique individual contributions of the predictors, the result showed that Conscientiousness ($\beta = -0.304, t=-2.972, P=0.003$) and Extraversion ($\beta = -0.185, t=-2.116 P=0.036$) predicted academic procrastination negatively.

The present study provided a systematic overview of the relation among Academic procrastination, Locus of control, and the Big Five model of personality among undergraduate students in the Indian context.

Prevalence of Academic Procrastination, LOC
In contrast to the previous studies (Rothblum, Solomon, & Murakami, 1986), the mean

paper, studying for exams weekly, reading assignments from the participants was higher than studies done on international students. This could be due to the sample of students being recruited in the middle of the semester. Additionally, in line with existing research, most of the participants were found to have an internal LOC (Naik, 2015).

Comparison of high and low academic procrastinators on the locus of control

The results indicated a significant difference in the mean score of high procrastinators and low procrastinators on Rotter’s Locus of control scale. It has been revealed in the present finding that students who have an external LOC tend to

procrastinate more in their academic tasks when compared to students with an internal LOC. The

negatively related to academic procrastination (Steel & Klingsieck, 2016; Swaraswati et al.,

Table 6: Showing the summary of Stepwise regression analysis of Models predicting Undergraduate Student's Academic Procrastination (N = 128)

Model	R	R ²	F	Df	Sig
1	.40	.16	3.948	(6,121)	.0012 _a
2	.40	.16	4.693	(5,122)	.0005 _b
3	.39	.15	5.699	(4,123)	.0003 _c
4	.38	.14	7.049	(3,124)	.0002 _d
5	.35	.12	9.008	(2,125)	.0002 _e

- a. Predictors: (Constant) extraversion: conscientiousness
 b. Predictors: (Constant) extraversion: conscientiousness
 c. Predictors: (Constant) extraversion: conscientiousness
 d. Predictors: (Constant) extraversion: conscientiousness
 e. Predictors: (Constant) extraversion: conscientiousness

present findings were consistent with research reporting that students who have an internal LOC procrastinate less and complete their homework earlier and fulfil their responsibilities than students who have an external LOC (Carden, Bryant & Moss, 2004; Deniz et al., 2009). This suggests that LOC may be used as a means of identification for students who may have trouble completing tasks without delay.

Comparison of Big Five traits among high and low academic procrastinators

In a general sense, the results were consistent with the literature on the influence of the big five personality traits on academic procrastination. The present findings indicated that neuroticism is positively and significantly correlated with academic procrastination. Neuroticism refers to a personality trait that connotes low levels of emotional stability and predisposes an individual to feel negative emotions and psychological distress. Students high in neuroticism are overwhelmed by fear of failure since low emotional stability is associated with the perception of incompetence relative to others and the goals of avoiding negative evaluations (Payne, Youngcourt, & Beaubien, 2007). Therefore, neurotic students constantly experience academic discouragement, debilitating anxiety, withdrawal, and feel discouraged about school (Clark & Schroth, 2010). This finding was in line with the previous research which indicated that neuroticism is linked with apprehensions like fear of failure related to examinations because of which a student is unable to prepare efficiently leading to more procrastination (Eerde, 2003). Compatible with previous research, conscientiousness was

2017). The negative relationship between conscientiousness and academic procrastination can be explained because of the strong association between conscientiousness and effortful control (Poropat, 2015). Effortful control refers to self-regulatory abilities such as the ability to sustain focus on a task, as well as the ability to willfully initiate or inhibit actions (Rothbart, 2007). Apart from being an important component of conscientiousness, these self-regulatory abilities are essential for planning, impulse control, and goal-directed behaviour (Roberts et al., 2009). In the educational context, students high on conscientiousness exhibit higher levels of achievement motivation (Richardson & Abraham, 2009), and employ more problem-focused coping strategies that facilitate their learning (MacCann et al., 2012). Conscientious students are highly task-focused, attend classes regularly and use self-regulatory learning strategies than their non-conscientious counterparts (Bidjerano & Dai, 2007). Consistent with the findings of previous research, extraversion was negatively associated with academic procrastination (Eerde, 2004). Students high on extraversion generally exhibit greater levels of academic motivation and learning goal orientation (Clark & Schroth, 2010). Extraverted students cope with learning difficulties by availing help from peers and teachers (Bidjerano & Dai, 2007). The results indicated that there was no significant difference between high and low procrastinators on openness to experience. Additionally, the relationship between openness to experience and academic procrastination was found to be non-significant. The finding was consistent with previous

research (Aremu, Williams, & Adesina, 2011; Chooi et al., 2015; Steel & Klingsieck, 2016; Swaraswati et al., 2017). The results indicated that low procrastinators were found to be less on agreeableness as compared to high procrastinators, but the difference was found to be non-significant. The present findings were consistent with previous research (Steel & Klingsieck, 2016; Swaraswati et al., 2017).

Gender differences

The results indicated that there was no significant difference between males and females in the domain of academic procrastination. The present findings were compatible with research reporting no significant gender difference in the prevalence of academic procrastination (Chooi et al., 2015; Rothblum, Solomon, & Murakami, 1986). As for the differences in personality traits between males and females, female undergraduate students scored higher in neuroticism. The finding was consistent with previous studies (Soto et al., 2011). In line with existing research, no significant gender difference was found in LOC orientation among undergraduate students (Adame, Johnson, & Cole, 1989).

Predictors of Academic procrastination

Conscientiousness emerged as a significant predictor of academic procrastination. The present findings were consistent with previous research. In line with previous research, extraversion emerged as a significant predictor of academic procrastination (Swaraswati et al., 2017). In line with previous research, openness and agreeableness did not make significantly unique contributions to the prediction of academic procrastination (Steel & Klingsieck, 2016; Swaraswati et al., 2017). Contrary to the previous studies (Aremu, Agokei, & Ugoji, 2011; Mishra & Munjal, 2015) locus of control did not predict academic procrastination. These findings had significant implications for those students who are low in traits of conscientiousness and extraversion and who indulge in unnecessary delay in pursuing and completing important academic tasks.

Limitations

The study primarily consisted of participants from urban areas with an excessive number of female undergraduate students.

Implications for Counselling

Several implications for lecturers, counsellors, and educational psychologists arise from this study. Firstly, academic procrastination is associated with low conscientiousness. Of all the Big Five traits, conscientiousness is strongly associated with academic achievement. Interventions aimed at helping students become more organized and developing self-control might help in reducing the negative effects of low conscientiousness. Secondly, academic

procrastination is associated with low extraversion. Interventions conceived to help students become more self-confident and socially competent might help in reducing the negative effects of low extraversion, as they will be able to solicit and receive advice and other forms of support.

Conclusion

The present study attempted to identify predictors as well as correlates of academic procrastination and explore gender differences in the Big Five traits of personality, academic procrastination, and locus of control among undergraduate students. The results indicated that undergraduate students with an external locus of control and lower levels of conscientiousness, extraversion, and higher levels of neuroticism exhibited greater levels of academic procrastination. There was no significant difference between males and females in the prevalence of academic procrastination. The present study also identified that conscientiousness and extraversion negatively predict academic procrastination. These findings are important as personality-based interventions might prove to be effective for chronic academic procrastinators.

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