

Influence of Perceived Competence and Self Regulation on Academic Achievement: A Study on High School Adolescent Students

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Abstract

The aim of the present study was to examine the influence of perceived competence and self regulation on academic achievement in high school adolescent students. The present study was conducted on a sample of 80 adolescent students of age group 13-15 years in two phases. In the first phase the percentage of the students was identified. The students above 75 percent were considered as high academic achievers and those below 50 percent were considered as low on academic achievement. In the second phase two standardized tests were administered to the students, namely Perceived Competence Scale for Children by Harter (1982) and Self – Regulation Questionnaire (Academic) (SRQ- Academic) by Ryan and Connell (1989) and results were compiled.

In order to analyze the results, mean, standard deviation and t- test were computed. The results demonstrated that there were significant differences between high and low academic achievers on perceived social competence, perceived general competence and perceived cognitive competence. It was also found that there were no significant differences between high and low academic achievers on perceived physical competence and self regulation.

Keywords: Academic achievement, perceived competence, self-regulation

We are living in an achievement- oriented world. The dominating motive directing human behavior is the need to achieve, to realize ambitions and fulfill wishes. One's academic record carries a lot of weightage. The job opportunities, and in fact, one's entire future depends to a large extent, on one's scholastic efficiency. The term “academic achievement”, which is a combination of these two terms, viz. 'academic' and 'achievement', would thus mean “ the level of proficiency attained in scholastic or academic work” (Wolman,1973). Academic achievement is the attained ability or degree of competence in school tasks, usually measured by standardized

tests and expressed in “age or grades” units, based on norms derived from a wide sampling of pupils' performance.

Academic achievement is a complex process involving interplay of multiple factors. This construct has meaningful consequences in an individual's life not only from the academic or vocational point of view, but may have repercussions even on people's psycho – social development. For example, when children excel in their studies, it usually adds confidence, induces feelings of worth and importance, and enhances their self – esteem. Children's notions about themselves are of central importance in determining their academic outcomes. When children perceive themselves as capable enough of learning efficiently, it tends to affect their general approach towards academic tasks and targets. Their perceptions of self-efficacy, self-worth and self-esteem provide them with a source of motivation, and as a result, they tend to fare well in whatever task they undertake. On the other hand, when children view themselves as “good-for-nothing” individuals who are ineffective, inefficient and unproductive, their feelings of adequacy, competence, dignity and self respect tend to be lowered and this consequently dampens their strivings for mastery.

Children who do not fare well academically may feel like misfits in their social milieu, whose feelings of self – worth, self – confidence and adequacy are lowered. It's evident from above that academic achievement is a potent source of impact on the all- round development of the individual.

Perceived competence denotes the individuals' personal notions about his capacity to elicit behaviors or actions that may lead to successful accomplishment of a goal or task. It is thus, concerned with the phenomenological conceptions of ability that are organized, mobilizing dynamic, evaluative and domain specific. Such judgments of the self may actually differ from true capability per se. In psychology it has been the focus of studies ranging from clinical settings to social settings to education. Perceived competence is domain- specific. People may not feel equally competent in every skill domain, and a person who feels competent in one area may not feel similarly in another field. Academic competence can further be differentiated into subject-specific competence, while non-academic perceptions of competence would include feelings about social competence, physical competence, and the like.

One of the major goals of education is inculcating a sense of autonomy in children with respect to learning and behavior. Children must feel autonomous or choiceful as far as their achievement-oriented activities are

concerned, i.e. they must not feel forced or coerced into performing such activities, rather should initiate and regulate such actions in order to achieve desirable goals. This sense of self-regulation is very essential in predicting outcomes. The more the individual is autonomous in his/her learning, the more it would depict how strongly he/she feels for achievement outcomes. On the other hand, the more “controlled” the individual is as far as learning targets and goals are concerned, the less motivated he/she would be in performing them; and lesser the motivation, lesser would be the chances for successful performance of those academic tasks. It is in this way that self-regulation and learning are inter-linked, with the former providing the motivating or driving force for the latter.

The purpose of the present study was to investigate the influence of Perceived Competence and self -regulation on academic achievement in high school adolescent students. The specific objectives were (1) to study the differences between high achievers and low achievers on perceived social competence. (2) to study the differences between high achievers and low achievers on perceived general competence (3)to study the differences between high achievers and low achievers on perceived physical competence (4) to study the differences between high achievers and low achievers on perceived cognitive competence (5) to study the differences between high achievers and low achievers on self regulation.

Method

Sample

The total sample for the present study consisted of 80 high school students from English medium private schools (n=80), their ages ranging from 13 to 15 years. The purposive sampling technique is used for selection of sample. Only adolescent school going boys and girls who were high academic achievers and low academic achievers were included in the study between the age group of 13-15 years. Only those students studying in private schools were included. Adolescents not studying in private schools and average achievers were excluded from the sample that was selected.

Measures

Perceived Competence Scale for Children by Harter, (1982) - This self report scale assesses perceived competence in three domains (i.e. Cognitive, Social and Physical) and a General Self worth Subscale is also included which is

independent of any particular skill domain. There are seven items in each subscale resulting in a 28 item scale. All items are rated on a four-point scale with a score of four reflecting high Perceived Competence. The subscale reliability has been assessed by Harter (1982) by employing coefficient alpha. Across all the samples considered by the author (including students in third through ninth grades drawn from primarily middle and upper middle class populations), reliabilities ranged from .75 to .83, .75 to .84, .77 to .86, and .73 to .82 for the four subscales respectively. The convergent validity of this scale has also been established by its author. Across samples, Harter found that the correlation between pupil ratings and teacher ratings is in the .40's. Harter also found that the factor pattern of this scale is very stable across grades 3-6 and for grade 7-9. The alpha reliability of cognitive subscale of the test was reported to be .96 (N=108) for secondary school students (Trama, 1998). The present investigator made an attempt to evaluate the alpha reliability of the social, physical, and general self-worth subscales on Indian population which was found to be .67, .51, and .62 for the social, physical and general self-worth subscale respectively (N=100) on Indian population.

Self - Regulation Questionnaire (Academic) by Ryan and Connell, (1989) - This scale assesses children's styles of regulating their behavior. It consists of four stem questions with 6-9 reasons (external, introjected, identified, and intrinsic reasons) of answering that item. Internal consistency estimates (alpha) for each reason category ranged from 0.62 to 0.82 indicating moderate to high levels of internal consistency. The alpha reliabilities of the four subscales i.e. external, introjected, identified, and intrinsic were found to be 0.72, 0.79, 0.74 and 0.68 respectively for secondary school children as reported amongst Indian population (N=110) (Trama, 1998).

Procedure

The present study, based on two-group design was conducted in two phases. In the first phase the percentage of the students were identified. The students above 75 percent were considered as high academic achievers and those below 50 percent were considered as low on academic achievement. In the second phase two standardized tests were administered individually to the two groups of high achievers and low achievers

Analysis of Data

The questionnaires of all the subjects were scored and Means and Standard Deviations of the test scores for the two groups were calculated. t-test was used to see if there were any differences between high and low achievers on perceived competence and self regulation separately.

Results

Table 1 and 2 shows the mean, standard deviation and t-scores of high achievers and low achievers on four domains of perceived competence and self regulation. The above table gives an account of results showing mean and standard deviation of perceived social competence of high academic achievers which came out to be 20.9091 and 2.81043 respectively, while mean and standard deviation of perceived social competence of low academic achievers is 18.3611 and 2.59838 respectively.

The mean and standard deviation of perceived general competence of high academic achievers came out to be 21.5227 and 3.00765 respectively, while mean and standard deviation of perceived general competence of low academic achievers is 19.2778 and 2.76314 respectively.

The mean and standard deviation of perceived physical competence of high academic achievers came out to be 20.5000 and 4.04337 respectively, while mean and standard deviation of perceived physical competence of low academic achievers is 19.0000 and 3.65670 respectively.

The mean and standard deviation of perceived cognitive competence of high academic achievers came out to be 22.9318 and 2.32677 respectively, while mean and standard deviation of perceived cognitive competence of low academic achievers is 19.8889 and 3.04985 respectively.

The mean and standard deviation of self regulation of high academic achievers came out to be 17.9773 and 7.63556 respectively, while mean and standard deviation of self regulation of low academic achievers is 17.5556 and 10.57340 respectively.

The results also reveal that the t-value for perceived social competence, general competence, physical competence and cognitive competence is significant at 0.01 level. This means that there are significant differences between means of high and low achievers on all these three domains of perceived competence.

The t-value for self regulation came out to be 0.207 with 78 as degree of freedom, which is not significant at 0.05 levels (Shown in Table 2).

Table 1. Showing Mean and Standard Deviation of High Achievers and Low Achievers on Perceived Competence and Self Regulation

	High Achievers		Low Achievers	
	Mean	Standard Deviation	Mean	Standard Deviation
Perceived Social Competence	20.90	2.81	18.36	2.59
Perceived General Competence	21.52	3.00	19.27	2.76
Perceived Physical Competence	20.50	4.04	19.00	3.65
Perceived Cognitive Competence	22.93	2.32	19.88	3.04
Self Regulation	17.97	7.63	17.55	10.57

Table 2. Showing t- test Values of High Achievers and Low Achievers

Variables	t values
Perceived Social Competence	4.17*
Perceived General Competence	3.44*
Perceived Physical Competence	1.72
Perceived Cognitive Competence	5.06*
Self Regulation	0.20

*significant at .01 level of significance

Discussion

The present study aimed to see the influence of perceived competence and self regulation on academic achievement in high school adolescent students.

Today's world being full of competition and challenges, one of the important means of attaining goals is by developing strategies for self regulation and perceived competence i.e. confidence or belief in oneself to achieve those goals. Academic achievement, an important construct involving interplay of multiple factors has meaningful consequences in an

individual's life not only from the academic or vocational point of view, but may have repercussions even on people's psycho – social development. For example, when children excel in their studies, it usually adds confidence, induces feelings of worth and importance, and enhances their self – esteem.

On the other hand, children who do not fare well academically may feel like misfits in their social milieu, whose feelings of self-worth, self-confidence and adequacy are lowered. It is thus evident from above that academic achievement is a potent source of impact on the all- round development of the individual.

It was hypothesized that there will be no difference between high achievers and low achievers on perceived social competence. But the results show that there are significant differences between high and low achievers on perceived social competence ($t = 4.172, p > 0.01$). Therefore, the first hypothesis was rejected.

Perceived Social Competence is the foundation upon which expectations for future, interaction with others is built, and upon which individuals develop perceptions of their own behavior. Often, the concept of social competence frequently encompasses additional constructs such as social skills, social communication, and interpersonal communication.

Children who perceive themselves as socially competent are also high on academic achievement and vice- versa. They are better capable of developing interpersonal skills with the instructor, resulting in getting greater attention and inputs from the teacher. Such a child will show a greater belief in oneself and with this belief the child is likely to excel in studies also. This finding is supported by a study done by J.E. Boye & S.P. Keane (2011) on school children, titled the interaction of student- teacher relationships and mutual friends on academic achievement: the role of perceived competence. Results identified the role of multiple, salient school relationships in predicting academic achievement and indicate the importance of fostering social development in various arenas within the school context.

On the other hand children who perceive themselves as socially incompetent or lack belief in one's competence leads to decreased confidence in self, which is reflected in low academic achievement. As a result, significant differences were found between high academic achievers and low academic achievers on perceived social competence.

Secondly, it was hypothesized that there will be no difference between high achievers and low achievers on perceived general competence. But the

results show that there are significant differences between high and low achievers on perceived general competence ($t = 3.444, p > 0.01$). Therefore, the second hypothesis was also rejected.

Perceived General Competence refers to self perceptions of ability in broad areas, such as how good a student is generally in all areas. Self-competence may also refer to the perceived ability in subject areas as a whole. This makes the definition very similar to self-concept. However, while self-concept also addresses students' beliefs about academic difficulties and student affect, self-competence refers only to their perceptions related to success.

Children's notions about themselves are of central importance in determining their academic outcomes. When children perceive themselves as capable enough of learning efficiently, it tends to affect their general approach towards academic tasks and targets. Their perceptions of self-efficacy, self-worth and self-esteem provide them with a source of motivation, and as a result, they tend to fare well in whatever task they undertake. This finding is supported by a study done by Leondari & Gialamas (2002) on elementary and junior high school students who found that, perceived competence was an important mediator in school academic achievement.

On the other hand, when children view themselves as “good-for-nothing” individuals who are ineffective and inefficient their feelings of adequacy, competence, dignity and self respect tend to be lowered and this consequently dampens their strivings for mastery.

Thirdly, it was hypothesized that there will be no difference between high achievers and low achievers on perceived physical competence. The results show that there are no significant differences between high and low achievers on perceived physical competence ($t = 1.723, p > 0.01$). Therefore, the third hypothesis was accepted.

Perceived Physical Competence can be defined as how children perceive or see themselves when they have to perform on a given physical task such as how good they are at sports or how some are the first ones to do a new activity.

Probably, physical activity such as participation in sports is not given much importance by high school students because of academic demands. When there is less exposure or participation in some activity it is less likely that perceptions of competence would develop in that area. Nowadays it has also been seen that due to the extra burden and stress from projects,

assignments, etc. the time given in physical activity has lessened as it will leave less time for school study including homework and assignments. It is more likely that high academic achievers are devoting more time to academics than physical activity. As a result, their perceptions of physical competence are similar to those of low academic achievers who are already low on perceived physical competence. Therefore, no significant differences were found between high and low academic achievers on perceived physical competence.

A study done by L. Hand et al, (2012) shows the evidence for a relationship between physical activity and academic performance is not conclusive. A review by Trudeau and Shephard in the February 25, 2008, issue of the *International Journal of Behavioral Nutrition and Physical Activity* found a positive link between physical activity and academic performance, based on cross-sectional studies. A review by Taras in the August 2005 issue of the *Journal of School Health* reported possible acute benefits of physical activity on academic performance.

The researchers concluded that although few published studies have assessed the link between physical activity and academic performance, enough evidence exists to report that "physical activity is positively related to academic performance in young people." They call for more high-quality studies to explore the mechanisms of such a relationship and to explore more physical activities than just school sports participation.

Next it was hypothesized that there will be no difference between high achievers and low achievers on perceived cognitive competence. But the results show that there are significant differences between high and low achievers on perceived cognitive competence ($t = 5.061, p > 0.01$). Therefore, the fourth hypothesis was rejected.

Perceived Cognitive Competence has a direct effect on academic achievement and involves how well a child perceives oneself on cognitive tasks such as understanding and finishing their school work on time, figuring out correct answers, remembering instructions from the teacher as well as their school work.

A child feels competent in academics, will feel more confident in pursuing academics generally and therefore his academic achievement will be higher. A study by Topor, et al (2011) indicated that the child's perception of cognitive competence fully mediated the relation between parent involvement and the child's performance on a standardized achievement test.

On the other hand, a child who does not perceive oneself as cognitively competent, will not work hard and academic achievement is likely to be lower.

Lastly, it was hypothesized that there will be no difference between high achievers and low achievers on self regulation. The results show that there are no significant differences between high and low achievers on self regulation. ($t = 0.207, p > 0.01$). Therefore, the fifth hypothesis was accepted.

Self Regulation can be defined as the capacity to control or alter one's responses. It is a vital mechanism for producing adaptive and socially desirable behavior i.e. a means of changing something about the self, most commonly to remain in line with external (social) standards.

Self Determination Theory (Deci & Ryan, 1985) posits that:-

- (a) People are inherently motivated to internalize the regulation of uninteresting though important activities
- (b) There are two different processes through which such internalization can occur, resulting in qualitatively different styles of self regulation
- (c) The social context influences which internalization process and regulatory style occur.

With this above theory, two types of internalizations or self regulation styles were given. Introjection, which entails taking in a value or regulatory process but not accepting it as one's own and Integration, through which the regulation is assimilated with one's core sense of self. With integrated regulation, the person would not experience conflict or tension associated with introjection style.

In other words, introjection results in internally controlling regulation, whereas integration results in self-determination (Deci, et al., 1994).

In Indian context academic choice and performance is controlled and monitored by parents. This study was conducted on adolescents who are yet to integrate or assimilate these values or regulatory process into their self. They are still using introjected style of self-regulation. As a result they are high on academic achievement where they are working hard under pressure from external forces such as parents and peers but low on self-regulation which involves internalizing the value of goal or task at hand. This could be one of the reasons that significant differences were not found between high and low academic achievers on self regulation. This

difference could have been significant if the study had been conducted on students taking higher education in whom internalization of self-valued goals has already taken place.

Conclusion

It can be concluded that there were significant differences between high and low academic achievers on perceived social competence, perceived general competence and perceived cognitive competence. It was also found that there were no significant differences between high and low academic achievers on perceived physical competence and self regulation.

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