INFLUENCE OF ACHIEVEMENT MOTIVATION AND PSYCHOLOGICAL ADJUSTMENT ON ACADEMIC ACHIEVEMENT: A CROSS-SECTIONAL STUDY OF SCHOOL STUDENTS

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Abstract

Purpose: The aim of the current research was to understand the role of achievement motivation and psychological adjustment on the academic performance of the school students.

Methodology: A cross-sectional research design was employed for the study. A sample of 283 urban adolescent school students participated in the study. The students were administered measures of achievement motivation and psychological adjustment. The total percentage of marks secured in the tenth standard was used as the measure of academic performance. Pearson's correlation coefficient and multiple hierarchical regression analysis were performed to analyze the obtained data. SPSS version 21 was used for data analysis.

Main Findings: The results revealed a significant association of achievement motivation and educational adjustment with the academic performance of the students. However, there was no significant association between emotional and social adjustment with academic performance.

Applications: The observations shed light on how cultivating enhanced student engagement and nurturing aspirations both within and outside classrooms may enhance the academic achievement of school students. Thus, the findings can provide greater insight to teachers, psychologists, and educational institutions to better plan the academic environment around the students.

Novelty/Originality: The study gives a contemporary model to enhance the academic performance of students. Contrary to the popular perception, the results of the current study indicate no significant association of emotional and social adjustment with academic performance. However, educational adjustment and achievement motivation are associated with academic performance.

Keywords: Achievement Motivation, Psychological Adjustment, School Students, Academic Achievement, Emotional Adjustment, Social Adjustment.

INTRODUCTION

Low or poor academic performance is of global significance, wielding a detrimental influence on individual, familial, and societal outcomes (Chen,2015). The ability of a student to comprehend the taught material in the classroom plays an important role in determining their academic success. Understanding what factors influence academic performance has long-term implications for learning and education. This knowledge can help us in understanding and identifying what can be done to maximize the scholastic performance of the students who are not doing well in terms of academic progression. It is also important due to the amount of time that every young person spend in obtaining academic scores and attainments that are highly valued in their academic life ahead.

Past research indicates that intelligence is not the only factor affecting the academic performance of school students. The non-cognitive factors related to each individual student are pertinent in understanding what differentiates between the academic performances of students. According to a report by UNICEF (2013) on Indian adolescents, the large cohort of youth currently aged between 10 and 24 years old can contribute extensively to the country's economic growth and development. The only pre-requisite for this is they should be healthy, educated, skilled, and filled with self-confidence. This population spends the majority of their time in schools. The report indicates that there has been an increase in school participation and grade attainment. Thus, schools can provide a platform for developing these requisites. Grade attainment is one of the important indicators of attainment in this context and thus is considered in the current study aiming to understand the underlying and contributing factors of attainment. For a developing country like India, trained manpower is of utmost importance. The challenges endured during school days can not only determine the academic performance of an individual but also can have an impact on future performance. If we consider the perspective taken by goal theorists, we can see that both individual dispositional elements, as well as the significant features of the instant environment, are thought to combine to guide an individual's achievement goals. This, in turn, leads to cognitive, socio-emotional, and behavioral patterns in specific learning contexts (Meece, Anderman & Anderman, 2006). The desire to excel motivates the learners toward goal-directed learning in classrooms. It also enables the fostering of innovative skills and cognitive strategies for solving problems in students.

The theoretical and practical relevance of identifying the factors which affect the academic achievement of adolescent students is substantial, as academic attainment in the Indian education system remains one of the most important indicators of a student's academic success. Identification of these factors will be of significant relevance to teachers, school psychologists, educationists, parents, and others, to support the guidance of students towards excelling in academic studies. Such knowledge about the role of achievement motivation and educational adjustment in enhancing academic achievement can enable key personnel in planning, designing, and executing the curriculum and pedagogical innovations both within and outside the classroom. Studies in the Indian educational context are sparse. Thus, we sought to explore the significance of the role of achievement motivation (nAch) and adjustment in determining the academic achievement of Indian urban adolescent students.

LITERATURE REVIEW

The performance of each student in exams is not only governed by their cognitive capabilities to perform but also influenced by non-cognitive factors. In the academic literature, general intelligence has been related to educational performance. Across studies, general intelligence or IQ describes between 4% and 25% of the variance in educational performance (Kuncel, Hezlett, & Ones, 2004; Nisbett , Aronson, Blair,Dickens, Flynn,Halpern, Turkheimer, 2012) and personality explains around 10% of the variance (Furnham& Chamorro Premuzic, 2003). Rosander, Backstrom, and Sternberg (2011) explored the role of personality traits, after controlling for general intelligence, in predicting academic performance in different school subjects. They reported that extraversion had a negative relationship with academic performance whereas neuroticism and conscientiousness had a positive relationship with academic performance. In another study, Vedel, Thomsen, and Larsen (2015) reported a complex pattern of personality traits as predictors of academic achievement. Contrary to this, Blanch and Aluja (2013) have noted that aptitudes are more relevant than personality in explaining the variance in academic performance. However, it has been often noticed in classrooms that the brightest children are not the ones who end up achieving the best academic performance, in terms of scores obtained in exams.

Motivation level has a substantial impact on student levels of engagement and achievement behavior. This translates into persistence when completing tasks and the achievement of desired performance (Elliot & Harackiewics, 1996; Paloş, Munteanu,Costea, & Macsinga, 2011). The specific motivational constructs are attributional beliefs, self-efficacy, self-regulation, motivation internalize, activate, and the execution of one's own learning strategies (Schwinger, Steinmayr, &Spinath, 2009). Further research findings have demonstrated that students' motivational strategies can predict their use of other learning strategies (Wolters, 1999). Verkuyten, Thijs and Canatan (2001), in their study on the relationship between achievement motivation (nAch) and academic performance in Turkish and Dutch adolescents, reported that task-goal orientation is a mediating factor between individual achievement motivation and academic performance. Similarly, previous research studies conducted across the globe have demonstrated the significant positive relationship of nAch with academic achievement (Broussard & Garrison, 2004; Robbins, Lauver, Davis, Langley, & Carlstorm, 2004; Steinmayr&Spinath, 2009; Vansteenkiste, Zhou, Lens, &Soenens, 2005; White & Fogarty, 2000). However, still, some studies have found no significant relationship between nAch and academic achievement in students (Reynolds & Weigand, 2010).

Schools not only provide a platform for pursuing academic excellence but also have become a place for nurturing and maintaining peer relationships. Farmer, Estell, Leung, Hollister, Bishop, & Cairns,(2003) stressed the roles of behavioral and social competence among students in achieving academic success. Generally, students who demonstrate prosocial and sociable behaviors perform higher in academic assessments (Wentzel & Asher, 1995). It has also been found that students' social functioning and adjustment uniquely contribute to academic achievement (Chen, Rubin & Li, 1997). Similar studies have found a positive association between the ability to maintain healthy social relationships and academic achievement (e.g. Headey, 2008; La Greca, Prinstein, & Fetter, 2001). Shin, Seo, and Hwang (2016) also found that students with lower levels of interest in developing strong bonds with peers may display poorer adjustment and academic performance than others. However, some other findings have revealed a contrary or negative relationship between the development of healthy social relations and academic achievement (e.g. Bagwell, Newcomb, & Bukowski, 1998; Gorman, Kim, & Schimmelbusch, 2002; Patrick, Hicks, & Ryan, 1997). In a study involving Chinese, Japanese, and American students, it was found that among Chinese and Japanese students higher educational performance was not associated with psychological maladaptation. However, high achieving students from the USA exhibited higher stress than lower-achieving students (Crystal, Chen, Fuligni, Hsu, Ko, Kitamura, & Kimura,1994In some studies, findings have suggested that students enjoying popularity and poor relationships may sooner or later display problematic behaviors, such as absenteeism and substance abuse (Gorman, Kim, & Schimmelbusch, 2002; Maassen & Landsheer, 2000). Student interest and levels of enjoyment in academic activity are closely related to academic achievement (e.g. Spinath, Spinath, Harlaar, & Plomin, 2006). These findings are in line with earlier findings (e.g. Liem, 2016; Shim & Finch, 2014). Thus, the adaptive capacity of individual students in facing academic challenges can affect their academic performance.

This review of the past literature shows that there is mixed evidence arising from studies attempting to elucidate the association between nAch and psychological adjustment on academic performance in school students. Given the importance of understanding the factors that motivate young students to achieve academic success, the present study

examined the relation between nAch and psychological adjustment on the academic achievement of school students with the following hypotheses:

H1: There will be a significant association between achievement motivation and academic performance among school students

H2: There will be a significant association between psychological adjustment and academic performance among school students.

METHODOLOGY

Participants and procedure

A cross-sectional research design was employed for the study. The selection criteria of participants were age, gender, grade, and domicile. A total of 283 tenth grade students, comprising 148 males (52.30%) and 135 females (47.70 %) studying in various public schools in an Indian urban city participated in this study. All the participants were ranged in age between 14 and 18 years old, with the mean being 15.77 years. Before conducting the study, permission was obtained from both the school authorities and parents of the students for participation. Participation was voluntary and verbal consent was obtained from students. Participants were informed they could withdraw at any time during the study and were not given any incentives for participation. After obtaining consent, the assessments were administered in the classroom setting, in groups of 15 to 20 participants. After the administration of instruments, a debriefing session was conducted for each group of participants. The indicator of academic achievement was the total scores obtained by the students in the end term exams.

Instruments for the study

Achievement motivation was assessed using the Achievement Value and Anxiety Inventory. This is a semi-projective measure of the need for achievement and consists of 22 items which are descriptive statements of situations depicted in pictures. Each situation is followed by the choice of six responses. Out of the six response options, the participant is required to select one. The response options to each situation are designed in such a manner that two of the responses are achievement-related (AR), two are task-related (TR), and the remaining two are unrelated (UR). The total score on the scale indicating nAch was determined by deducting the UR score from the AR score. The reliability (KR = 0.67) and construct validity of the scale are well established.

Psychological adjustment of the students was studied using the Adjustment Inventory for School Students. The Adjustment Inventory measures emotional, social, and educational adjustment. The measure consists of 60 items to which respondents answer 'Yes' or 'No'. Twenty items are associated with each subcategory. Every affirmative response is scored. Thus, the total number of affirmative scores in each subcategory indicates the score obtained by the participant. Higher scores indicate poorer levels of adjustment. The Cronbach's alpha in this study was 0.77, 0.79 and 0.74 for emotional, social, and educational adjustment, respectively.

The indicator of academic achievement was the total scores obtained by the students at the end of term exams.

Data management and analysis

Pearson's correlation coefficients were used to examine the relationships between each and adjustment with academic performance. Then, a hierarchical regression analysis was performed to examine sociodemographic variables (age and gender), adjustment (emotional, social, and educational), and nAch as predictors of academic performance. All assumptions for regression analysis were fulfilled, that is, no multicollinearity, the normality of dependent variables, no autocorrelations, and the homoscedasticity of the residuals were all confirmed. In the first step, the sociodemographic variables of age and gender (control variables) were entered. In the second step, emotional, social, and educational adjustment variables were entered (stepwise), and in the third step, nAch was introduced. SPSS version 21 was used for analyses.

RESULTS AND DISCUSSION

Table 1 presents the descriptive statistics along with the correlation coefficients for the variables in the study. The correlation matrix revealed significant associations between academic performance and achievement motivation and educational adjustment. The social or emotional adjustment did not significantly correlate with academic performance. These associations indicated that nAch and psychological adjustment are promising contenders for predicting individual differences in academic performance.

Table 1: Descriptive Statistics and Correlations for Study Variables

	Variables	M	SD	1	2	3	4	5	6
1	Gender	1.48	.500	1					
2	Age	15.77	.879	-.032					

		Mean	SD	1	2	3	4	5	6
3	nAch	4.97	5.284	.030	.046				
4	Emotional adjustment	2.49	2.214	-.054	-.127*	-.165**			
5	Social adjustment	5.88	2.302	-.095	-.036	-.018	.108		
6	Educational adjustment	4.03	3.072	-.035	-.150*	-.062	.306**	.139*	
7	Academic performance	59.82	9.761	-.015	-.040	.224**	-.054	.027	-.134*

Note: $N = 283$, **p* < .05; ***p* < .01

Table2 presents the regression analysis results for the three models examining sociodemographic variables, nAch, and adjustment patterns as predictors of academic performance. In the first step, gender and age were entered. The resulting model (M1) was not significant ($R =.043$, $R^2 = .002$, $F (2,280) = .259$). In the second step nAch was entered and the model (M2) was significant ($R^2 = .053$, $\Delta R^2 = .051$, $\Delta F (1, 279) = 15.161$, $p< .01$), indicating that 5.1% of the variance in academic performance was explained by nAch. The beta coefficient was significant ($\beta = .227$, $t = 3.894$, $p< .001$). This finding indicates that nAch has a statistically significant effect on the academic performance of the individual.

Table 2: Prediction Models for Academic Performance

Model	R	R² Square	ΔR^2	ΔF	F	df
M1	.043	.002	.002	.259	.259	2, 280
M2	.231	.053	.051	15.161***	5.235**	1, 279
M3	.265	.070	.017	5.077*	5.253**	1, 278

Note: **p* < .05; ***p* < .01; ****p* < .001; M1 Predictors: (Constant), Gender, Age M2 Predictors: (Constant), Gender, Age, Achievement motivation, M3 Predictors: (Constant), Gender, Age, Achievement motivation and Educational adjustment.

Table 3 presents the results from the third step when adjustments (namely, emotional, social, and educational variables) were entered in a stepwise manner to examine their relationships with academic performance. The resulting adjusted model (M3) slightly improved the prediction model ($\Delta R^2 = .017$, $\Delta F (1,278) = 5.253$, $p< .01$). However, only educational adjustment emerged as a significant predictor of academic performance, predicting 1.7% of the variance. The beta coefficient for educational adjustment was $\beta = -.132$, $t = -2.253$, $p< .05$. Emotional and social adjustment were included in the model but their weights were not significant. Among the predictors, nAch had the highest weight in predicting academic achievement followed by an educational adjustment.

Table 3: Regression analysis for Predicting Academic Performance

Model		B	Std. error	β	t
M 1	(Constant)	67.358	10.668		6.314***
	Gender	-.314	1.165	-.016	-.269
	Age	-.448	.663	-.040	-.676
M 2	(Constant)	67.337	10.408		6.470***
	Gender	-.453	1.138	-.023	-.398
	Age	-.566	.648	-.051	-.874
	nAch	.420	.108	.227	3.894***
M 3	(Constant)	72.672	10.601		6.855***
	Gender	-.552	1.130	-.028	-.488
	Age	-.784	.650	-.071	-1.205
	nAch	.406	.107	.220	3.792***
	Educational adjustment	-.420	.186	-.132	-2.253*

Note: *p < .05. **p < .01; ***p < .001; M1 Predictors: (Constant), Gender, Age M2 Predictors: (Constant), Gender, Age, Achievement motivation, M3 Predictors: (Constant), Gender, Age, Achievement motivation and Educational adjustment.

Consistent with previous research, the results of the regression analysis yielded nAch as a significant predictor of academic achievement (e.g., Gottfried, Marcoulides, Gottfried, Oliver, & Guerin, 2007) followed by an educational adjustment. Thus, this study revealed that students who have a higher motivation to perform achieve better scores in exams in comparison to students who are less achievement-oriented. Thus, it seems that the strong desire to excel

propels goal-directed learning in students enabling them to work harder both in and out of the classroom. Strong nAch endorses better student engagement resulting in the student putting in more effort within and outside the classroom. These findings are consistent with those in the existing literature (Broussard & Garrison, 2004; Seo & Lee, 2018; Steinmayr&Spinath, 2009).

As per the results, the educational adjustment was also a significant predictor of academic achievement. This is consistent with previous findings (e.g. Bastian, Burns, & Nettelbeck, 2005; Crystal, Chen, Fuligni, Stevenson,Hsu,Ko,Kitamura & Kimura,1994). However, the current findings are slightly contrary to previous findings in respect of the role of emotional and social adjustment in the academic achievement of the students (e.g. Ryan, Patrick, & Shim, 2005; Shin, Seo, & Hwang,2016; Wentzel, 2000). In the current study, we did not find any association between emotional and social adjustment with academic achievement.

Students' abilities to manage curriculum, assignments, homework, tutorials, and academic resources (such as the library), contribute to their educational adjustment. Students who are more strongly engaged in academic activities generally follow school rules, pay attention in class, initiate discussions, avoid skipping classes, evade fights, and arrive at school on time. Similarly, previous studies have demonstrated that getting good grades in exams is also about developing test-taking strategies (see A. D. Cohen, 2006), developing note-taking skills (Kobayashi, 2006), and completion of homework on time (Cooper, Robinson, & Patall,2006). Thus, the ability of an individual to be achievement-oriented, coupled with adaptation skills with respect to academic study, drives the academic achievement of each student. Therefore, students with higher achievement motivation and better adaptation capabilities in the academic study are likely to demonstrate better engagement in school.

CONCLUSION

The results revealed a significant association of achievement motivation and educational adjustment with the academic performance of the students. Contrary to the popular perception, the results of the current study indicate no significant association of emotional and social adjustment with academic performance. These findings give more importance to educational adjustment and thus augment the role the school environment can play in improving grades rather than stressing that individual factors (such as emotional and social adjustment) may be more significant in the academic life of a young student.

LIMITATION AND STUDY FORWARD

The cross-sectional design, that is an assessment at a single point of time, is one of the limitations of this study. Consequently, neither complex relations between the variables nor causal effects are identified that can explain the mediation processes. Future research studies should include rural adolescents using longitudinal research designs to derive more generalized findings. The current findings are also critical for building upon previous research in an area that has overemphasized the role of factors such as emotional, family, and social adjustment variables on academic performance.

IMPLICATIONS

This study enhances our knowledge of the association of nAch and psychological adjustment with academic performance. In particular, the present findings have implications for the whole educational ecosystem, in which teachers and school psychologists play a significant role. These findings will help educational institutions to gain an understanding of the need for achievement and academic adjustment in improving the academic performance of students. On this basis, they can provide a congenial academic environment that can be instrumental in helping students succeed in achieving higher grades.

The ability of teachers to increase student engagement by focusing on nurturing aspirations and adaptive skills can greatly contribute to the enhancement of student academic performance. The findings of this study also have important implications for parents, who can foster their children's inner need for achievement, and in turn, academic achievement, through inculcating curiosity and need to gain knowledge rather than simply build pressure to gain good grades. Such parenting will help build intrinsic motivation in students to gain knowledge, which will be a precursor for the achievement of high grades.

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REFERENCES

1. Bastian, V. A., Burns, N. R., &Nettelbeck, T. (2005). Emotional intelligence predicts life skills, but not as well as personality and cognitive abilities. *Personality and Individual Differences, 39*, 1135-1145. https://doi.org/10.1016/j.paid.2005.04.006
2. Blanch, A. &Aluja, A. (2013). A regression tree of the aptitudes, personality, and academic performance relationship. *Personality and Individual Differences, 54,* 703-708. https://doi.org/10.1016/j.paid.2012.11.032

3. Broussard, S. C. & Garrison, M.E. (2004). The relationship between classroom motivation and academic achievement in elementary school-aged children. *Family Consumer Science Research Journal, 33*(2), 106-120. https://doi.org/10.1177/1077727X04269573

4. Chen, W.W. (2015). The relations between perceived parenting styles and academic achievement in Hong Kong: The mediating role of students' goal orientations. *Learning and Individual Differences, 37*, 48-54. https://doi.org/10.1016/j.lindif.2014.11.021

5. Chen, X., Rubin, K, H., & Li, D. (1997) Relation between academic achievement and social adjustment: evidence from Chinese children. *Developmental Psychology, 33*, 518-525 https://doi.org/10.1037/0012-1649.33.3.518

6. Cohen, A. D. (2006). The coming of age of research on test-taking strategies. *Language Assessment Quarterly, 3,* 307-331. https://doi.org/10.1080/15434300701333129

7. Cooper, H., Robinson, J. C., &Patall, E. A. (2006). Does homework improve academic achievement? A synthesis of research, 1987–2003. *Review of Educational Research, 76,* 1-62. https://doi.org/10.3102/00346543076001001

8. Crystal, D. S., Chen, C., Fuligni, A. J., Stevenson, H. W., Hsu, C. C., Ko, H. J., Kitamura, S. & Kimura, S. (1994). Psychological maladjustment and academic achievement: A cross-cultural study of Japanese, Chinese, and American high school students. *Child Development, 65*, 738-753. https://doi.org/10.1111/j.1467-8624.1994.tb00780.x

9. Elliot, A. J., &Harackiewics, J. M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology, 70,*461-475. https://doi.org/10.1037/0022-3514.70.3.461

10. Farmer, T., Estell, D., Leung, M., Hollister, T., Bishop, J., & Cairns, B. (2003). Individual characteristics, early adolescent peer affiliations, and school dropout: an examination of aggressive and popular group types. *Journal of School Psychology, 41*, 217-232. https://doi.org/10.1016/S0022-4405(03)00046-3

11. Furnham, A., & Chamorro-Premuzic, T. (2004). Personality and intelligence as predictors of statistics examination grades. *Personality and Individual Differences, 37*, 943-955. https://doi.org/10.1016/j.paid.2003.10.016

12. Gorman, A. H., Kim, J., &Schimmelbusch, A. (2002). The attributes adolescents associate with peer popularity and teacher preference. *Journal of School Psychology, 40*, 143-165. https://doi.org/10.1016/S0022-4405(02)00092-4

13. Gottfried, A. E., Marcoulides, G. A., Gottfried, A. W., Oliver, P. H., & Guerin, D. W. (2007). Multivariate latent change modeling of developmental decline in academic intrinsic math motivation and achievement: Childhood through adolescence. *International Journal of Behavioral Development, 31*, 317-327. https://doi.org/10.1177/0165025407077752

14. Headey, B. W. (2008). Life goals matter to happiness: A revision of the set-point theory. *Social Indicators Research, 86*, 213-231. https://doi.org/10.1007/s11205-007-9138-y

15. Kobayashi, K. (2006). Combined effects of note-taking/reviewing on learning and the enhancement through interventions: A meta-analytic review. *Educational Psychology, 26,* 459-477. https://doi.org/10.1080/01443410500342070

16. Kuncel, N. R., Hezlett, S. A., & Ones, D. S. (2004). Academic performance, career potential, creativity, and job performance: Can one construct predict them all? *Journal of Personality and Social Psychology, 86*(1), 148-161. https://doi.org/10.1037/0022-3514.86.1.148

17. La Greca, A. M., Prinstein, M. J., & Fetter, M. D. (2001). Adolescent peer crowd affiliation: Linkages with health-risk behaviors and close friendships. *Journal of Pediatric Psychology, 26*, 131-143. https://doi.org/10.1093/jpepsy/26.3.131

18. Liem, G. A. (2016). Academic and social achievement goals: Their addictive, interactive, and specialized effects on school functioning. *British Journal of Educational Psychology, 86*, 37-56. https://doi.org/10.1111/bjep.12085

19. Maassen, E. H., &Landsheer, J. A. (2000). Peer-perceived social competence and academic achievement of low-level educated young adolescents. *Social Behavior and Personality, 28*, 29-39. https://doi.org/10.2224/sbp.2000.28.1.29

20. Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology*, *57*, 487-503. https://doi.org/10.1146/annurev.psych.56.091103.070258

21. Nisbett, R.E., Aronson, J., Blair, C., Dickens, W., Flynn, J., Halpern, D.F., Turkheimer, E. (2012). Intelligence: New Findings and Theoretical Developments, *American Psychologist, 67*, 130-159. https://doi.org/10.1037/a0026699

22. Paloş, R., Munteanu, A., Costea, I. &Macsinga, I. (2011). Motivational and cognitive variables with an impact on academic performance Preliminary study. *Procedia - Social and Behavioral Sciences, 15*, 138-142. https://doi.org/10.1016/j.sbspro.2011.03.063

23. Patrick, H., Hicks, L., & Ryan, A. M. (1997). Relations of perceived social efficacy and social goal pursuit to self-efficacy for academic work. *The Journal of Early Adolescence, 17*, 109-128. https://doi.org/10.1177/0272431697017002001

24. Reynolds, A. L., &Weigand, M. J. (2010). The relationships among academic attitudes, psychological attitudes, and the first-semester academic achievement of first-year college students. *Journal of Student Affairs Research and Practice, 47*, 175-195. https://doi.org/10.2202/1949-6605.6004

25. Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., &Carlstorm, A. (2004). Do psychosocial and study skill factors predict college outcomes? A Meta-analysis. *Psychological Bulletin, 130*, 261-288. https://doi.org/10.1037/0033-2909.131.3.407

26. Rosander, P., Backstrom, M. & Stenberg, G. (2011). Personality traits and general intelligence as predictors of academic performance: A structural equation modeling approach. *Learning and Individual Differences, 21,* 590-596. https://doi.org/10.1016/j.lindif.2011.04.004

27. Ryan, A. M., Patrick, H., & Shim, S. O. (2005). Differential profiles of students identified by their teacher as having avoidant, appropriate, or dependent help-seeking tendencies in the classroom. *Journal of Educational Psychology, 97*, 275-285. https://doi.org/10.1037/0022-0663.97.2.275

28. Schwinger, M., Steinmayr, R., &Spinath, B. (2009). How do motivational regulation strategies affect achievement: Mediated by effort management and moderated by intelligence.*Learning and Individual Differences, 19,* 621-627. https://doi.org/10.1016/j.lindif.2009.08.006

29. Seo, E., & Lee, Y.K. (2018) Does enjoying friendship help or impede academic achievement? Academic and social intrinsic value profiles predict academic achievement. *Educational Psychology, 38*, 159-175. https://doi.org/10.1080/01443410.2017.1392007

30. Shim, S. S., & Finch, W. H. (2014). Academic and social achievement goals and early adolescents' adjustment: A latent class approach. *Learning and Individual Differences*, *30*, 98-105. https://doi.org/10.1016/j.lindif.2013.10.015

31. Shin, J., Seo, E., & Hwang, H. (2016). The effects of social supports on changes in students' perceived instrumentality of schoolwork for future goal attainment. *Educational Psychology, 36*, 1024-1043. https://doi.org/10.1080/01443410.2015.1072135

32. Spinath, B., Spinath, F. M., Harlaar, N., &Plomin, R. (2006). Predicting school achievement from general cognitive ability, self-perceived ability, and intrinsic value. *Intelligence, 34*, 363-374. https://doi.org/10.1016/j.intell.2005.11.004

33. Steinmayr, R., &Spinath, B. (2009). The importance of motivation as a predictor of school achievement. *Learning and Individual Differences, 19*, 80-90. https://doi.org/10.1016/j.lindif.2008.05.004

34. UNICEF (2013).*Adolescents in India: A desk review of existing evidence and behaviours, programmes and policies*. New Delhi: Population Council & UNICEF.

35. Vansteenkiste, M., Zhou, M., Lens, W., &Soenens, B. (2005). Experiences of autonomy and control among Chinese learners: Vitalizing or immobilizing? *Journal of Educational Psychology, 97*(3), 468-483. https://doi.org/10.1037/0022-0663.97.3.468

36. Vedel, A., Thomsen, D.K. & Larsen, L. (2015). Personality, academic majors and performance: Revealing complex patterns. *Personality and Individual Differences, 85,* 69-76, https://doi.org/10.1016/j.paid.2015.04.030

37. Verkuyten M., Thijs J.,&Canatan K. (2001). Achievement motivation and academicperformance among Turkish early and young adolescents in The Netherlands. *Genetic Social and General Psychology Monographs, 127,*378-408. PubMed PMID: 11942649.

38. Wentzel, K. R. (2000). What is it that I'm trying to achieve? Classroom goals from a content perspective. *Contemporary Educational Psychology, 25*, 105-115. https://doi.org/10.1006/ceps.1999.1021

39. Wentzel, K. R., & Asher, S. R. (1995). The academic lives of neglected, rejected, popular, and controversial children. *Child Development, 66*, 754-763. https://doi.org/10.2307/1131948

40. White, C., & Fogarty, G. (2000). Educational implications of the values held by Australian students. *Journal of College Student Retention: Research, Theory, and Practice*, *2*(3), 253-270. https://doi.org/10.2190/6QWX-E0XG-H77V-0UQF

41. Wolters, C. A. (1999). The relation between high school students' motivational regulation and their use of learning strategies, effort, and classroom performance. *Learning and Individual Differences, 3,* 281-299. https://doi.org/10.1016/S1041-6080(99)80004-1