

## Beyond Grades: Understanding Grit, Self-control and, Academic Self-efficacy in Academics

Heena H. Khudabadi<sup>1\*</sup>, Dr. Pooja Soni<sup>2</sup>

### ABSTRACT

Academic performance has caught the attention of many researchers since students are an important asset to any society. Academic performance is enhanced by knowledge of skills which are further divided into two: cognitive factors and non-cognitive factors. Evidence suggests of extensive research on cognitive factors (Noble and Sawyer, 1987). However, there seems to be a dearth of research on the effect of non-cognitive factors on academic performance. Thus, the current research aimed at investigating the relationship between non-cognitive factors and academic performance with mainly three variables: Grit, Self-control, and Academic Self-efficacy. Measures used were the Grit-O Scale (Duckworth, 2007), the Brief Self-Control Scale (Tangney, 2004), and the Academic Self-Efficacy Scale (Gafoor, 2006) to collect data from a sample of 151 college students of Mumbai with a mean age of 19 years. Results revealed that there was a positive, low, and statistically significant relationship between academic self-efficacy and academic performance ( $r_s(149)=0.22$ ,  $p=0.006$ ). Whereas a statistically non-significant relationship was found between grit & academic performance ( $r_s(149)=0.15$ , ns) and self-control & academic performance ( $r_s(149)=0.04$  ns). Further exploration of the effect of non-cognitive factors on academic performance among students is essential in India.

**Keywords:** *Grit, Self-Control, Academic Self-Efficacy, Academic Performance*

Students are an important asset for any society responsible for the country's social, economic, cultural, and political growth. They are the strong pillars with a futuristic vision of development of any nation. Hence, academic performance of students has been of significant interest to researchers. Psychological, social, economic, individual, and environmental factors are some factors that affect academic performance but differ in intensity from one student to another. In a study by Prof S.P. Singh et al (2016), it was evident that learning facilities, communication skills, and parental guidance affect academic performance.

As per UNESCO report (Zhou, 2016), skills are considered to be a key element for students' development. They are generally divided into two: Cognitive factors and Non- Cognitive

<sup>1</sup>Department of Psychology, Kishinchand Chellaram College, Mumbai, India  
Orcid ID: 0000-0003-3115-0557

<sup>2</sup>Assistant Professor, Department of Psychology, Kishinchand Chellaram College, Mumbai, India  
Orcid ID: 0000-0002-7323-2844

\*Corresponding Author

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factors. Cognitive skills are a set of abilities to understand complex ideas to adapt effectively to the environment, learn from experience, and adapt various reasoning skills for overcoming obstacles in thinking patterns (Pierre et al., 2014). They include all mental functions such as spatial skills, reasoning, reading, problem-solving, and thinking. Non-Cognitive skills are defined as ‘the patterns of thoughts, feelings, and behavior’ (Borghans, 2008) that can be developed throughout the lifespan. 8 non-cognitive skills that are positively associated with academic performance have been identified: Self-perception, Motivation, Perseverance, Self-Control, Metacognitive strategies, Social competencies, Resilience & Coping, and Creativity. Significant research has helped to conclude that non-cognitive factors impact academic performance (Wanzer et al., 2019; Ganguly et al., 2017). The present study was focused on understanding whether the non-cognitive factors of grit, self-control and academic self-efficacy are related to a student's academic performance.

### **Grit**

Grit is perseverance and passion that an individual has for certain long-term goals that do not let an individual give up even in times of adversity (Duckworth et al., 2007). Grit is characterized by two fundamental factors 1) ‘Passion’ i.e. consistency of interests, the tendency to invest effort in the same goal over time, 2) ‘Perseverance’ i.e. consistency of effort, the tendency to sustain efforts towards a goal (Duckworth, 2007). These two factors guide individuals to achieve a clear vision of purpose and direction and also persist to keep moving forward overcoming all obstacles to reach the goal state. This helps in maximizing potential and stretching the available cognitive and physical reserves of resources. According to Duckworth et al (2007), people who are grittier have an elevated/superordinate academic performance as compared to their peers. It is speculated that individual differences in the intensity dimension of effort are salient for predicting success.

Cross-Sectional studies render trademarks of gritty individuals who were comparatively stable in their careers. These individuals were found to be high in achievement and well-being. Additionally, grittier adults had higher life satisfaction levels, lower negative affect, and higher positive affect rates. It was also suggested that grit may develop gradually, throughout various life experiences (Duckworth, 2007).

### **Self- Control**

Self-control refers to the ability to override or change one’s inner responses, as well as to interrupt thoughts and behaviours to resist temptations. It is a self-regulating behaviour in pursuit of personal goals allowing humans to inhibit their impulsive responses in behaviour and favours a more appropriate style of context-specific behaviour (Tangney, 2004). For instance; having a strong sense of self-control stops a person from beating someone in rage.

The idea of effortful regulation of self by self serves as the cardinal principle among the diverse conceptualizations of self-control. Research recognizes seven major components of self-control – 1) desire: an individual’s state of mind in which one wants or longs for some immediate reward (Berridge et al., 2009), 2) higher-order goal: an intentionally pursued mental construct that motivates cognitive, affective and behavioural activities to gain long-term benefits, 3) desire-goal conflict: a difficulty in choosing between a desire and equally important higher-order goal, 4) control motivation: the ambition to control desires, 5) control capacity: the ability to inhibit desire apart from non-motivational cognitive resources, 6) control effort: the ability to use the control capacity, and 8) enactment constraints: the external or environmental factors that cut down on behaviour choices (Kotabe & Hofmann, 2015). Motivation behind imbibing and practising self-control gives a

new direction for research and identification of the psychological and physiological resource or capacity.

Two core features of self-control are first, self-control is self-initiated behaviour without any compulsions. Second, self-control is relevant and effective only when a person has two choices where one is valuable for the long run but the other choice is temporarily / momentarily more attractive (Kruglanski, 1996).

Individual differences in self-control have been useful to predict positive outcomes in various domains. High self-control has been observed to be correlated with high GPA, better adjustment, secure attachment, less binge eating and alcohol abuse, and better interpersonal relationships, skills, and emotional responses when social desirability was controlled (Tangney, 2004).

### **Self-Efficacy**

The idea that the interaction effect of one's personality and environment are the basis for success and achievement of goals among humans is central to the Social Cognitive Theory (Bandura, 1986). Self-efficacy refers to people's beliefs about their own capabilities to exercise control that affects task choice, effort, persistence, resilience, and achievement (Bandura, 1997; Schunk, 1995). Zimmerman (2000), introduced domain-specific measures for self-efficacy owing to its multi-dimensionality across various domains of demand.

One such domain is academic self-efficacy which alludes to perceptions or judgments about one's own capacities for the attainment of an academic goal (Zimmerman, 1995). Academic self-efficacy directly or indirectly promotes aspirations and prosocial behavior which in turn bolsters academic achievement (Bandura et al., 1996). It also refers to a student's confidence in their ability to carry out tasks such as preparing for exams and writing term papers (Zajacova et al., 2005). High academic self-efficacy predisposes students to make use of effective cognitive strategies in learning, managing time and learning environments, and succeeding in a subject (Cervone, Jiwani, & Wood, 1991). Efficacy transforms the vision of people; to see demanding situations as challenges rather than threats. Self-efficacy relates to educational settings through three main components- persistence, tenacity and achievement (Bandura, 1986; Schunk, 1981; Zimmerman, 1989).

Past research studies on grit, self-control and academic self-efficacy with academic performance were reviewed.

### **Grit and Academic Performance:**

Past Studies have illustrated an inverse relation of grit with intelligence, leading to conclude that intelligence does not predict that intelligent people would consistently perform well for a long time (Duckworth & Quinn, 2009). Study results indicated that the passion component of grit (consistency of interests) was not correlated with academic achievement; rather perseverance, the other component of grit (consistency of efforts) showed a significant correlation with academic achievement (Banupriya et al., 2019; Chang, 2014; Murphy, 2019). In a similar study, results demonstrated that the grit- perseverance component was a significant predictor of academic performance compared to the grit-passion component. Intrinsic motivation contributed to the grit-perseverance component more than the grit-passion component (Hernandez et al., 2020). Furthermore, past research revealed that the relationship between academic performance and grit was mediated by psychological capital such as efficacy, hope, resilience, and optimism (Luthans et al., 2018).

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For the concept of grit, a number of theoretically plausible moderators exist, one such moderator was the nature of performance which determines the condition that high levels of grit will be helpful when a task is difficult as well as well defined. Second, individual differences such as ability and metacognition may affect the relation (Crede & Phillips, 2011). Third, grit itself could moderate the relationship where very high levels of grit could be dysfunctional if they reduced help-seeking behavior (Karabenick, 2003).

### **Self-Control and Academic Performance:**

Wolfe & Johnson (1995), found self-control to contribute significantly to predicting GPA more robustly than SAT scores among university students. Tangney, Baumeister & Boone (2004), observed that self-discipline (a component of self-control) positively correlated with self-reported grades and with various personal and interpersonal strengths. It was discovered that self-control was a better predictor of academic success than IQ, GPA, and SAT scores during adolescence (Duckworth, 2005; Duckworth & Carlson, 2013; Meng et al., 1992; Richardson et al., 2012; Honken et al., 2016).

Achievement can be determined by various factors, motivation remains a prerequisite since the absence of academic motivation would reduce self-control (Richardson et al., 2012). Conscientiousness- a factor from the Big Five Theory plays an important role in its interconnections with non-cognitive factors. Conscientiousness - a personality trait has many factors however self-control has been seen to strongly relate to conscientiousness (Park et al., 2017).

### **Academic Self-Efficacy and Academic Performance:**

Past studies on academic self-efficacy portray the influence it has on academic performance. A study conducted in Haridwar showed high self-efficacy leads to high levels of academic performance (Pavani & Agrawal, 2015; Wood et al., 1989). In another study, academic self-efficacy and optimism were strongly correlated with academic performance and adjustment. Academic self-efficacy and academic performance was indirectly related through academic expectations and coping perceptions: perceiving academics as a challenge vs threat (Chemers et al., 2001).

According to Akomolafe et al (2014), self-efficacy strongly predicted academic performance followed by self-concept and academic motivation. As a mediator, self-efficacy mediated the relationship between past academic accomplishment and academic performance (Lane et al., 2004).

### ***Effects of Grit and Self-Control on Academic Performance***

Grit and Self-control are two important determinants of success. Both grit and self-control highly correlate with success outcomes (Duckworth, 2007, Moffitt et al., 2011). Though correlated, a few differences exist suggesting that not all people with high levels of self-control capable of handling temptation can consistently pursue a dominant goal. Similarly, prodigious gritty people can also easily succumb to temptations other than their superordinate goal. Evidence has supported that domain-specific measures of self-control predict everyday measures of adaptive functioning than domain-general measures of grit (Duckworth, 2014). According to the hierarchical organisation of goals, self-control and grit both are used to defend valued goals in face of adversity but they differ in the types of goals they defend and their timescales. Self-control is strongly associated with everyday success whereas grit pertains to exceptional achievements that often take decades to accomplish.

Further, while investigating grit and its relation, results indicated that one facet of grit was more effective in predicting academic achievement than the other (Wolters & Hussain, 2014). In addition, the relationship between grit and self-control when examined suggested that high GPA, SAT scores and self-control predicted academic performance.

### *Effect of Grit and Academic Self-Efficacy on Academic Performance*

Chen et al (2001), found general self-efficacy to be positively correlated to other trait-like personality constructs such as conscientiousness. A number of studies thereafter have examined self-efficacy and grit in relation to academic performance. Muenks et al. (2017), suggested that academic self-efficacy (state-level) and trait level grit jointly explain differences in academic performance in students. Another study by Wolters and Hussain (2015), explained a positive correlation between trait grit and trait- self-efficacy, hinting that high grit relates to high self-efficacy among students leading to better performance. Lastly, Usher et al study (2019), proposed self-efficacy as a partially mediating variable between an individual's grit and school performance.

Muenks (2018), in his study observed perseverance of efforts and academic self-efficacy significantly predict end-term results. Research aimed to examine the relation between grit and self-efficacy found a positive relation between grit and self-efficacy on state level and also suggested that state-level grit depends on trait-level self-efficacy. Additionally, the mediation analysis reported self-efficacy to partially and fully mediate between grit and academic performance. However, the converse was not true- grit did not mediate between self-efficacy and school outcomes. Jiang et al. (2021), found that academic self-efficacy mediated the relationship between grit and academic achievement.

### *Effect of Grit, Self-Control, Academic Self-Efficacy and Others on Academic Performance*

Self-control is the strongest factor related to conscientiousness followed by grit that helps in academic motivation and academic performance. Research examining the unique and combined effects of grit, self-control, and conscientiousness on academic pursuits showed grit, self-control, and conscientiousness accounting for 9.9% variance in academic motivation and overlapping effects of three variables to contribute 49.6% of the variance. Another important study that supports present research was by Alhadabi & Karpinsk (2019) which had important findings demonstrating grit to positively associate with academic performance through mediators - self-efficacy and achievement orientation goals.

Thus, past literature for the variables depicted mixed findings. Few studies showed that there exists a relationship among variables and other studies could not find significant correlations

between the variables. The purpose of the current study was to examine whether academic performance was associated with Grit, Self- control, and Academic Self- efficacy.

## **METHOD**

### *Operational Definitions of Variables*

**Grit-** Passion and Perseverance for long-term goals. 'Passion' i.e. consistency of interests, the tendency to invest effort in the same goal over time. 'Perseverance' i.e. consistency of effort, the tendency to sustain effort towards a goal. (Duckworth, 2007).

**Self-control-** The capacity to regulate attention, behavior, thoughts, emotions, and impulses so as to bring them into an agreement with an individual or social standards (Tangney, 2004).

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**Academic Self- efficacy-** An individual's belief on themselves for achieving academic tasks on a day to day basis to attain goal state is called academic self-efficacy. Different tasks of academic self-efficacy include: Learning process, Reading, Comprehension, Memory, Curricular Activities, Time Management, Teacher Student Relationship, Peer Relationship, Utilization of resources, Goal Orientation, Adjustment and Examination (Gafoor, 2006).

**Academic Performance-** It is the end results of the efforts exerted by students, representing outcomes that indicate the extent to which a person has accomplished specific goals. Participants' percentage of the previous academic year (12th STD Board percentage) was used as a measure of academic performance in the current study.

**Inclusion Criteria:** Participants belonged to 17-21 years of age, all were college students from Mumbai having adequate knowledge of English, studying in the first year of academic courses, and had given their 12th STD exams in the previous year (2020) without any gap year.

### ***Hypotheses***

#### **Null Hypotheses:**

H0- There will be no significant positive association between Grit and Academic performance.

H0- There will be no significant positive association between Self- control and Academic performance.

H0- There will be no significant positive association between Academic Self- Efficacy and academic performance.

#### **Alternative Hypotheses:**

H1- There will be a significant positive association between Grit and Academic performance.

H2- There will be a significant positive association between Self- Control and Academic performance.

H3- There will be a significant positive association between Academic Self- efficacy and academic performance.

### ***Tools used for Data Collection:***

- **Grit-o scale/ 12- Item Grit Scale (Duckworth, 2007)-** This scale was constructed by Dr. Angela Duckworth to assess individuals' Grit levels from being extremely gritty to less gritty consisting of 12 items. The scale uses a 5 -point Likert scale ranging from 5-Very much like me to 1- Not at all like me.
- **Brief Self Control Scale (Tangney, 2004) -** This scale was constructed by Dr. Tangney that is a 13- item scale used to measure self-control. It uses a 5-point Likert scale ranging from 5-Very much like me to 1- Not at all like me.
- **Academic Self- Efficacy Scale (Gafoor, 2006)-** This scale is developed by Dr. Gafoor used for assessing academic self-efficacy based on the Self-Efficacy Theory of Albert Bandura (1977) who placed it within the framework of Social Cognitive theory. The scale has 40 questions divided into 20 positive and 20 negative questions assessing the various domains of work in academics. A five-point Likert scale is used that ranges from 5- Exactly true to 1- Exactly false.

**Procedure for Data Collection**

The data collection process was from 5th April 2021 till 29th May 2021 during the lockdown of the corona pandemic. Data was collected via survey method online. A Questionnaire was prepared on Google -form and was circulated accompanied by a poster to college groups consisting students of First year who had given their 12th Boards in 2020. Informed consent form was attached in the form that gave a brief about the study. It included demographic details of participants. All participants had to provide their 12th percentage for academic record purposes anonymously. Further, the participants filled in 3 questionnaires that tested the three variables in the following order- grit scale, Brief self-control scale, and academic self-efficacy scale. The same order was followed for all participants.

**Sample Size & Participant Characteristics:**

*Demographics of the data set*

Demographics	N	%	Total
<b>Gender</b>			
Female	108	71.52	151
Male	43	28.47	
<b>Age</b>			
17	2	1.32	151
18	90	59.60	
19	57	37.74	
20	1	0.66	
21	1	0.66	
<b>12th Std Boards</b>			
HSC	118	78.14	151
ISC	11	7.28	
CBSE	22	14.57	
<b>12th Std Streams</b>			
Arts	40	26.49	151
Science	85	56.29	
Commerce	26	17.21	

The above table depicts the demographic distribution of the sample under study. Out of 151 participants, 71.52% were females showing the unequal distribution of males and females with males representing 28.47%. The mean age was 18 years, 59.60% of participants belonged to this criterion followed by 19years with 37.74%. The age range was 17-21 years with very few people at the two extremes. Participants came from 3 boards, highest was HSC- 78.14%, CBSE- 14.57% and ISC- 7.28%. The majority of these were science students- 56.29%, followed by Arts- 26.49% and Commerce- 17.21%.

**Statistical Analysis**

Descriptive statistics such as mean and standard deviation were calculated to determine the nature of the data. After performing a test of normality, the data was not normally distributed and therefore, a non-parametric test of correlation, Spearman’s Rank order Correlation was performed to assess the relationship between grit and academic performance, self-control, and academic performance, and academic self-efficacy, and academic performance.

**RESULTS AND DISCUSSION**

*Table 1. Descriptive statistics of the variables*

Variables	Range	Mean	SD	N
Grit	2.83	3.27	0.56	151
Self-control	32	40.74	6.69	151
Academic Self-efficacy	89	145.61	18.52	151
Academic performance	48.5	79.03	11.44	151

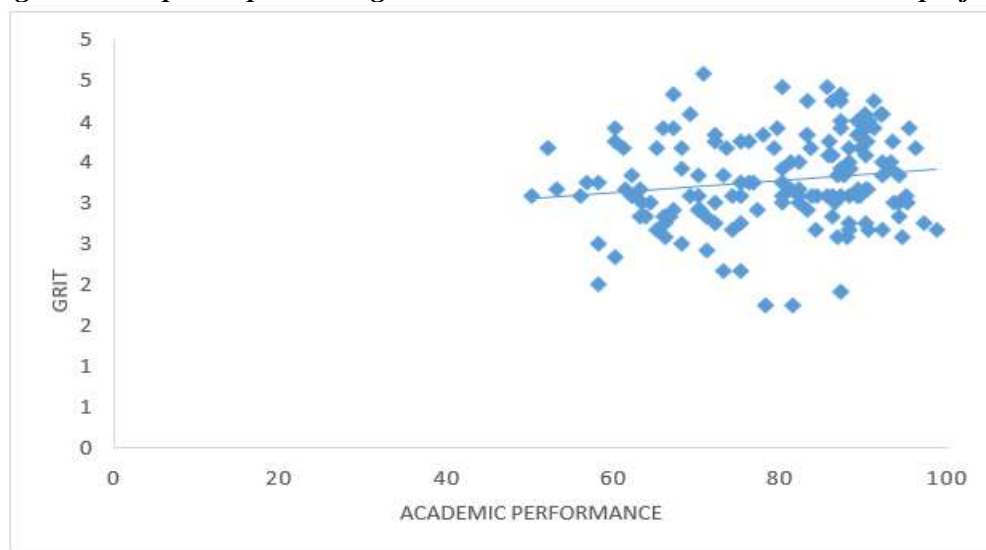
*Table 2. Spearman’s Rho Correlation of variables*

N=151 Academic Performance

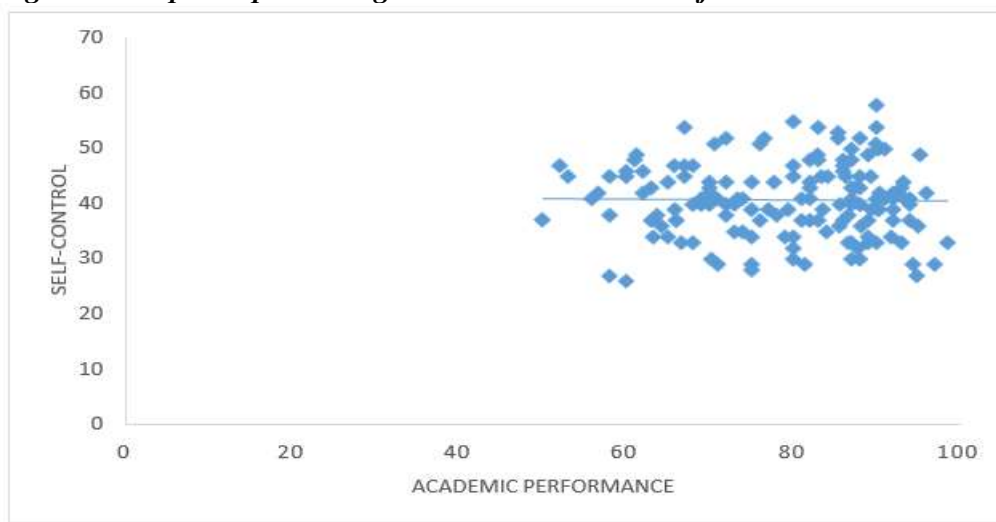
	rs	p
Academic self-efficacy	0.221*	0.006
Grit	0.15	ns
Self-control	-0.043	ns

Note. \* = statistically significant. 'ns' stands for non-significant values.

*Fig.1 Scatter plot representing correlation between Grit and Academic performance*



*Fig. 2 Scatterplot representing correlation between Self-control and Academic Performance*





**Fig.3 Scatterplot representing correlation between Academic Self-efficacy and Academic performance.**

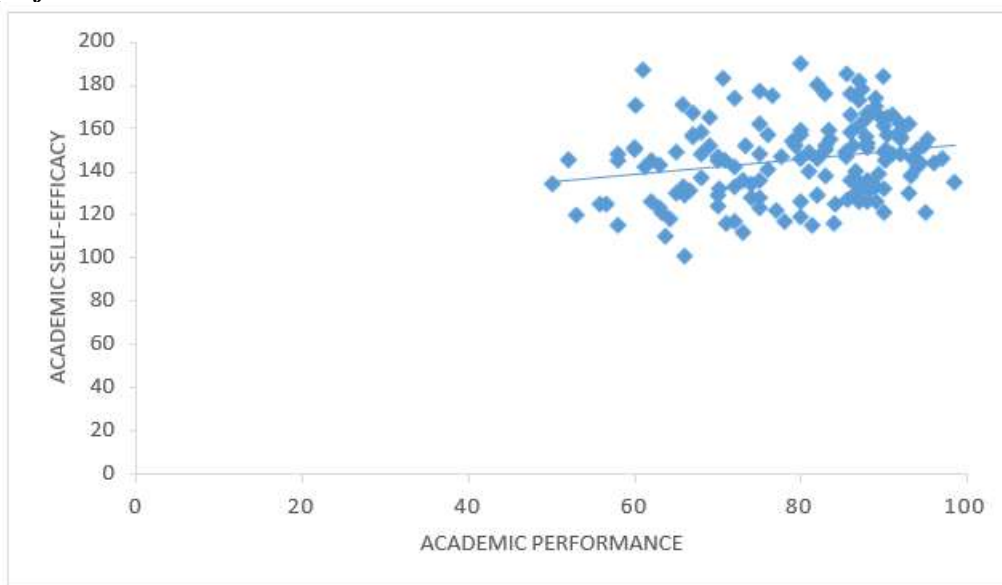


Table 1 represents the descriptive statistics of the 4 variables under study. The mean score for academic self-efficacy was 146 indicating high academic self-efficacy levels among the sample. The mean score for Grit was 3.27 depicting that participants self-reported moderate levels of grit (on a Range of 1-5). Participants on an average had high levels of self-control with a mean score of 40.7 (on a range of 26-58). Participants' academic performance mean score was 79.0 on a range of 50-98.5 reflecting high levels of academic performance. SD scores indicated individual differences to be high for self-control (SD- 6.69), academic self-efficacy (SD- 18.52), and academic performance (SD- 11.54). On the contrary grit had low individual differences with a comparatively low SD of 0.56 as seen in Table 1.

As seen in Table 2, a positive, low, and statistically significant relationship was found between academic self-efficacy and academic performance ( $r_{s(149)}=0.22$ ,  $p=0.006$ ). The graphical representation in Figure 3- a scatterplot depicting the relation between academic self-efficacy and academic performance also supported the same. This suggested that we retain the alternate hypothesis that there exists a statistically significant relationship between academic self- efficacy and academic performance while rejecting the null hypothesis. Past studies have also shown similar results. A study by Chemers et al (2001), found significant correlations between GPA, academic self-efficacy, and optimism with academic performance among undergraduates. Similarly, a study on 60 college students in Haridwar reaffirmed that high self-efficacy leads to high performance (Pavani & Agrawal, 2015). Wood and Locke (1987), had also found significant relations between academic self-efficacy and academic performance along with self-set goals.

As seen in Table 2, the correlation between grit and academic performance was positive, low but statistically not significant ( $r_{s(149)}=0.15$ , ns). This was also seen in the Figure 1-scatter plot representing the correlation between grit and academic performance. Thus, it could be concluded that there exists no significant relationship between grit and academic performance. Hence, the null hypothesis was retained due to insufficient evidence. Few past studies were in coherence with the findings that grit was not related to academic performance. A study conducted by the University of Arkansas with 998 students found no

significant correlation between grit and academic performance but levels of perseverance were of significance (Murphy, 2019). Wolters & Hussain (2014), while investigating grit and its relation with academic performance found only one facet of grit - the perseverance facet to be correlated, the passion facet had no relation with performance. Significant differences between trait and state level grit were also responsible for the correlation to not be significant. Muenk et al (2017), reported trait-level grit to be related to academic performance rather than state-level grit. Another possibility that might affect the relationship is evident from the UNESCO report 2016, which criticizes the grit scale for it is highly subjected to social desirability due to transparency of items (Dimenchi & Raymond, 2015) and also that only the perseverance aspect of grit is important and linked to academic performance. Another important consideration is that grit is malleable by environmental factors. It can be improved by reflecting on failures, changes in beliefs, cognitive abilities as well as activities that plan in breaking obstacles.

Similarly, a negative, low but statistically non-significant relationship was found between self-control and academic performance ( $r_{s(149)}=-0.04$  ns). Figure 2 - scatterplot of correlation between self-control and academic performance also depicts the same. This suggested that the alternate hypothesis was rejected and the null hypothesis was retained that there is no relation between self-control and academic performance, since there wasn't sufficient evidence to reject. Few past studies have supported our findings that self-control may not be correlated to academic performance. The UNESCO Report 2016, also states that self-control is coherent but a multidimensional construct, hence multiple ways of measurement are needed to find accurate relations. It also reflected that childhood levels of self-control play an important role in the adult levels of self-control. There also exist differences between trait and state level self-control that can change the relationships (Kai Zhao, 2016). Oaten and Cheng (2005), highlighted how stress affects performance and hampers self-control and intervention programs of self-control become necessary to bring back the levels. A group in the study was exposed to a self-control intervention program for 15 days and participants showed significant improvements which were measured by eye-tracking devices. This also emphasizes that self-report measures of reporting self-control are alone not sufficient and valid means to assess an individual's true self-control.

### ***Limitations:***

There are many factors that may have confounded the obtained results. The tools used were from the USA in the case of grit and self-control and the academic self-efficacy tool was constructed in India. In addition, they were self-report inventories, and self-reported grit, self-efficacy, and self-control levels cannot be reliable due to socially desirable responses. There also seems to be a possibility that the study focussed on general grit and self-control rather than something specific like academic grit and self-control. These constructs also could be studied at two levels: the trait level and the state level. Thus, then the study would have to use specific tools considering these levels or domain-specific measures. Also, the researchers assumed a linear relationship among variables. Maybe the variables don't share a linear relationship but can possibly have a curvilinear correlation or collinear relationship.

Another important point is that academic performance could be measured by reliable psychological tests like the SPM (Standard Progressive Matrices) instead of only through percentages obtained. Also, it would have been better if the researcher considered studying students who recently completed their graduation and analyse their academic performance of all their semesters of graduation.

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The sample was 151, maybe a larger sample could have established the correlation. The operational definitions of the variables in the study could also have acted for the changes in the results. Furthermore, the sample collected belonged to a particular location and was not nationally representative. Also, sample characteristic differences, imbalance in the gender ratio, majority being HSC students, and science students could have been confounding factors. The data was collected during the COVID-19 pandemic, the research was done during the lockdown period and environmental factors would have affected students' non-cognitive levels and motivation.

### ***Suggestions for future research:***

Research on non-cognitive factors seems to be a rare topic in India since there is a dearth of literature and tools. Thus, future research could focus on constructing tools that would be suitable for the Indian population. Research could be done using an amalgamation of research techniques, self-report measures along with other modes such as biofeedback and imaging techniques. In addition, since grit, self-control, academic self-efficacy levels keep changing and are affected by time and space, research studies can be structured in a longitudinal fashion wherein these levels are assessed for longer durations.

Studies could also focus on structuring experiments where both cognitive factors and non-cognitive factors are researched together to understand whether there is any interaction effect of these factors on human functioning. Studying domain-specific levels of the variable could also help researchers understand state and trait levels for the variables and which of these have stronger effects on academics and other domains. Accurate tool development with subscales for the variables could also be looked into as an essential component for research on the non-cognitive factors. Developing tools not only for general levels but also domain-specific measures as well as state and trait level measures seems to be the need for future research.

## **CONCLUSION**

Thus, the null hypothesis was rejected and an alternate hypothesis was retained for academic self-efficacy i.e. “there is a significant relationship between academic self-efficacy and academic performance” on the basis of statistical significance of correlation coefficients. The researchers failed to reject the null hypothesis for grit and self-control. Hence, the null hypothesis was retained for grit i.e. “there is no significant relationship between grit and academic performance. The null hypothesis was also retained for self-control i.e. “there is no significant relationship between self-control and academic performance.”

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The author(s) declared no conflict of interest.

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## **ABBREVIATIONS**

- GPA- Grade Point Average ISC- Indian School Certificate
- SSC-Secondary School Certificate (Maharashtra) CBSE- Central Board of Secondary Education SD- Standard Deviation
- SPM- Standard Progressive Matrices
- SAT- previously called Scholastic Aptitude test, and now simply SAT  $r_s$  - Spearman correlation coefficient
- ns- Not significant STD- Standard or grade
- UNESCO- United Nations Educational, Scientific and Cultural Organization