

**Journal of Education & Social Sciences**

ISSN: 2410-5767 (Online)

ISSN: 2414-8091 (Print)

**Difference of Motivation, Perception and Attitudes between High Achieving and Under-achieving Young Adolescents**

**Affiliation:**

Salima Barkat Ali

University of Karachi, Karachi. E-mail: salimabtejani@gmail.com

Anjum Ara Jahangir

University of Karachi, Karachi. Email: anjum.ku@yahoo.com

**Manuscript Information**

**Submission:** December 16, 2019

**Reviews Completed:** February 22, 2020

**Acceptance:** March 10, 2020

**Publication:** March 31, 2020

**Citation in APA Style:**

Ali, S. B., & Jahangir, A. A. (2020). Difference of Motivation, Perception and Attitudes between High Achieving and Underachieving Young Adolescents, *Journal of Education & Social Sciences*, 8(1), 78-91.

**DOI:** <https://doi.org/10.20547/jess0812008105>





## Difference of Motivation, Perception and Attitudes between High Achieving and Underachieving Young Adolescents

Salima Barkat Ali \*

Anjum Ara Jahangir †

**Abstract:** The purpose of the contemporary research was to study the school-related factors of academic underachievement and academic high-achievement among 8th -grade students of school. The sample of the study comprised of 245 students (132 boys and 113 girls). The entire sample was selected from 8th standard of various private schools of Karachi through convenience sampling method. The age of the participants ranged from 13 to 16 years with the mean age of 13.142 years. The Raven's Standard Progressive Matrices (SPM, 1983) was used to measure the general cognitive abilities of participants and the last exam cumulative percentage was used to gauge the academic achievement of students. Additionally, the School Aptitude Assessment Survey-Revised (SAAS-R) by *McCoach and Siegle (2003)* comprised of five subscales: academic self-perception, goal valuation, self-regulation, attitude towards teachers and classes and attitude towards school was used to measure the school-related attitudes of students. The SPSS 18.0 was used to analyze the data. For classification, percentiles of SPM scores were calculated to select high achievers and underachievers. Based on percentile scores of SPM test, 61 high achievers and 121 underachievers were selected for analysis. The independent sample t-tests were done to measure the difference of school-related factors and academic achievement between high achievers and underachievers. Results showed significant difference of cognitive abilities, academic self-perception, and goal valuation among high achievers and underachievers, showing considerably higher scores for the high achievers. Implications of present study for parent, teachers and school authorities are further discussed.

**Keywords:** Academic achievement, underachievement, academic self-perception, goal valuation, self-regulation, attitude towards teachers, attitude towards school.

## Introduction

Academic achievement is highly important in the modern days setting as it can open doors to numerous opportunities in one's life. It had been identified that those individuals who are well qualified and have numerous and substantial academic achievements under their belt have better career opportunities, better jobs, higher social status and more life satisfaction ([Regier, 2011](#)).

Pakistan, along with other countries of the globe have contracted the Sustainable Development Goals Agenda 2030. SDG-4 relates to excellence in education and enduring

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\*University of Karachi, Karachi. E-mail: salimabtejani@gmail.com

†University of Karachi, Karachi. Email: anjum.ku@yahoo.com

learning. Whereas, according to data from the World Economic Forum's Global Competitiveness Report 2017-2018, the Global Competitiveness Index (GCI) shows Pakistan's weak performance being ranked 129th of the 137 countries on the Health and Primary Education related elements of competitiveness; when compared with other countries in the region like India, China, Bangladesh, Sri Lanka and Malaysia.

It is not a hidden truth from above stated statics that the Ministry of Education in Pakistan has to take major steps to improve the current situation. Additionally, leaders in educational field can play an important role by identifying the issues prevailing in existing system. One of the areas in this search could be learner itself. A Learner is a significant part of the system and sustainable goals are essentially designed for the holistic development of students so they can contribute with their best capabilities and contribute as a global citizen.

For this purpose, analytical studies based on learner performance and behaviours such as understanding learner's personality factors, motivation and strategy use can be very beneficial to address the issue of quality education. If learners can be empowered to reverse their underachievement, then they can become strong individuals who can contribute in the betterment of different sectors of country. Therefore, this study is designed to explore the cognitive and non-cognitive factors involved in academic underachievement.

The problem of academic underachievement is not an issue that should be neglected. In Pakistani culture, during the early adolescent stage, that is the age of between 13- 15 years; students have to choose their academic fields to pursue their career. At this stage, if they are not using their optimum potential in academic tasks; they can lose many precious opportunities to opt for their desired career. Therefore, the present study is designed to explore school-related factors associated with underachievement of adolescent students. The study is also important because the economic, physical and mental prosperity of our country heavily depends on the academic achievement of the youth (Tayyaba, 2012).

This study specifically aims to shed light on the understudied, but very chronic challenge of Pakistani education system. The study aims to understand why some Pakistani students with average or even above average intellectual capacity remain unable to perform up to their optimum level. The worst part of this scenario is that these students who are underachievers are unfortunately labeled as low achievers. Therefore, in the society these students often face criticism and low expectations from parents and teachers. Such treatment usually has an adverse effect on their mental health and psychological well-being. As a result, they continue to perform poorly and it becomes a vicious cycle (Lenton, 2013).

## **Literature Review**

Identifying underachievers is not at all an easy task. Although there are a lot of studies available on the underachievement of school-going students, the assessment tools available to educators and studies conducted by researchers, the universal definition of underachievement is still not coined.

Delisle and Berger (1990) proposed that underachievement is a behavior and can be controlled via direct behavior modification interventions. The study also highlighted that the pattern of underachievement is rather complicated and it is also multifaceted. Whereas, Chukwu-Etu (2009) focused on the major characteristics of underachievement and said that there are approximately five characteristics of underachievement: 1. Those students who do not perform according to the expectation in a specific subject. 2. Those who do not show interest in studies. 3. Those who do not perform well in any specific area. 4. Those who have necessary intellectual abilities but still underachieve. 5. Those who are unable to perform because of language barriers or any cultural or gender issues.

However, several researchers proposed that underachievement is the discrepancy between the ability or expected performance and actual performance (Clark, 2002; Davis & Rimm, 1989; Huang, 2013).

## **The General Cognitive Ability as a Determinant of Academic Achievement**

According to widely accepted definition of underachievement, an individual learner remains unable to perform according to general cognitive abilities. Cognitive abilities are the brain-based skills and mental processes needed to carry out any task and have more to do with the mechanisms of how one learns, remember, and pay attention rather than any actual knowledge one has learned (Raven, 1998).

The general cognitive ability is an underlying concept, so it cannot be measured directly. However, it can be measured through battery of tests. Standard Progressive Matrices (SPM) has been used in this study. It is one of the most widely used tests to measure cognitive ability. SPM test has been used in this study for a couple of reasons. First, it is explicitly designed to measure Spearman's *g* (general cognitive ability). Second, it correlates with other tests of general cognitive ability such as abstract reasoning, problem-solving, learning and pattern recognition (Cattell, 1963).

A huge amount of literature favors factors related to high cognitive abilities such as use of learning strategies and meta-cognition as majorly responsible for high achievement in academics (Alam & Ahmad, 2017; Busari, Mughal, Khan, Rasool, & Kiyani, 2017).

Although these studies stressed on the notion that general cognitive abilities are highly crucial when it comes to academic achievement. They also point out that teachers from numerous schools complained about some students who are intelligent, possess high cognitive skills and talents but somehow they don't show much interest in studies. Despite their higher intellect, these students perform average or below average at times.

Hence, it wouldn't be wrong to state that such schools where the focus is only on grades may not bring out the best in students because other elements also play an important role in nurturing and developing the attitudes and personalities of students. In some schools, students even lack the motivation to perform up to their potential because the overall school's atmosphere is dull and depressing. Therefore, the study highly stressed on the fact that school curriculum and extracurricular activities are equally important. A sole focus on studies may not play a great role in students' academic achievement (Moè, Pazzaglia, Tressoldi, & Toso, 2009).

Past literature on underachievement has revealed that many influential variables such as peers, families, teachers and school have a strong impact on students' academic achievement. Support from school and parents can motivate these students in achieving higher grades in their academic lives. On the contrary, lack of support or unsupportive attitudes of their parents, teachers or friends can affect these students in a negative manner (Ford, 1992; Geddes, Murrell, Bauguss, et al., 2010; McCall, Evahn, & Kratzer, 1992).

The above mentioned factors are equally important in helping out underachievers to realize their true potential. However, personal factors which include student's academic self-perception, goal valuation, self-motivation, and their attitude related to teachers and schools are such factors that every school must consciously reflect on their practices for better academic performance of students (Lenton, 2013; Siegle, 2005).

In this regard, previous studies have had shed light on the fact that characteristics of underachieving students such as their existing knowledge, low goal valuation (McCall et al., 1992), low academic self-concept (Schunk, 1998; Supplee, 1990), low motivation (Weiner, 1992), negative attitude towards school and teachers and low self-regulation are particularly essential factors (Ford, 1992).

Recently, Dagnew et al. (2017) explored the relationship between students' attitudes towards school, achievement motivation, values of education, and academic achievement. Through systematic sampling technique 362 students from grade 9 of secondary schools in North Gondar, Ethiopia participated in the study. The findings revealed that students possess positive and significant attitudes towards school, values education and achievement motivation. Similarly, past researchers investigated the socioeconomic status, study habits of secondary school students and school climate as factors effecting academic achievement of 1500 students of 10th grade from 60 schools. Results were significant and it was concluded that the enrichment of school climate and improvement of good study habits may advance academic achievement of learners.

To explore the role of specifically school-related attitudes of academic high achievement and underachievement, McCoach and Siegle developed a scale, the School Aptitude Assessment Survey- (SAAS). It was revised in 2003 and named as SAAS-R. This scale is comprised of five sub-scales, measuring academic self-perception, goal valuation, and attitude towards school, attitude towards teachers and classes and self-regulation. Using this scale, quantitative analysis of gifted students revealed that academic goal valuation and self-regulation are significant predictors of academic achievement. Moreover, high achievers and underachievers showed significant difference in the score of above stated all five variables (McCoach & Siegle, 2003).

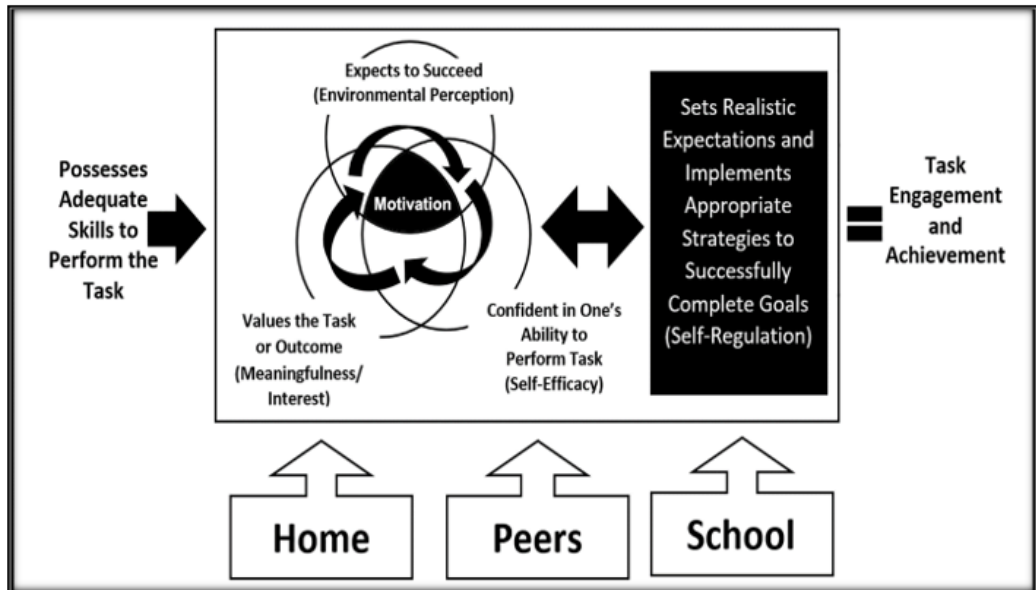
## **Achievement Orientation Model**

Based on significant findings mentioned above, Siegle (2005) presented a model called Achievement- Orientation model (A-O-M). This model was developed to speculate the reasons that why the gifted students achieve higher as compared to their counterparts.

According to A-O-M, gifted students possess all the necessity capabilities required to attain good grades in school, they find meaning in academic tasks given to them i.e. they have high goal valuation; they find school environment supportive and have posi-

tive perception of their academic abilities. All three factors, task meaningfulness, positive environmental perception and high self-efficacy keep them motivated to regulate their academic behaviors. As a result, they use appropriate strategies to successfully complete academic goals, and as a consequence, they engage in their tasks and achieve according to their optimum capacity.

**Figure 1**  
Achievement Orientation Model by Siegle (2005)



Later on, several studies using different models based of similar kinds of school related variables to understand the reason behind academic performance of gifted and non-gifted adolescent students (Barbier, Donche, & Verschueren, 2019; Steinmayr, Heyder, Naumburg, Michels, & Wirthwein, 2018; Akram & Shah, 2018).

However, one of the studies which also considered school-related factors using School Aptitude Assessment Survey- SAAS-R revealed contradictory findings. Simmons (2010) found through regression analysis that academic self-perception, goal valuation, attitude towards school, attitude towards teachers and classes and self-regulation are not significant predictors of academic achievement.

Based on mixed results appearing in this area, the present quantitative study has been designed to explore the influence of school-related factors on the students' academic achievement of high achievers and underachievers in Pakistani context. Based on previous literature, it is assumed that students' attitudes, motivation and learning strategies play paramount role in improving their learning outcomes.

Following hypothesis was created in this regard,

*There would be difference in general cognitive ability, academic self-perception, goal valuation, self-regulation, attitude towards teachers, attitude towards school and classes between high achievers and underachievers.*

## **Methodology**

### **Sample**

A total of 245 participants (132 males and 113 females) became a part of the study. The age of students ranged from 13 to 16 years with the mean age of 13.142 years. Schools were selected through convenience sampling method and may not necessarily be a complete representation of the secondary schools nationwide. All the participants were taken from 8th standard who passed their previous standard i.e. the 7th grade from same school.

### **Measures**

In the present study, data was collected through a questionnaire containing a Demographic Information sheet & School Attitude Assessment Survey (SAAS-R) (McCoach & Siegle, 2003). Moreover, Standard Progressive Matrices (Raven, 1998) was also used to measure general cognitive ability of participants.

### **School Attitude Assessment Survey**

The School Attitude Assessment Survey- R was used to measure the school related attitudes of secondary school students. This scale contains 35 items altogether, divided into five subtests measuring following five factors: academic self-perception, attitude towards school, attitude towards teachers and classes, Self-regulation, and Goal valuation. Seven-point Likert scale is used in ranging from strongly disagree to strongly agree. The score for each subscale represents the mean item scores on the given subtest and ranges from 1 to 7.

McCoach (2002) informed that the scores of their original study showed internal consistency reliability coefficient of at least .85 on each of the five factors. For present study, after data collection, Cronbach's Alpha reliability was checked for all subtests. Academic self-perception (7 items) and goal valuation (6 items) found to have 0.599 Cronbach's Alpha reliability. Attitudes towards school (5 items) and self-regulation (10 items) subtests possessed alpha reliability of 0.82. Attitudes towards teachers' subtest hold 7 items and showed reliability of 0.50.

### **Standard Progressive Matrices**

Standard Progressive Matrices (Raven, 1998) test was used to measure the intellectual capacity of participants. It is a non-verbal test of fluid intelligence. The classic form of the test was developed by Raven in 1965 and revised in 1983. The following test can be

used for children of 8 years to adults of 65 years. Raven's Standard Progressive Matrices is widely used intelligence test across cultures since its development (Murphy & Davidshofer, 1988). Different normative studies for the standardization of Raven's Progressive Standard Matrices have been done such as in Kuwait (Abdel-Khalek & Raven, 2006).

## Procedure

Different private schools of Karachi were selected through the convenience sampling method. Data was collected in group settings as both tests SPM and SAAS-R are individual and group test as well. With the consent of respective school authorities, the 8th graders of each school were contacted to be the part of study. Eight groups of around 30 to 32 students took part in research, altogether making 251 students. Upon the completion of data collection, participants were thanked for their time and participation. Same procedure was followed with all the other groups of participants.

## Statistical Analysis

Statistical Package for Social Sciences (IBM SPSS, 18.0) was used for analyzing the results from the collected data. The demographic variables were analyzed through descriptive statistics of frequency, percentages and mean tests.

To classify high achievers and underachievers, initially the scores of the students who scored below 60% in last exam were termed as low achievers and those students who achieved 80% or above were called as high achievers.

To further identify underachievers, general cognitive ability measured by SPM test was used as control variable. Percentiles of SPM test scores were calculated. Those students falling above 70th percentile on the SPM indicating high intellectual capacity were selected for further study. In this way, 61 high achievers and 121 underachievers were identified. Inam, Nomaan, and Abiodullah (2016) used same methodology for classifying high achievers and underachievers. Lastly, differences of school-related attitudes and academic achievement between high achievers and underachievers were calculated through chi-square and t-test.

## Results

Table 1  
Classification of variables

Variable	N	%
Achievement Level		
High Achievers	61	33.51
Underachievers	121	66.48

The above table is showing number and percentage of students classified as high achievers and underachievers in this study. Out of 245 participants, 182 students were categorized



as either high achievers or underachievers. 66% of the students were classified as underachievers in this study. However, 34% of the sample was identified as high achievers.

Table 2  
Difference in scores of school related variables between high achievers and underachievers

Variable	High achievers		Underachievers		t(180)	P	d	LL	UL
	M	SD	M	SD					
Intellectual Capacity	47.14	3.203	32.18	9.390	15.79**	0	2.130	13.09	16.83
Academic self- perception	5.890	0.515	5.650	0.730	2.510**	0.013	0.379	0.050	0.420
Goal valuation	6.770	0.250	6.59	0.450	3.340**	0.001	0.494	0.071	0.278
Self- Regulation	5.89	0.594	5.770	0.870	1.138	0.257		-0.090	0.340
Attitude towards teachers	6.010	0.710	6.040	1.150	-0.147	0.150		-0.341	0.294
Attitude towards school	6.130	0.940	6.04	0.940	0.650	0.790		-0.190	0.380

The results of t-test showed significant differences in intellectual capacity, academic self-perception and goal valuation between high achievers and underachievers indicating high achievers have better intellectual capacity, academic self – perception and goal valuation than underachievers.

## Discussion

The aim of the present study was to investigate the role of school-related factors in academic achievement of young adolescents. Findings of this study unfold the role of school-related factors that play role in underachievement and have an impact on overall academic performance of adolescents. On completion of data collection, students were classified as high achievers and underachievers. 182 out of 254 participants, 61 (34%) participants as high achievers and 121 (66%) students as underachievers were identified for testing. High achievers and underachievers were compared for intellectual capacity and school related attitudes. In addition, the present study revealed significant difference in the intellectual capacity between high achievers and underachievers displaying that high achievers possess better general cognitive abilities than underachievers. Many previous researchers studied factors of academic achievement reached to same results (Neisser et al., 1996; Sternberg & Kaufman, 1998). Furthermore, this study found significant difference in academic achievement and academic self-perception. Academic self-perception was defined as individual 's owns specific feelings, perceptions and beliefs related to own intellectual and academic skills (Lent, Brown, & Larkin, 1986).

These findings are also in congruence with several previous local studies that focused on the relationship between academic self-perception and academic performance. Ismail (1992) found a significant positive relation between academic self-concept and academic achievement of Pakistani students. Awan, Noureen, and Naz (2011) studied 336 students from four public schools at Sargodha district of Pakistan and found positive correlation between academic self-perception, motivation and academic achievement. The current study also showed significant differences of goal valuation between high achievers and underachievers. These findings indicate that high achievers value their academic goals more than underachievers. These results are consistent with previous findings. Such as

McCoach and Siegle (2003) found goal valuation as the most significant predictor of academic achievement. The study also found significant difference of goal valuation between high achievers and underachievers. This current finding supports previous findings that those students who value the learning and make and value their academic goals perform better in exam (Butler, 1992), have better knowledge (Fisher & Ford, 1998), and show more creativity in academic work (Janssen & Van Yperen, 2004).

An interesting point to note in these results is that within both the groups: high achievers and underachievers, there were high means in goal valuation (high achievers mean: 6.77), (underachievers mean: 6.59). But only high achievers are able to get good grades and obviously underachievers are unable to show expected performance. One of the possibilities of this difference could be that high achievers don't give up on their goals even during challenging situations and they are able to turn their challenges into new opportunities. On the other side, it had been observed that underachievers avoid challenging situations and give up quickly when faced with complicated tasks. Further, the present study revealed that high achievers and underachievers do not differ significantly in their attitude towards their teachers and school as a whole. These results are inconsistent with the findings by Reis and McCoach (2000). Their study stated that underachievers hold negative attitude towards schools. However, in present small scale study, both groups' mean scores showed their positive attitude towards school, classes and teachers. The positive attitudes of students towards their teachers, schools and classes in the present study can be interpreted by taking cultural context into consideration. First, in Muslim societies, teachers are given the prestige of spiritual parents and teaching is recognized as very respectable profession. May be due to this factor student keep respecting and reporting positive about teachers but see themselves as responsible for their performance. Based on this assumption, it would be interesting to investigate locus of control of students belonging to Muslim context.

Moreover, students may have tried to respond in socially desirable manner as students completed the questionnaire within the schools setting and as being in school and expressing one's attitude in relation to school factors may have also colored the pure responses. Present study also found non-significant difference of self-regulation among high achievers and underachievers. Although, the achievement orientation model states that when students have high self-efficacy, positive attitudes of environmental support and they value academic goal; they became highly motivated and use self-regulatory strategies to achieve results which make them more engaged and bring good academic outcomes. However, it can be seen within the results of present study although all the participants have positive attitudes of all three elements and also have high self-regulation but their self-regulation strategies have no impact on their academic grades. From these findings, it can be inferred that more specific and in-depth exploration of self-regulatory strategies used by students is required.

## **Conclusion**

The present study primarily explored the differences of general intellectual capacity, academic self-perception, goal valuation, self-regulation, attitude towards school, attitude towards teachers and classes between high achievers and underachievers. Main objective was to gauge that how these school-related factors contribute in academic achievement of adolescents. Findings indicated that intellectual capacity, academic self-perception and goal valuation play important role in advancement of academic achievement during adolescence. Whereas, self-regulation skills used by students and students' attitudes towards teachers, classes and schools are not effecting academic achievement of students in any way. Hence, further contextual investigation in this area is highly required.

## **Implications of the Study**

Huge number of identified underachieving adolescents (66.48%) indicates a high need to address the issue. In relation, this study illuminates important finding for the teachers, educators, school counselors/ psychologists, parents and concerned authorities in school to prepare necessary measures for the assistance of underachievers. Moreover, these finding are also valuable in understanding the dynamics of high achievement in schools helping school stakeholders to promote it among adolescents. Findings of the present study further suggest that teachers, educators, and counselors in school should make efforts to promote positive academic self-perception. This can be done by promoting growth mindset among students. As Research supports the evidence that positive self-perception, like various other soft skills, can be developed through practice. It is also revealed that students with a growth mindset engage oneself in self-regulated learning strategies to accomplish their set goals (Farrington et al., 2012). In addition, teachers should also plan their class lessons in such a way that it is inclusive of nurturance of metacognitive activities. Such as, goal setting and self-regulation strategies and more importantly planning to achieve and reflect back on these goals. But the most eye-opening inference of the present study is that students' academic performance is not at all affected by their attitude towards teachers, classes, and schools. However, it can be seen that all the implications proposed above need a very significant role of a teacher in students' academic growth. Here the need of educators and school psychologists' contribution in school settings is highlighted. They can educate and train teachers in creating and then using this positive attitude in the best academic interest of students.

## **Limitations of the Study and Recommendations for Future Research**

This section highlights the limitations of the present study and also provides directions for future exploration in this area. One of the primary limitations of the study is that present study was exclusively focused on personal characteristics of underachievers. However, according to Moon and Hall (1998); Reis and McCoach (2000), underachievement can be an indication or result of physical, psychological or any learning impairment such as ADHD, hearing impairment or non-traditional learning style. During this study, students

were not screened for these issues before classifying as underachievers. Therefore, it is highly recommended that students should be screened for wide range of physical, mental and emotional problems before taking any measures to reverse their underachievement. This study only approached a limited number of private school students for data collection so the finding cannot be generalized to the diversified systems of school present in Pakistan. Replicating the study on large-scale data covering diversified population of school-going adolescent can lead to a much enriched understanding of this issue. A sample of the study only covered early adolescents. Studying middle as well as late adolescent population seems promising in bringing enhanced understanding in this area. Furthermore, based on the results of the present study, further studies using experimental design can be planned; the results of those studies can then lead to generating effective intervention programs or models. That can be helpful in reversing the underachievement among adolescent students. During literature review it was discovered that academic self-perception and attitude towards teacher are established at very early years of schooling. So it would be very interesting to study these variables in early grades to see the psychological impact of these variables on academic progress of younger children. Findings of this kind of quantitative studies not only be used to generalized conceptualization of school dynamic, but these finding if shared with participant schools can be used for further analysis by experts such as school psychologist or educators to see general findings. Second, it can also help to identify the individual case and preparing support system for underachieving students. This area of study can we well understood by using mixed method design. The students classified as underachievers; can be interviewed to create a model to study the phenomenon of underachievement among non-gifted students.

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