ABSTRACT. Self-efficacy is the persons' judgement about their capabilities to organize and execute the action to attain the desired level of performance. Personal belief about capabilities to complete the task successfully show the behavioral choices, persistence, performance and attitude. It helps to explain why people differ widely even having same knowledge, skills and abilities. Will I succeed or fail? Will I be liked or laughed at? Should I do it or not? Answers of these questions are based on personal efficacy (competence). Expectations of success or failure at a particular task is influenced by the sense of self-efficacy in that area. High self-efficacy students engage in more effective self-regulatory strategies at each level of ability. High self-efficacy has been demonstrated by high academic achievement. On the contrary, low self-efficacy destroy the personality that leads to anxiety, depression and other negative traits. Some low self-efficacious students give up on or never begin a task that leads to failure. 264 students of secondary classes from private and government high schools of Rawalpindi were randomly selected to administer a self-prepared 21 item Likert scale. Product-Moment Correlation Coefficient was applied by using Statistical Package for Social Sciences (SPSS). The results showed that academic achievement was associated with sense of self-efficacy. Self-efficacious students are competent to approach difficult tasks to take mastery. High self-efficacious students show their competency as they put required effort to get their targets. They are able to solve even more difficult problems. Self-efficacy increases the self competency among students.

Keywords: Self-efficacy, High Self-efficacy, Low Self-efficacy

1. Introduction. Psychology focuses on motivation and it is the central concern of educational psychology. Educators take benefit from the knowledge about motivation as students reacts differently to different activities of teaching-learning. Motivation works in those areas in which students want to do work or avoid of doing activity besides having energy and even interest in that area [15]. Motivation is multi-dynamic process which makes life purposive. Man can not take satisfactory success in the absence of adequate environment and for this satisfaction adequate environment should be properly charged by motivation. It is necessary to identify motivational properties of human behavior to make them better [1]. It is difficult to comprehend the actual concept of human behavior without proper understanding of motivational level of organism. Total visualization of personal and non-personal experiences can not be possible without fully grasping the knowledge of motivation [6].

Two concepts of motivation; efficacy expectation and self-efficacy are extensively used in psychology. Personal belief about their capabilities to reach a goal, assess the effort to require for achieving that goal is
efficacy expectation. Self-efficacy is the related concept of efficacy expectation. It means people’s own judgment about their capabilities and potentialities to organize and execute the amount of effort required to achieve designated type of performance [2]. It is the most important determinants by which people make choices, effort they put, their perseverance to face challenges and their anxiety and confidence degree to bring that task [14]. Due to this perceived self-efficacy, human behavior differs widely even when they have similar knowledge, abilities and skills. The man’s thinking, behavior and actions are predictors of one’s belief about their capabilities of accomplishing the task. But competent functioning on the task needs accurate perception and harmony between self-efficacy and skills and knowledge they possess [2].

Self-efficacy: It is persons’ self-belief or self-perception about their capabilities and potentialities to complete the task within prescribed time on the basis of prior achievement, abilities, attributions and persuader persistence and credibility [17]. Self-efficacy is the personal judgment about whether they are able to do that particular activity or not. It shows the confidence of the students about the performance of the specific tasks within given time with perfection. Self-efficacy does not mean that students believe about their success. Actually it indicates that when students have strong belief on the skills and abilities to do any activity well, they will put required effort to complete it by keeping in view the other factors that may affect their performance. So self-efficacy is not only the belief or prediction about the competency of skills and abilities but also the ability to judge, organize, assess and tackle the forthcoming obstacles to manage the situation as they occur.

Self-efficacy is the optimistic belief about the dealing of challenging encounters [8]. It is not fake idea about one’s self abilities. The person is not called as self-efficacious until or unless he is able not only to face but also complete that task satisfactorily. Human endeavor are affected by self-efficacy. It is the belief of a person about the power to affect and change specific conditions and situations by their own actions, to face the challenges competently and make the choices wisely. So person’s approaches and successful completion of goals, tasks and challenges shows their strong sense of self-efficacy.

Self-efficacy plays a vital role in adjustment of psychological problems and solution of intra-psychic conflicts. It is not acquired skill rather it is a belief that I can do it with certain conditions and limitations by coordination and orchestration of skills and abilities to change and challenge the current situation [12]. Self-efficacy does not deal with “will” rather than “can”. Even it does not causal attribution. Explanation about events and their consequences are the part of causal attribution. It deals with what a person is capable of doing [12]. It is not a will or intention to achieve a goal. Intentional acts are those in which a person says that whatever I say, I will do it [12]. But in self-efficacy, person having the deep understanding of his own abilities, required amount of effort and prospective consequences of his actions, makes intelligent guesses and strategies to perform and complete the task with mastery. Self-efficacy is not motive, drive or need that a person wants to control all situations. It is a control on a particular domain and still weak belief about the control on other domains [12]. It means a person is highly efficacious in one area may be low-efficacious in other area.

Self-efficacy is not reduced to outcome expectancies. A person has behavior-outcome expectancy that specific behavior may lead to specific response in a situation. Self-efficacy belief is that; a person feels that he can perform (not sure) the task or can show the desired behavior that produces acceptable outcome. It should not be associated with personality traits. It is a belief about the skills to coordinate different acts in sequential manner to achieve desired goals in specific situations.

High Self-efficacy High self-efficacious persons believe that they can do well even the difficult task. They perceive difficult task to take mastery rather than to be avoided. High self-efficacious students challenge themselves with difficult and innovative tasks and they are internally motivated. They set a high degree of effort to convene their commitments and attribute their failure to internal factors that are under their own control. If they feel disturbance to achieve their set goals, they recover quickly [11] and move to retain their mental state and ultimately achieve personal goals by encouraging themselves. Strong self-efficacious students feel fulfillment and calmness with decisiveness and certainty. They are internally motivated and self-paced [8]. People of strong self-efficacy see challenging and complex problems to be mastered, have more interest in hands-on activities, make a determined commitment to activities and goals and recover themselves in less time from disparity and disappointments [5].
**Low Self-efficacy** Low efficacious students believe that they can not succeed as they are not able to concentrate and extend effort so they think that challenging tasks should be avoided. They have low aspiration that lead to fatigue, boredom and disappointment [11]. They experience anxiety, hopelessness and anger [8]. They avoid complex tasks, perceive tasks beyond their access and abilities, focus on personal failure and negative and unwanted results and loose confidence quickly about their abilities [5] and feel themselves as the most depressed, deprived and unprivileged person.

**Self-Efficacy:** A Predictor Of Success According to empirical researches, a strong predictor of success is one’s personal belief in innate dispositions to cope up then only possession of knowledge and operational skills to complete the task is not enough [8]. This success is based on one’s perception about abilities that have impact on the quality and quantity of work done. So positive outcome does not necessarily mean that the students actually possess knowledge or skill but it is the matter of attitude because self-perception influences the behavior. That’s why talented students may be infected by doubts. On the other hand average students put themselves in the task and get required results. They may view setbacks and disappointments but they just ignore them and retain their perseverance.

**Emotional Consistency:** Self-efficacy has a powerful influence on the choices of activities, expenditure of effort and consistency to face life challenges and hurdles [10]. Production of desired results, successful completion of task and perseverance are the result of self-efficacy [12]. People generally undertake those tasks in which they show their competency to complete challenging tasks and gain experience.

**Choices of Activities:** Self-efficacious students undertake the exigent tasks easily rather than low or inefficacious students. Self-efficacy predicts the performance rate and energy expenditure. When students have the knowledge about the management of academic tasks, they become emotionally stable by removing stress, depression and anxiety [3].

**Motivated Behavior:** Self-efficacious students put required effort to complete the work and retain required effort for longer period of time. They are consistent in their amount of effort by seeing meaning into it. So they become internally motivated. Self-efficacy makes the person confident in abilities to cope up with potentially difficult situations calmly. They select and structure their surroundings in a way that they actually want to manage.

**Psychological Adjustment:** Philosophers and psychologists argue that when a person has strong sense of control over thoughts, feelings, sensations and environment; he can lead a happy and satisfied life. When person feels that the world is predictable and controllable; and thoughts, behavior and actions are within person’s control; he feels sense of fulfillment to face challenges of life, create healthy relationship and meet personal satisfaction and peace of mind.

**Development of Healthy Behavior:** Self-efficacy influences the adoption of healthy and smooth behavior, removal of unhealthy behavior and the continuation of balanced changes. It also influences a number of biological processes that, in turn, influence health. It enables a person to control anger, stress, hopelessness, boredom etc. that ultimately leads to healthy and sound body and mind.

**Self-regulation:** It is general assumption that the human has the capacity to self-regulate and self-initiate their behavior and overcome the behavioral problems without external guidance. Research on self-efficacy helps us to understand the phenomena that how human being guide themselves to live a happy life. Human are self-regulated because they regulate their own actions and thoughts to create incentives and make realistic goals. To achieve these goals, they make their own criteria and standards; and see and evaluate their behavior against these set criteria. Students undergo self-regulatory process by monitoring working time, put effort consistently and solve conceptual problems easily [18].

**Problem-solving and Decision-making Ability:** Self-efficacy makes the students able to solve the problems and make appropriate decision at right time. When they face complex problems, they have confidence in their cognitive abilities and feel the sense of mastery. They feel proud to be a self-efficacious person [12]. The teachers are more responsible for students’ behavior modification as compared to any other agent i.e.
parents, peers etc. Teachers are the primary agent to construct and reconstruct the students’ behavior, abilities and skills. If they utilize them carefully, students prove themselves as a useful citizen for the society. So there is a need to check the relationship of self-efficacy with academic achievement of students.

2. Methodology
2.1 Sample. 264 sample science students from four secondary schools of Rawalpindi were chosen for the study. 66 science students were selected from each secondary school. Three sections from 9th and 10th were randomly selected for data collection. Eleven science students constituting four position holders, three promoted students and four moderate achievers were selected from each section.

<table>
<thead>
<tr>
<th>Sample Distribution</th>
<th>9th Class</th>
<th>10th Class</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siddeeq Public School, Rawalpindi</td>
<td>11x3=33</td>
<td>11x3=33</td>
<td>66</td>
</tr>
<tr>
<td>Progressive Model School, Rawalpindi</td>
<td>11x3=33</td>
<td>11x3=33</td>
<td>66</td>
</tr>
<tr>
<td>F.G. Girls High School No. 2, Rawalpindi</td>
<td>11x3=33</td>
<td>11x3=33</td>
<td>66</td>
</tr>
<tr>
<td>Technical High School, Rawalpindi</td>
<td>11x3=33</td>
<td>11x3=33</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>132</td>
<td>264</td>
</tr>
</tbody>
</table>

2.2 Instrument. To measure self-efficacy, data were collected by a self-prepared 21 item questionnaire which was constructed after thorough review of related literature. The questionnaire was designed to measure the high and low self-efficacy of students in science subjects. The questionnaire was made to check the students’ own views about their abilities, capabilities, potentialities, competency, confidence, investment of effort, perseverance, attribution, level of achievement and persistence. Questionnaire items were constructed to check these indicators of self-efficacy. After construction, questionnaire was discussed with experts of concerned areas and improved in the light of their suggestion. Validity was checked by the experts of education and psychology departments. Pilot testing was conducted on 2% of total population that was not included in actual study in Ideal Cambridge School Rawalpindi by a referenced letter. Questionnaire was improved a little after pilot testing. Item analysis was done to check the appropriateness of each item [9]. Rationale equivalence reliability was used to test the reliability of the whole test [7]. The reliability of the test to measure the self-efficacy of secondary school students was found to be 0.71.

2.3 Scoring. On “yes” response, “1” mark was given and on “no” response, “zero” mark was given. Total score of each student were counted to obtain self-efficacy score. The procedure to complete the task and instructions were prior explained to students to avoid time wastage. Students complete the questionnaire within the stipulated period of time.

2.4 Data Analysis. Data about science academic achievement was obtained from the selected secondary schools’ annual examination result. Self-efficacy score was obtained from the administered questionnaire. Mean, standard deviation and product-moment correlation method were used for data analysis by applying Statistical Package for Social Sciences (SPSS-XVII) (Table 1).

3. Conclusions. The purpose of this article is to investigate self-efficacy of 9th and 10th class science students. Self-efficacy and academic achievement in science subjects seems to be closely related with one another. High efficacious students show their better performance in annual examination as compared to low efficacious students. High efficacy is attributed to high level of competency in academics. Similarly a positive relationship between self-efficacy and academic achievement has been found in several researches [2]; [3]; [4]; [8]; [12]; [13]; and [16]. Therefore, the present article is written to find out the relationship between self-efficacy and academic achievement in science subjects. However, relationship between these two hypothesized variables found is positive and significant. The reason for this positive relationship might be due to their accurate perception about their abilities to cope with different and complex conditions; a positive self-image; ability to express potentials; and good interpersonal relationship to solve intra-psychic conflicts; included in the present study. The researcher was interested to develop a scale of self-efficacy that is not limited to particular situation only but could be used as a general measure. Therefore those self-efficacy aspects were included which appeared to be better measure of self-efficacy in general.

4. Suggestive Measures to Improve Self-efficacy
Self-efficacy can be improved by taking these measures.

1. Too easy tasks will bore or embarrass the students and even students feel some doubts about the teachers’ abilities. Low-efficacious students will be reinforced by moderately difficult tasks. So the difficulty level of task should be slight above the present ability level of students.

2. A concrete plan of action to complete the given task by explaining the ways of working should be given to students. So that they are able to finish the task successfully with satisfaction.

3. Relate course content with co-curricular activities and design these activities on the basis of students’ interest.

4. Make the students free to choose the course of action i.e. grading, selection of due date for task submission, selection of task and groups etc.

5. Provide motivation and encouragement whenever there is a need to boost the students’ competency. Due to verbal encouragement, students not only set the goals and improve the efficacy beliefs and achievement but also improve their commitment to attain these goals.

6. Give proper feedback on students’ correct responses. Reward immediately after the right response and correct wrong response. Evaluate the students from their past performances rather than with other students or any criteria.

7. Guide the students in such a way that they think that they are unsuccessful due to less effort, not spending required time to complete it successfully or not following the learning strategy etc. In any case, they should not feel that they are unable to do that task. They should feel that they can do it but due to these mentioned reasons they are not getting the desired results at this time. But next time by keeping in view all these consideration, they can do it successfully.

8. Tackle efficacious students very carefully as they are able to do the things and they also have a desire or wish to complete the task in better way. When such students take guidance properly then their energies can be utilized in constructive way.

9. These students are much better then those who do not wish to show their abilities. So there is a need to teach them by keeping in view their abilities, capabilities and potentialities.

REFERENCES


