

Fulfilled Needs for Scholastic Deeds: Post-Pandemic Investigation of Need Satisfaction and Academic Achievement

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ABSTRACT

The behaviors and motivations of people are as frequently changing as the circumstances in which people find themselves which was evident throughout the world during and post the COVID 19 pandemic. Decline in academic interest and intrinsic motivation in college students is a problem faced by students around the world even before the onset of pandemic. Student's perception of their need satisfaction and academic achievement are therefore related and humans need their basic needs met before academic learning can be fully embraced. The current study investigates the relationship between the perceived satisfaction of needs and academic achievement of college students in Bangalore of the age group 18 to 24. The Needs Satisfaction Assessment for Students developed by Michael Caraccio in 2017 was used as a tool in data collection during the year 2022. The results of the study revealed that there is significant relationship between need satisfaction and academic achievement, significant difference between the ranking of importance of need and ranking of satisfied needs, significant prediction of academic achievement by all the specific need domains and significant difference in the level of satisfaction of needs based on the student's various demographic variables. The implication of the study is for all stakeholders in the education system towards increasing attention in providing a healthy environment focusing on individual need satisfaction in educational institutions and in families and communities that would build their protective factors in the face of stress and anxiety especially during times of uncertainty and promote scholastic achievements and academic motivation.

Keywords: *Need Satisfaction, Academic Achievement, Need Hierarchy, Academic Motivation*

COVID-19 as a pandemic shook the lives of many as it posed various physical and mental health threats following its outbreak. Most countries of the world adopted various measures to combat it and ensure wellness for their citizens but at the same time, India was one of the worst affected countries in the world with increased the concern about mental health and satisfaction of needs. With lockdowns imposed and educational institutions demanded to shut down, classes were shifting online and with the irregular and completely new assessment tools, students have been at the receiving end of many

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unexpected changes which affected their mental health in such a short period while many of their needs unmet (Chen & Lucock, 2022).

Various studies post the outbreak on children, adolescents and adults showed an alarming increase in mental health symptoms, especially in youth, such as anxiety and depression (Moghe, Kotecha & Patil, 2020). Various factors that affect student motivation include the family, socio economic background, the school, peer group and the community in which they belong. With these researches in mind, it can be assumed that Academic motivation in students could also be deteriorated because of the various needs that are unfulfilled such as physical wellbeing, safety and social interactions that can serve as a protective factor in crisis situations like that of Covid 19. According to a study on student's perception of their safety and academic achievement, as the student's perceived danger increases, their academic achievement decreases (Bowen & Bowen, 1999). A student's sense of belongingness is linked positively with academic achievement (E. Kim & Irwin, 2013). The covid 19 pandemic has played a major role in creating havoc in lives of people because of the reality of being away from our loved ones, peer group and work place for such a long time and the connection and belongingness with one's social groups have been disturbed. Students and in general most of the population seemed to have limited interactions with their friends, family and teachers since the pandemic. There are reasons to believe that their motivation declined. The study of these basic needs is therefore of utmost relevance as the pandemic caused a lot of physical health threats in terms of the fear of contracting the infection and other comorbid conditions, unavailability of proper nutrition and diet owing to job insecurities, food shortage etc. and this has indeed negatively impacted nutrition of people around the country and their physical development which in turn impact their motivation and performance. The need to achieve success, others recognizing one's achievements and pursuing one's utmost potential contributes to self-esteem, self-actualization and academic achievement (Kim & Kim, 2015). But the pandemic has led individuals to focus more on meeting their basic needs and not being able to focus on these higher-order needs. However, few studies also showed a lack of significant relationship between need satisfaction and academic achievement as well (Caraccio,2017).

While most of the recent research on need satisfaction focuses on school students, far less attention has been devoted to college students, the impact of overall perceived need satisfaction and the impact of specific needs on academic achievement of students. The existing literature has not provided much attention towards the existing conflicts in satisfaction and striving for specific needs and the importance attached to each of them that has underwent a change during the pandemic. Studies on perceived needs satisfaction focus on the perception of their need satisfaction as a humanistic need but not whether the students are in actual deprivation.

The theoretical framework of the current research is Abraham Maslow's Hierarchy of Needs which goes on to explain the importance of individual, family, and community relationships to attain the utmost level of one's potential. Once primary physiological needs are met, individuals strive for safety needs, love and belonging needs, esteem needs, and self-actualizing needs (Maslow & Lowry, 1968). These needs, in the form of family and community support, impacts student academic motivation (Gonzales, 1996). Individuals are not driven by all the needs at the same time and only one need will dominate one's behavior and personality at any moment and which one it will depend on which of the other needs have been satisfied (Schultz & Schultz, 2012). Furthermore, needs may be rearranged

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depending on the individual's values, culture or they may change as the person progresses through life as a result of major life changes (Maslow, 1943). The central concern therefore of the educational system should be to find what need motivates the students towards academic success and achievement. Post the pandemic, we see that many individuals are now driven by more fundamental necessities than they were before. Because many people's job conditions have altered, satisfying basic requirements may now be more of a concern. Because so many individuals are studying or working at home, doing other activities that one usually does to maintain physiological health may not be possible at this time. Financial security allows the student to not worry about having enough money to participate in whatever activities s/he chooses. Some people's primary objective right now is also to keep themselves and their families safe. An individual's sense of belonging could be satisfied through the love of family, friends, or membership in an organization. If one lives within a caring family and friend circle, they will be able to engage in activities in academic settings with the hope that there exists a support system for them. An individual's focus on self-esteem increases with age the desire to earn respect will result in a student to work beyond what is expected, volunteer to help faculties and work harder for their short- and long-term goals. The final and most difficult tier to achieve is the self-actualizing needs which describes an individual's desire to achieve their utmost potential. In adults, often there will be an increased level of need satisfaction in the lower order needs and an increased level of need dissatisfaction in the higher order needs (Maslow, 1943).

The review of literature on need satisfaction suggests that the satisfaction of the physiological needs was a significant predictor of the satisfaction of every one of the four higher-level needs, suggesting that the physiological needs are profound (Taormina & Gao, 2013). Positive relationship between peer support and GPA suggests love and belongingness of similar aged people play a pivotal role in the academic success of the student (Gonzales, Cauce, Friedman, and Mason, 1996). On the other hand, few studies have found that the level of satisfaction of safety and relationship, selflessness, esteem and physiological has no influence on academic achievement of students where students with low level of needs satisfied could perform as well as students with many of their needs met (Caraccio, 2017). One research study concluded that though Maslow's theory of hierarchy of needs gave valuable insight on the role that meeting physiological needs played on academic performance, it was not completely adequate in explaining why some physiologically deprived students still performed well in examinations (Aming'a, 2016).

There also has been a shift visible in the order of needs in employees of certain occupations than that was argued by Maslow in his hierarchy where the esteem need predominated the need for safety and social needs as an effect of increased socialization due to internet and technological developments in the 21st century (Uysal, Aydemir & Genc, 2017). Most adults were thought of as working on the growth needs of the pyramid, striving for love, esteem and towards self-actualization. But the onset of the pandemic, has negatively impacted many of us, regardless of where we may have been on the pyramid, to the bottom of the pyramid (Geher, 2020). One study that focused on comparing the ranking of need satisfaction and the importance rating of the satisfaction of the basic needs with the order for the proposed hierarchy of needs showed several differences with people stating that *Safety*, *Self-esteem*, and *Self-actualization* were the least important needs in their lives and do not agree with the view that *Self-actualization* is of highest importance (Montag, Sindermann, Lester & Davis, 2020).

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Research on motivation suggests that male's and female's motivation related beliefs and behaviors follow gender role stereotypes. A study shows that female health professionals reported lower psychological well-being, lower levels of basic psychological need satisfaction, and more health problems than males (Gómez-Baya, Lucia-Casademunt & Salinas-Pérez, 2018). Research on the young adulthood phase shows that this age group is a period where individuals have a solid grasp on their physiological needs and how to achieve them. During this phase the safety need interms of the need for stable employment and financial security becomes more prominent and individuals work towards achieving these through their college years. With physiological and safety needs met, most young adults begin to fulfil the need of companionship and love. Whether it is from education, work, family, friends, or the public, people need and want recognition and this is one way to meet their esteem needs (*Young Adulthood*, n.d.). Young adults are still in the achieving stage as they are still trying to sort out other issues in their lives that often take precedence over self-actualization (Schaie & Willis, 2012).

The current study will enable us to discover which, if any, satisfied needs motivate students towards academic achievement and to understand which needs are more important to the participants. Findings of this study may elucidate the importance of incorporating need satisfaction while planning interventions to support students as there has been a shift being noticed in the ordering of needs in the hierarchy in the 21st century and especially after the onset of the pandemic. The need for this research also arises from the criticism towards intercultural relevance of Maslow's theory and the awareness about the research gap found on the age group, gender differences, presence of chronic physical or mental illness and current scenario of the pandemic and online learning process and disruption of physiological, safety and social needs and focuses on identifying the level of need satisfaction in students and their academic achievement.

METHODOLOGY

Objective

To study the relationship between the satisfaction of needs and academic achievement of college students in India of the age group eighteen to twenty-four.

Hypotheses

1. There will be significant relationship between total need satisfaction and academic achievement.
2. There will be significant difference between the ranking of importance of need and ranking of satisfied needs
3. Academic achievement will be significantly predicted by the specific needs of the NSAS domains.
4. There will be significant difference in the level of satisfaction of needs based on the student's demographic background.

Sample

The sample of this study is collected through purposive sampling which is 265 students of the age group eighteen to twenty-four from colleges in Bangalore. All participants were required to complete an informed consent form in order to be able to participate in the research.

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Inclusion criteria. Students belonging to age group (18 to 24 years) studying in college or university and having attended minimum 1 year of online classes due to Covid 19 Pandemic.

Exclusion criteria. Students who have not attended regular classes during the pandemic or studying through distance education.

Instrument

Need Satisfaction Assessment for Students (NSAS) tool developed by Michael Heath Caraccio in 2017 to measure the level of satisfaction of needs of students. The NSAS consists of 48 items with a 7-point Likert scale and describes different tiers of Maslow's Hierarchy. The items were created based on the key concepts within each tier of Maslow's Hierarchy, as described in Maslow's (1943) Theory of Human Motivation. The NSAS was found to be valid and reliable with the Cronbach's alpha increasing from the pilot study (.891) to .953 in the NSAS's actual study. Reliability analysis was conducted in the current study for the scale which showed the Cronbach's alpha reliability of the tool to be 0.90 which is satisfactory since Cronbach alpha values of 0.7 or higher is acceptable in research (Taber, 2018).

Procedure

For the purpose of this research, 265 samples (students aged 18 to 24 years) from colleges/universities in Bangalore, India were collected through purposive sampling. Students were required to sign a participant's consent form (Appendix A) in order to participate. The NSAS instrument was administered to the sample to determine the level of perceived need satisfaction in students and the demographic details and academic score in the form of percentage in current academic year. The data responses were analyzed using Jamovi Version 2.3.2.

Variables

The independent variable in this research is the student's scores on the Need Satisfaction Assessment for Students (NSAS). Data on gender, Educational Status, Socioeconomic status, employment, settlement, relationship status and health status were nominal in nature. Academic achievement was identified by the students' overall percentage in the current academic year. The scale of measurement for this variable was interval. Academic achievement was met if the student had a Percentage of 71.7 or above. This cutoff value was chosen using the mean score of the sample.

RESULTS AND DISCUSSION

A normal distribution could not be assumed on the data based on Shapiro Wilk Normality testing. Therefore, it was decided to use non parametric tests throughout this study. Table 1 indicates that Need Satisfaction is significantly and positively correlated with student academic achievement.

Table No.1 Spearman Correlation test between academic performance and need satisfaction

	Academic Performance	Need Satisfaction
Academic Performance		
Need Satisfaction	0.745**	

Note: ** $p < .05$

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Table No. 2 Rank of the mean scores of the NSAS domains and the importance rating of the needs

Importance rating			Need satisfaction		
Rank	Domain	M (SD)	Rank	Domain	M (SD)
1	Safety & Relationship	2.16 (0.77)	1	Selflessness	2.53 (0.70)
2	Physiological & Esteem	2.10 (0.79)	2	Safety & Relationship	1.80 (0.73)
3	Selflessness	1.73 (0.82)	3	Physiological & Esteem	1.66 (0.73)

Table 2 indicates the comparison of the rank of the mean scores of the need satisfaction domains and importance ranking of the domains. Safety and relationship needs was rated as the most important basic need, but it ranked only 2nd in need satisfaction. Self-actualization was rated to be the least important basic need; however, it ranked 1st in need satisfaction. Physiological and esteem needs were rated as the 3rd least satisfied basic need category but was rated as the second most important basic need category. The study reveals that the participants valued the safety and relationship needs when asked to rate which of the needs they view as most important in their lives. Even though Selflessness needs ranked first in need satisfaction, a different hierarchy came across compared to Maslow's proposed hierarchy of needs, with people stating that Self-actualization (Selflessness) need was low in importance for them. A possible explanation for this could be individual differences in what students consider as self-actualisation for them and the meaning attached to it (Krems, Kenrick & Neel, 2017) as well as according to the results of another study, the higher-level needs were not the dominant needs in Maslow's hierarchy of needs for adult learners in academic settings (Shi & Lin, 2021).

The results also shows that instead of considering need satisfaction as a hierarchy, it can be considered as each need to be linked to other needs and can be used to explain or predict the changes in needs (Shoib, Amanda, Menon, Ransing, Kar, Ojeahere, Halabi & Saleem, 2022) as all these needs play a major role in a student's academic achievement. The difference in the ranking of importance of need could mean a possibility of a new hierarchy emerging post the pandemic with people considering safety and relationship needs as the most important needs in their life now. Research conducted pre pandemic indicated a shift being noticed in the ordering of needs in the hierarchy in the 21st century where the esteem need predominated the need for safety and social needs as an effect of increased socialization due to technological developments (Uysal, Aydemir & Genc, 2017). With the pandemic and the disruption of physiological, safety and social needs, the ordering of needs further changed regardless of where we may have been on the pyramid, to the bottom of the pyramid towards striving for physiological, safety, relationship and esteem needs over self-actualising needs (Geher, 2020).

Table No.3 Spearman Correlation test between academic performance and need satisfaction domains

	Physiological & Esteem	Safety & Relationship	Selflessness	Academic Achievement
Physiological & Esteem				
Safety & Relationship	0.63**			
Selflessness	0.56**	0.60**		
Academic Achievement	0.65**	0.67**	0.56**	

Note: ** p=<.05

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Table No. 4 Multiple Linear regression analysis between academic performance and NS domains

Predictor	Estimate	SE	t	p	Stand. Estimate
Intercept	21.80	3.148	6.92	<.001	
Physiological & Esteem	3.33	0.598	5.57	<.001	0.322
Safety & Relationship	4.03	0.694	5.82	<.001	0.348
Selflessness	2.05	0.689	2.98	.003	0.167

Note: $R^2=0.52$ (df1=3, df2=261, $p<.05$)

Table 3 indicates that there is a positive correlation between all the variables. In this test, the overall regression was statistically significant. Table 4 indicates the regression results and it was found that all the domains of the NSAS, Physiological and Esteem needs, Safety and Relationship needs and Selflessness needs significantly predicts academic achievement of the student with Safety and Relationship needs being the highest predictor of academic achievement when compared to Physiological and Esteem needs and Selflessness needs. Results is in line with some previous research which indicated that students whose basic psychological needs are satisfied at school experience more hope, efficacy, resilience, and optimism which leads to better academic performance (Carmona-Halty, Schaufeli, Llorens & Salanova, 2019). Basic physiological needs like adequate nutrition, water, and the feeling that one's needs were met at the family level have positive influence on academic performance (Aming'a, 2016). These results reiterate the importance of incorporating the component of need satisfaction and ensuring student's needs are satisfied while planning interventions to support students in their academic achievement. It was found that all the domains of the NSAS, Physiological and Esteem needs, Safety and Relationship needs and Selflessness needs significantly predicts academic achievement of the student with Safety and Relationship needs being the highest predictor of academic achievement when compared to Physiological and Esteem needs and Selflessness needs. The result is in line with existing literature that indicates that as student's perceived safety increases, their academic achievement increases (Bowen & Bowen, 1999) and student's sense of belongingness is linked positively with academic achievement (E. Kim & Irwin, 2013).

Table No. 5 Descriptives of Demographic details on need satisfaction

		N	Mean	SD
Gender	Female	149	16.9	1.54
	Male	116	14.7	1.93
Educational Status	Post-graduation	133	16.9	1.91
	Under graduation	132	15.9	2.17
Siblings	No	48	14.8	2.42
	Yes	217	16.2	1.86
Employment	No	205	15.8	2.05
	Yes	60	16.4	1.96
Relationship Status	In a relationship	137	15.7	1.98
	Single	128	16.2	2.09
Settlement	Rural	50	16.3	2.66
	Urban	215	15.9	1.87
Health Status	No	209	16.4	1.80
	Yes	56	14.4	2.14
SES	High	40	17.1	1.49
	Middle	207	15.8	2.10
	Low	18	14.9	1.42

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Table No. 6 Mann-Whitney U Test results between need satisfaction and demographic variables

	Statistic	Mean difference	Effect Size
Gender	3078**	2.24	0.644
Educational Status	8463	0.132	0.0359
Siblings	3279**	-1.57	0.370
Employment	5051**	-0.629	0.179
Relationship Status	7417**	0.559	0.154
Settlement	4336**	0.733	0.193
Physical & Mental Health Status	2739**	2.04	0.532

Note: ** p=<.05

Table 5 shows the descriptives of the demographics, Table 6 indicates the Mann Whitney U test results with p values less than 0.05 considered as significant. In terms of the difference in need satisfaction among sample demographics, it was revealed in the current study that based on gender, females scored better in need satisfaction as compared to males with moderate effect size. Though existing research indicates contrary to it (Gómez-Baya, Lucia-Casademunt & Salinas-Pérez, 2018). Recent research shows that higher education levels lead to a higher level of well-being, positive affect, and reduced psychological distress in women (Tran, Pham & Nguyen, 2021) and this could be a possible explanation for higher level of need satisfaction in females during their higher education.

It was found that that the need satisfaction in students with a history of physical or mental health issues were lower than those without a history of health issues. This throws light on the current scenario of the pandemic's long-term impact on physiological and mental wellbeing as well as on satisfaction of basic needs (Moghe, Kotecha & Patil, 2020).

Need satisfaction seems to be higher in students in a relationship than being single. This could be explained by a lower perceived social support from significant others and higher romantic and social loneliness. Young adulthood is a period in life when romantic partners become primary attachment figures and the perceptions of support from significant others may contribute to higher life and need satisfaction among individuals in romantic relationships (Adamczyk & Segrin, 2015).

Regarding the presence of siblings in one's life and its impact on need satisfaction, it was found that students with siblings experienced higher need satisfaction than students without siblings. This could be because siblings could serve as an additional emotional resource throughout one's life span and add to support from family, which in turn impacts overall wellbeing and perceived need and life satisfaction in emerging adulthood (Hollifield, & Conger, 2015).

In terms of employment status, the results show that need satisfaction is lower in unemployed students than those employed part time or full time. The pandemic had disrupted employment opportunities of many in this world, affecting their need for financial safety, which could be considered as one reason for the lower need satisfaction in unemployed youth. Research also supports this finding that unemployment is associated with lower levels of happiness and life satisfaction in general (Aysan & Aysan, 2017).

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Results shows that students from rural settlement have higher need satisfaction as compared to urban settlement. Possible explanation comes from reports that suggest that higher happiness scores in rural areas across the world could be explained by higher degrees of community attachment (The World Happiness Report, 2020) impacting one's safety and relationship needs, especially in a collectivistic society like India with a Rural population of 64.61 % in 2021 (World development indicators, 2021).

The study also revealed that students belonging to low socioeconomic status have lowest need satisfaction as compared to student's belonging to medium and high socioeconomic status. Research indicates that in older adults as economic standing increases, so do individual perceptions of financial security, which is a safety need, increasing overall life and need satisfaction (Howell, Kurai & Tam, 2012).

It was noted that the level of need satisfaction seemed to be evenly distributed across under graduation and post-graduation students possibly due to the nature of the sample in the study based on the age group and the similar challenges and needs that student belonging to young adulthood face. It could also be because they are all part of higher education in a college environment as compared to school and workplace, where they could receive similar levels of support from peers and teachers.

CONCLUSION

The current study reveals many promising results including the finding that NSAS could be an effective tool to identify which perceived needs are being met within each student in an Indian Context as the Cronbach's alpha reliability of the tool in the current study was found to be satisfactory. The study results show that all domains of need satisfaction predict academic achievement and showed the possibility of a new hierarchy of needs emerging post the pandemic. The current research also throws light on the differences in the level of need satisfaction based on their demographic background especially in terms of gender with females having better need satisfaction than males which was enlightening. While these findings are promising, it is important to state that more research needs to be conducted to make the finding more generalizable. The implication of this research is that the positive correlation between educational achievement and need satisfaction in the young adulthood highlights a path for achieving greater academic success through focusing on building one's need satisfaction levels at all ages. Educators, students, and all other stakeholders of the education system could cite the present study as a basis for increasing attention towards providing a healthy environment in educational institutions and in families that would enhance need satisfaction of students by building their protective factors in the face of stress and anxiety during times of uncertainty. Positive education interventions focusing on positive school climate and building socioemotional skills (SEL) of the students through stakeholder collaboration that involves the family, school, peer group and the community is the need of the time.

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Conflict of Interest

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