

Relationship between Grit and Flourishing among NCC and NON-NCC Students

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ABSTRACT

Life's success is not solely dependent on intelligence, talent, skill or ability. Every individual strives towards becoming an epitome of success in his/her respective field. However, the crucial element in this journey is the perseverant effort that an individual puts in. This study is conducted to find out the relationship between Grit and Flourishing in under graduation students. Grit is passion and perseverance for very long-term goals (Duckworth, 2013). Happiness, flow, meaning, love, gratitude, accomplishment, growth, better relationships constitutes human flourishing (Seligman, 2011). Non-Probability Purposive Sampling and Snowball Sampling techniques were employed to select 240 undergraduate students in the 1st and 3rd years aged between 16-21 years from the city of Hyderabad, India. The Short Grit Scale: Grit-S (Duckworth, Peterson, Matthews, & Kelly; 2007) and the Flourishing Scale (Diener et al., 2010) were administered. Data analysis revealed a significant difference in the levels of grit and flourishing between 1st and 3rd year NCC students. The results also revealed a significant correlation between Grit and Flourishing. Thus, including NCC training in the under-graduation curriculum is facilitative of overall flourishing in students.

Keywords: *Consistency of Interest, Flourishing, Grit, NCC Cadets, Non-NCC students, Perseverant Effort*

‘Psychological research should care about building the best qualities in life instead of repairing the worst ones’ [1]. In contemporary times identifying the potentials in people and honing their innate abilities to flourish in life has been a concern for psychologists.

Grit is one of the psychological strengths in individuals resulting in life success. “Grit is passion and perseverance for very long-term goals” [2]. Individuals need to work hard to become successful in life, to have an edge over others, to stand out in a crowd and most importantly make a difference in our lives and those of others. “If you want to become world class at anything, you must spend 60 hours a week on it for ten years” [3]. Grit is the stamina to stick with our goals, day in and day out and work constantly towards making them a reality [2]. A study conducted by Angela Duckworth in 2004 at the West Point Military Academy

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showed Grit as an astoundingly reliable predictor of who made through the training and who did not. Cadets high on grit made it through the training [4]. The rigid preconceived notions about intelligence, talent, genetic predispositions, child prodigies, academic grades and other cognitive, genetic and environmental factors being the precursors of success have been challenged in contemporary times, especially with the study of grit. Grit has mostly been unrelated or even inversely related to talent [2]. Duckworth (2013) says “being gifted is no guarantee of being hardworking or passionate about something” [5]. A study conducted on the National Spell Bee shows how grit plays an important role when compared to IQ and talent. Results indicated that measurements of grit taken months before the final competition predicted how well spellers would eventually perform. Grittier kids went further in competition. But there was no relationship at all between verbal IQ and grit.” [6]. Duckworth thus mentions, “Our potential is one thing. What we do with it is quite another” [6]

Duckworth says grit, keeping aside cognitive traits, has proven to be a major indicator of academic success as well. A study conducted on the relationship between grit, academic success and non-traditional doctoral student showed a significant relationship between grit and student GPA [7]. Another study conducted by Strayhorn tested the importance of grit in predicting grades for a sample of Black males attending a predominantly White institution. Results suggest that grit is positively related to college grades and it alone predicted over and beyond traditional measures of academic success such as high school grade point average and American College Test scores [8]. “Although grit is not the only predictor of student success in both personal and professional contexts, it is certainly one predictor that should not be overlooked” [9].

Salles, Cohen and Meuller (2014) conducted a study to test the relationship between Resident Well-Being and Grit in one hundred forty-one residents across 9 surgical specialties at one academic medical centre. Results suggested that grit was predictive of later psychological well-being [10]. In his book ‘Flourish’ Seligman states that “the gold standard for measuring well-being is flourishing” [11]. The experience of life going well, feeling good along with functioning effectively is defined as flourishing. It is synonymous with a high level of mental well-being and epitomises mental health [12]. It is defined as ‘mentally healthy’ [13]. Working hard and experiencing inner well-being can rather be directly proportionate than being the prerequisites of success. Grit was positively related to all well-being factors. Huppert and So of the University of Cambridge have further explained flourishing and stated that: “to flourish, an individual must have all the core features and three of the six additional features.” The core features include positive emotions, engagement, interest, meaning and purpose, while the additional features comprise of self-esteem, optimism, resilience, vitality, self-determination and positive relationships [14]. Flourishing in simple terms means leading a good, content and happy life. One where an individual is at mental and emotional peace. Individuals who are flourishing are willing to develop, improve, and expand their potential as a person, and are able to develop warm, trusting relationships with others [15]. Individuals who are flourishing are also found to be associated with greater environmental control, positive relations with others, life purposes, personal development [16], relatedness, competency, self-acceptance, autonomy, and low level of loneliness [15]. Another study found that flourishing reduced the risk of incident mood disorders and anxiety disorders by 28% and 53% respectively [17]. Other studies have demonstrated the correlations of flourishing with indicators of cognitive well-being [18].

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A study revealed that Grit was positively related to all well-being factors, and Sense of Coherence and authenticity were significant mediators [19]. Keyes operationalized flourishing as elevated emotional, psychological, and social well-being [20]. Keeping in mind the previous studies and the established relationship between well-being and flourishing, a relationship can be assumed between Grit and flourishing. The present study thus focusses on analysing the relationship between Grit and its dimensions, namely Passion and Perseverance, and Flourishing.

Objectives And Hypotheses

The present study aimed at finding the difference in the levels of Grit and its two dimensions, Passion and Perseverance, and Flourishing. It also aimed at understanding the relationship between Grit and its two dimensions, Passion and Perseverance, and Flourishing.

It was proposed that higher levels of Grit would result in higher levels of Flourishing. It was also proposed that NCC training would lead to higher levels of Grit.

METHODOLOGY

Sample

The present study is a quantitative study in which Grit with its dimensions – Passion and Perseverance is treated as the independent variable and Flourishing is treated as the dependent variable. The study adopts a correlational design and between group design to determine whether there is any correlation between Grit and Flourishing among NCC and NON-NCC undergraduate students. The sample comprised of 240 young adults divided into 2 groups - NCC and NON-NCC students, having 120 participants in each group. These 2 groups were further divided on the basis of the year of study and gender. Purposive and Snowball sampling techniques were used to collect the sample from the city of Hyderabad, India.

Instruments

The Short Grit Scale (Grit-S) developed by Duckworth, Peterson, Matthews, & Kelly (2007) and the brief 8-item Flourishing Scale developed by Diener, Ed. et al. were administered. Both the scales adopt a likert scale for scoring and the scores range from 1-5 on the Short Grit Scale and from 7-56 for the flourishing Scale. Informed consent was obtained, and the data was collected and kept confidential.

Statistical Procedure

After completion of data collection, the responses were scored using the data analysis software IBM SPSS Version 23. Means and Standard Deviations of Grit along with its two dimensions- Passion and Perseverance and Flourishing were calculated for the total sample and on the basis of NCC enrolment, year of study and gender. *t*- Test was conducted for testing the difference in the levels of Grit along with its two dimensions and Flourishing in the total sample as well as between boys and girls, 1st year undergraduates and 3rd year undergraduate and NCC and Non-NCC undergraduate students. Pearson's Product Moment Correlation was computed to determine whether there was any significant correlation between Grit along with its two dimensions and Flourishing in the total sample as well as in each subgroup.

RESULTS

Figure 1 shows the significant increase in the levels of Grit from 1st year to 3rd year NCC undergraduates; initially having lower grit levels than Non-NCC students and eventually crossing their levels of Grit.

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Figure 1 showing the levels of Grit in NCC and Non-NCC students based on the year of study.

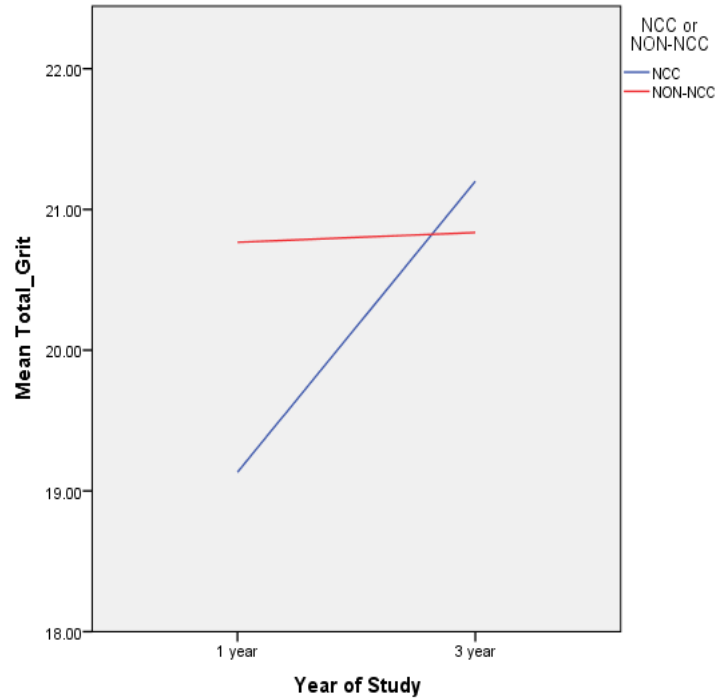


Table 1 showing mean, standard deviation and *t* values based on NCC enrolment, gender and year of study for the sample.

	NCC/Non-NCC		<i>t</i>	Gender		<i>t</i>	Year of Study		<i>t</i>
	NCC	Non-NCC		Boys	Girls		1 st Year	3 rd Year	
	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	
Passion	12.08 (3.04)	11.22 (3.49)	2.06*	11.51 (3.41)	11.77 (3.20)	0.61	11.56 (3.4)	11.72 (3.21)	0.38
Perseverance	8.12 (2.65)	9.57 (2.88)	4.13**	8.75 (2.93)	8.94 (2.81)	0.52	8.3 (2.93)	9.2 (2.73)	5.53*
Grit	20.2 (3.91)	20.8 (4.03)	1.18	20.27 (3.95)	20.71 (4)	0.88	19.95 (3.96)	21.01 (3.94)	2.13*
Flourishing	14.39 (3.24)	16.83 (6.43)	3.79**	15.64 (4.7)	15.6 (5.7)	0.05	14.62 (3.9)	16.53 (6.08)	2.92*

Table 1 shows a significant difference in the levels of Grit between 1st year and 3rd year undergraduate students ($t = 2.13$, $P < 0.05$). The results also indicate a significant difference in the levels of Perseverance between NCC and Non-NCC undergraduates ($t = 4.13$, $P < 0.01$) and between 1st year and 3rd year undergraduates ($t = 2.53$, $P = 0.1$) and in the levels of Passion between NCC and Non-NCC undergraduates with NCC students having higher levels of Passion ($t = 2.06$, $P < 0.05$). It also indicates a significant difference in the levels of Flourishing between NCC and Non-NCC ($t = 3.79$, $P < 0.01$) and between 1st year and 3rd year undergraduate students ($t = 2.92$, $P < 0.01$).

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Table 2 showing mean, standard deviation and t values for NCC and Non-NCC undergraduates based on year of study

	NCC		t	Non-NCC		t
	1 st Year Mean (SD)	3 rd Year Mean (SD)		1 st Year Mean (SD)	3 rd Year Mean (SD)	
Passion	11.91 (3.08)	12.23 (3.01)	5.75	11.21 (3.68)	11.23 (3.34)	0.03
Perseverance	7.21 (2.61)	8.96 (2.43)	3.88**	9.55 (2.8)	9.59 (2.98)	0.09
Grit	19.13 (3.5)	21.2 (3.98)	3.04**	20.76 (4.18)	20.83 (3.92)	0.09
Flourishing	13.78 (3.2)	14.95 (3.2)	2.04*	15.46 (4.36)	18.05 (7.66)	2.3*

Table 2 indicates a significant difference in the levels of Grit between 1st year and 3rd year NCC undergraduates ($t= 3.04$, $P< 0.01$) as well as in their levels of Perseverance ($t= 3.88$, $P< 0.01$). There is also a significant difference in the levels of Flourishing between 1st year and 3rd year NCC undergraduates ($t= 2.04$, $P< 0.05$) and 1st year and 3rd year Non-NCC undergraduates ($t= 2.3$, $P< 0.05$).

Table 3 showing correlation between Flourishing and Grit and its dimensions, Passion and Perseverance based on NCC enrolment, gender and year of study for the total sample.

	Total	Flourishing					
		1 st Year	3 rd Year	NCC	Non-NCC	Boys	Girls
Grit	0.18**	0.18**	0.15	0.13	0.2*	0.25**	0.12
Perseverance	0.48**	0.48**	0.49**	0.44**	0.48**	0.48**	0.48**
Passion	-0.2**	-0.2**	-0.22*	-0.21*	-0.16	-0.13	-0.27**

Table 3 shows a significant positive correlation between Grit and Flourishing in the total sample ($r= 0.18$, $P< 0.01$), 1st year undergraduates ($r= 0.18$, $P< 0.01$), Non-NCC undergraduates ($r= 0.2$, $P< 0.05$) and undergraduate boys ($r= 0.25$, $P< 0.01$). A significant positive correlation is observed between Perseverance and Flourishing in the total sample ($r= 0.48$, $P< 0.01$) as well as in all the subgroups. The table also shows a significant negative correlation between Passion and Flourishing in the total sample ($r= -0.2$, $P< 0.01$), 1st year undergraduates ($r= -0.2$, $P< 0.05$), 3rd year undergraduates ($r= -0.22$, $P< 0.01$), NCC undergraduates ($r= -0.21$, $P< 0.05$) and undergraduate girls ($r= -0.27$, $P< 0.01$).

DISCUSSION

The study revealed significant differences in the levels of Grit between 1st year and 3rd year undergraduates. As the level of education increases students are faced with greater challenges and higher task difficulties. These test the individual's level of competence. As a result, students' capacities to cope with these also increases as a result of exposure to the excessive demands. Thus, it can be understood that as students progress towards higher levels of education they become grittier. A study conducted by Duckworth, Peterson, Kelly and Matthews also revealed that grit increases with age. Results indicated that Grit was lowest among 25-34-year-olds and highest among those 65 years and older [21]. The more the age increases, the grit levels also increase [22]. Results also indicate a significant difference in the levels of perseverance between 1st year and 3rd year undergraduates. However, there was no significant difference in the levels of passion between 1st years and 3rd year. Thus, the

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increase in the levels of grit from 1st year to the 3rd year can be attributed to the increase in the levels of perseverance.

There is a significant increase in the levels of grit from 1st year to 3rd year with respect to NCC undergraduates. This increase in the grit levels can be attributed to the NCC training that the cadets undergo. A study conducted by Duckworth suggests that cadets high on grit made it through the training at the West Point Military Academy [4]. In addition to grit being an essential characteristic for NCC training, the present study suggest that grit also increases through the course of the training. There is no significant increase in the levels of grit between 1st year and 3rd year Non-NCC students. However, the results clearly indicate a significant rise in the grit levels in NCC students. Mean values indicate lower grit levels of NCC students compared to Non-NCC students in the 1st year going beyond the grit levels of Non-NCC students after a period of three years. Thus, it can be assumed that grit is not only a prerequisite for the enrolment and survival through the cadet training program, but also increases as a result of the training.

There are significant differences in the levels of perseverance between NCC and Non-NCC undergraduates. Higher levels of perseverance are observed in Non-NCC students. This is quite contradictory to the preconceived notion that NCC students are more persevering and determined. This could be probably attributed to the streamlined interests that NCC students pursue and as a result are less open to exposure to varied interests. NCC students are more focussed on their training as compared to Non-NCC students who explore a variety of interests and strive to excel in multiple fields. This can also be seen in the results with respect to the levels of passion. There exists a significant difference in the levels of passion between NCC and Non-NCC undergraduate students. Analysis of the means of the levels of passion reveal higher levels of passion in NCC students. This indicates their ‘consistency of interest’ that could possibly be attributed to their NCC training.

The study also shows significant difference in the levels of Perseverance between 1st year and 3rd year NCC students. “Understanding the values of honesty, truthfulness, self-sacrifice, perseverance and hard work” is included as one of the core values of NCC training [23]. Studies have indicated that regular exercise increases the levels of dopamine in an individual [24] and also helps elevate mood [25]. Neuroscientific research also suggests that increased dopamine levels makes an individual more persevering [26]. Thus, we can assume that the rigorous NCC training makes cadets more perseverant.

The present study reveals that there is no significant difference in the levels of perseverance between 1st year and 3rd year Non-NCC students. However, analysing the means suggest higher levels of perseverance in both 1st year and 3rd year non-NCC undergraduate students when compared to the NCC undergraduate students. Though, the levels of perseverance increase with NCC training among the NCC students, the levels of perseverance in Non-NCC students still remain higher across both the years of study. The high levels of perseverance in Non-NCC students can be attributed to the sense of urgency to strive for and achieve personal success in undergraduates. With this urgency comes perseverance [27].

The study also reveals significant differences in the levels of Flourishing between NCC and Non-NCC undergraduate students. Analysis of the means suggest higher level of flourishing among Non-NCC students which can possibly be a result of holistic development that the Non-NCC students experience. The national website of India for National Cadet Corps

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mentions that “the NCC provide exposure to the cadets in a wide range of activities” however, if looked at closely most of these activities focus majorly on building physical strength and discipline. Nevertheless, Non-NCC students have exposure to a wider range of activities that build mental strength, social relationships and emotional well-being. The rigorous NCC training can sometimes become burdensome and lead to increased levels of stress affecting the emotional well-being of individuals.

Significant differences in the levels of flourishing are also observed between 1st year and 3rd year undergraduates in the total sample, 1st year and 3rd year NCC undergraduates and between 1st year and 3rd year Non-NCC undergraduate students. This can be attributed to the increase in age and experience which help individuals adapt to challenging situations and experience mental, emotional and psychological well-being. Studies also indicate that mental, physical and emotional welfare are all linked with each other. Training in cognitive reasoning increases older people's feeling of comfort in their ability to cope with the difficulties of their day-to-day life [28]. Further the English Longitudinal Study of Ageing suggests that greater cognitive function is also associated with psychological well-being [29]. Studies have also found that the character strengths of curiosity, love of learning, fairness, forgiveness and self-regulation all increase as individuals grow older [30]. Similarly, an increase in age also develops environmental mastery which is an important component of the wider concept of psychological well-being [31].

The study revealed no significant gender differences in the levels of Grit and its dimensions, Passion and Perseverance, and Flourishing. A study conducted by Ali and Rahman on forty fencers, 20 men and 20 women, who represented Manipur in the National Fencing Championship also suggests no gender differences in the levels of Grit [32]. This could be possible because contemporary times do not witness gender differences in many spheres of life. Women today are as competent as men, ranging from physical activities to entrepreneurship skills. However, by analysing the means it was found that women have slightly higher levels of grit as compared to men. This could be possibly true because women tend to be more focussed and determined towards achieving their goals. Data from the Gartner Global Talent Monitor reveals that Australian female employees' is almost 7% higher than their male colleagues. In 2017, female effort levels increased by 1.6% as compared to just a 0.5% increase seen in male workers. Another study shows female and male physicians were similar on stable individual difference factors, job behaviours, work outcomes, extra-work satisfactions and psychological wellbeing [33].

No significant differences were found in the levels of Grit between NCC and Non-NCC undergraduate students. This can be attributed to the higher levels of passion in NCC students and perseverance in Non-NCC students, thus neutralising their overall Grit. Similarly, the study reveals no significant differences in the levels of passion between 1st year and 3rd year NCC students and between 1st year and 3rd year Non-NCC students. An individual's interests constantly change at a younger age, however, they become relatively stable at the undergraduate level. The three years of under graduation witness consistency of interests among individuals as a result of a streamlined choice of subjects, awareness about their own talents and well-defined skills and abilities. Therefore, individuals strive towards excelling in their own choice of undergraduate course as a precursor to their career and work towards honing their talents during the three-year course. Thus, it can be assumed that the three-year course does not witness much change in the levels of passion from the 1st year to the 3rd year of under graduation.

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The present study reveals a significant positive correlation between Flourishing and Grit in the total sample, 1st year undergraduate students, Non-NCC undergraduates and in undergraduate boys. Grit refers to consistency of interest and perseverance of effort. Grit is associated with healthy functioning [34]. Research on subjective well-being has linked overall grit to life satisfaction, happiness, positive affect, and lower distress [19] which in turn would lead to flourishing. Flourishing refers to experiencing mental, emotional and psychological well-being. By putting in constant effort in achieving one's goals, an individual feels content and accomplished and hence, a state of well-being. Therefore, a positive relationship can be assumed between Grit and flourishing. Previous studies also indicate a significant positive correlation between Grit, Resilience and Psychological Wellbeing and Resilience seemed to have to have no significant moderating role in the relationship between dependent variable grit and independent variable Psychological Wellbeing [35].

The study also shows no significant correlation between Flourishing and Grit in NCC undergraduate students, 3rd year undergraduate students and undergraduate girls. This could be possibly attributed to the low levels of both Grit and Flourishing in NCC students compared to Non-NCC students.

The study also indicates a significant positive correlation between Flourishing and Perseverance in the total sample as well as in each of the subgroups, namely, NCC undergraduates, Non-NCC undergraduates, 1st year undergraduate students, 3rd year undergraduate students, undergraduate boys and undergraduate girls. A study conducted by Datu, Valdez & King indicated that perseverance of effort positively predicted behavioural engagement, emotional engagement, and flourishing [36]. Persistence is defined as “voluntary continuation of a goal-directed action in spite of obstacles, difficulties, or discouragement” [37]. This constant effort exhibited by individuals leads to increased level of goal achievement that makes an individual experience well-being. Perseverance of effort was moderately to strongly related to subjective well-being, beliefs about well-being, and personality strengths [38]. Perseverance of effort was suggested to be a reliable predictor of key psychological outcomes including subjective well-being compared to consistency of interests [39].

Results reveal a significant negative correlation between Flourishing and Passion in the total sample. Consistency of interests had weak or negative correlations with subjective well-being, beliefs about well-being, and personality strengths [38]. Similarly, there was significant negative correlation between Flourishing and Passion in 1st year undergraduates, 3rd year undergraduates, NCC under graduation students and undergraduate girls. Correlational analyses revealed positive relationships between harmonious passion, trait self-control, and wellbeing [40]. However, there was no significant correlation, but a negative correlation, in Non-NCC undergraduates. This could be possibly true because NCC undergraduates exhibit higher levels of passion than Non-NCC undergraduates which in turn leads to their overall flourishing. Undergraduate boys too exhibited a negative, not significant, correlation between Flourishing and Passion.

Limitations

The present study was conducted on an undergraduate sample consisting of NCC and Non-NCC students. However, further research can be carried out in samples such as individuals with chronic diseases and start-up entrepreneurs. This would be a reliable predictor of leading a better life and entrepreneurial success respectively. The present study witnessed difficulty

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in review of literature with respect to gender differences in grit and flourishing levels, which can become a further area of research. Another limitation was posed with respect to the sampling techniques. Purposive and Snowball sampling techniques led to the lack of a widespread representative and fair sample and rather concentrated a majority of NCC students from few colleges. The present study was conducted on a sample of 240 students within the city of Hyderabad, thus, results cannot be effectively generalised due to geographical factors and a relatively small sample size.

CONCLUSION

The present study tested the relationship between Grit and Flourishing among NCC and Non-NCC undergraduate students. The study challenges the preconceived notions about NCC students being more hardworking and perseverant than Non-NCC students due to their rigorous training. However, results indicate that Non-NCC students across the sample and subgroups have higher levels of perseverance and flourishing. The study reveals a significant difference in the levels of grit between 1st year and 3rd year NCC students with higher grit levels in 3rd year NCC students. This implies an increase in the levels of grit possibly as a result of NCC training. Higher levels of grit would lead to better flourishing, implied by a significant positive correlation between the two variables. Thus, formal training of similar kind can be reinforced and adapted in the curriculums of students pertaining to the needs making students grittier and enabling higher levels of flourishing, hence leading to holistic development.

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Conflict of Interest

The authors carefully declare this paper to bear not a conflict of interests

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