

## **The Role of Self-Efficacy and Gender Difference among the Adolescents**

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The present study examined the role of self-efficacy and gender differences among the adolescents as revealed by intelligence test. A random sample of 200 students (100 Boys & 100 Girls) studying in I, II and III year of under-graduation was selected from different colleges of the city of Chandigarh. Self-efficacy scale developed by Jerusalem and Schwarzer was used to classify subjects. General Mental Ability Test developed by Jalota was used to have the dependent variable scores. Analysis of variance was applied and the F-ratio revealed significant effect of self-efficacy. Significant gender differences were also found, where female scored higher than their male counterparts. No interaction was found in self-efficacy and gender.

Self-efficacy is the individuals' assessment of their capabilities to organize and execute actions required to achieve successful levels of performance (Bandura, 1986). Self-efficacy makes a difference in how people feel, think and act. In terms of feeling a low sense of self-efficacy is associated with depression, anxiety and helplessness. In terms of thinking, a strong sense of competence facilitates cognitive processes and performance in a variety of settings, including quality of decision-making and academic achievement. In terms of act, self-related cognition is a major ingredient of motivation process in comparison to low self-efficacy people. Self-efficacy levels can enhance or impede motivation. People with high self-efficacy choose to perform more challenging tasks, they set for themselves higher goals and stick to them. Actions are pre-shaped in thoughts, and people anticipate either optimistic or pessimistic scenarios in line with their level of self-efficacy.

Bandura (1977) proposes the key sources of self-efficacy as performance accomplishments, vicarious experiences, and emotional arousal. Self-efficacy pertains to optimistic beliefs about being able to cope with a variety of stressors. Litt (1988) finds that self-efficacy expectations affect performance beyond what would have been expected from past performance alone. Changes in self-efficacy expectations predict changes in cold pressure tolerance. Self-efficacy affects behavior of the individual in different ways: First, self-efficacy influences choice of behavior. People are likely to engage in tasks in which they feel competent and confident and avoid those in which they do not. Second, self-efficacy may help to determine how much effort people will expand on an anxiety and how long will they persevere. Third, self-efficacy beliefs influence individuals' thought patterns and emotional reactions. People with low self-efficacy may believe that things are tougher than they really

are, a belief that may foster stress and narrow vision of how best to go about a problem. Efficacy beliefs are the foundation of human agency. Unless people believe that they can produce desired results by their actions, they have little incentive to act or to persevere in the face of difficulties.

Bandura distinguishes between the two components of self-efficacy: an efficacy expectation and an outcome expectation. An outcome expectation refers to a person's belief that a given behavior will lead to a particular outcome. An efficacy expectation is the conviction that the person himself/herself can successfully produce the behavior required to generate the outcome.

Intelligence constitutes the basic characteristic of human beings. The degree of intelligence is reflected by the clarity of purpose, thought and action in an individual's behavior. It involves understanding the specific situation in which the individual finds himself, and appropriately responding to it. It includes assimilation of information, processing of information, judicious selection of an alternative out of the multitude of alternatives presented, and rational decision-making. Thus, intelligence consists in acting in a given situation with use of past experience, with due regard to what is novel in the situation, and to the whole situation rather than to some striking part of it. It denotes having insight into the key to the whole situation or problem.

Environment contributes to the conditions i.e., family, economic level, health, facilities, etc. which influences intelligence much more than heredity does. Flynn has reported that in the late 20<sup>th</sup> century, IQ scores have risen substantially around the world at all age levels, this rise has been interpreted in terms of the environmental factors such as rising living standards, improved diets, better educational opportunities and exposure to media.

According to Goleman (1995, 1996), IQ and EQ are not opposing competencies but

rather separate ones and both are necessary for success in the workplace. IQ accounts for only about 20% of a person's success in life. The balance can be attributed to 'Emotional Intelligence' or EQ

Singh (2002) defined emotional intelligence in Indian context as, "the ability of an individual to appropriately and successfully respond to a vast variety of emotional stimuli being elicited from inner self and immediate environment. Emotional intelligence constitutes three psychological dimensions such as emotional competency, emotional maturity and emotional sensitivity, which motivate an individual to recognize truthfully, interpret honestly and handle tactfully and the dynamics of human behaviour.

The review of the literature suggested that self-efficacy may be an important personality variable affecting the use of intelligence test. There is a dearth of studies relating interaction effect of self-efficacy and gender on the use of intelligence test; hence the present study was undertaken.

### **Hypotheses**

- 1) The males score higher than the females on intelligence test.
- 2) High self- efficacy group scores higher on intelligence tests than the Low self- efficacy group.
- 3) High income group students have better intelligence scores than the low income group students.

### **Method**

#### **Sample**

The initial sample consisted of 350 (175 male and 175 female) students from Govt. College, Sector-46, Govt. College for Girls, Sector-11, Govt. College for Girls, Sector-42, S.D. College, Sector-32, of Chandigarh city. These students were studying in First, Second and Third year of undergraduate courses viz. B.A, B.Com, B.B.A, B.C.A, B.Sc. Their age

ranged from 16-18 years. The stratified random sampling technique was applied. The final sample consisted of 200 (100 male and 100 female) subjects. They were selected on the basis of their self-efficacy scores and gender.

### **Tools**

Two test materials were used to collect data. They are: 1. Generalized Perceived self-efficacy scale

Jerusalem and Schwarzer originally developed the German version of this scale in 1981, first as a 20-item version and later as a reduced 10-item version (Jerusalem & Schwarzer, 1992). The scale consists of 10-items and four responses / choices were provided for each item i.e. (1) Not at all true, (2) Hardly true, (3) Almost true, and (4) Very true. Typical items are, "Thanks to my resourcefulness, I know how to handle unforeseen situations, and when I am confronted with a problem, I can usually find several solutions." It has been used in numerous research projects, where it typically yielded internal consistencies between  $\alpha = .75$  and  $.91$ . This scale is not only parsimonious and reliable; it has also proven valid in terms of convergent and discriminate validity.

### 2. General Mental Ability Test:

There are 100 questions in this test and the total time of completing them is 20 minutes (Jalota, 1972). This is a verbal and group test

of intelligence. The questions of this test are related to seven different fields-synonyms list, antonyms list, best responses, inference, analogies, classification, and number series. There are 10-10 questions each related to first four areas and 20 questions each from the other three areas. The subject is given 'one' mark for every correct response, then M.A. is calculated from the total score gathered, and IQ is calculated by the formula  $IQ = MA/CA \times 100$ . The reliability co-efficient of this test is .938.

### **Procedure**

Initially, the self-efficacy scale was administered on a group of 175 male and 175 female students. A median split (Median=30) was used and those scoring above median were treated as high self-efficacy and those scoring below median were considered as low self-efficacy. 200 subjects conforming to the 2x2 (self-efficacy: High and low; sex: males and females) design were finally selected. Thus, there were 50 subjects in each cell. The subjects were then administered General Mental Ability Test (GMAT) and the statistical analysis of the data were done.

### **Results**

For a 2x2 factorial design, F-values were calculated to see whether males and females as well as higher self-efficacy (HSE) and lower self-efficacy (LSE) subjects differed significantly in intelligence. The means and standard deviations of the scores for intelligence are given in Table-1.

**Table 1: Means and Standard Deviation for Intelligence.**

Intelligence	Mean (M)	Standard Deviation (SD)
High Self-Efficacy (A1)	102.527	58.136
Low Self-Efficacy (A2)	94.765	53.735
Males (B1)	95.74	54.288
Females (B2)	101.552	57.584
High Self-Efficacy Males (A1B1)	100.83	57.174
Low Self-Efficacy Males (A2B1)	90.65	51.402

High Self-Efficacy Females (A1B2)	104.225	59.099
Low Self-Efficacy Females (A2B2)	98.88	56.068

Analysis of variance revealed that significant gender differences were found in intelligence,  $F(1, 76) = 16.65, p < .01$  (Table 2). At this level the females scored higher than the males. This disproves the prediction that males have better intelligence than their female counterparts. A significant effect of self-efficacy was also found,  $F(1, 76) = 9.34, p < .01$ . Table 1 shows that the high self-efficacy group scored higher than the low self-efficacy group. No significant interaction effect of self-efficacy and gender was found in intelligence.

### Discussion

The purpose of this study was to examine the function of self-efficacy and gender differences as revealed in the intelligence test. Results show significant gender differences in intelligence, females have scored higher than their male counterparts. This disproves the hypothesis that males score higher than females. This may be due to our social norms and family restrictions, females are not much exposed to the outside environment and they do not direct their feelings and devote maximum time to indoor activities and intellectual pursuits. Though the males seem to be careless and inconsistent in their studies, it cannot be established that they are less intelligent than the females. This could be due to the different variables controlling their behavioral pattern. They often share the burden of the family and remain preoccupied with different assignments. That may have a negative bearing on the performance of the males in comparison to the females who, generally, remain confined to their homes.

Intelligent persons can better understand how the outcomes are related to their own behavior. Their sharper intellectual skills seem to have facilitated their understanding of the behavior outcome linkage. And intelligent person would understand why he/she was

doing well in studies (It could be due to hard work, unending efforts, patience, interest, motivation, etc). Thus, intelligent persons seem to show a deeper understanding of the causes of success and failure outcomes, and have greater probability of displaying desirable behavioral acts and giving up undesirable ones to achieve important goals.

The less intelligent students are liable to have less sharp cognitive and analytical skills, and they perhaps, would not appropriately understand the contingency between the behavior and outcomes. Also, less intelligent students do not display high levels of autonomy in their behavior. Since, they are unsure of their capacities and performance, they tend to depend more on others for guidance, eventually, this may form an integrated part of their motivational make-up, and they may end up doing a task not for the sake of itself, but due to other reasons such as obeying rules, gaining adult approval, avoiding negative consequences, guilt, anxiety, and the like. Ellis (1965) has remarked that difference in achievement levels is due to difference in intelligence quotient and is associated with mental age.

Intelligence has been found to be moderately related to IAR (Intellectual Achievement Responsibility) (Crandall, Katkovsky & Crandall, 1965) a construct related to locus of control. It seems that intelligent children would tend to assume greater responsibility for their intellectual achievements as compared to less intelligent or dull children. Consequently, they shall more readily see their success and failure in an objective manner.

Kagan and Freeman (1963) found that in case of boys, the only consistent correlate of high intelligence in childhood is involvement

in intellectual mastery during adolescence. For girls, intelligence was found to predict several variables of period of adolescence including concern with intellectual competence. Moreover, intelligence may be related to intrinsic motivation, and this, in turn, may be related to such motivational resources as considered in the present context (Deci & Ryan, 1993).

The result of present study show that the high self-efficacy (HSE) group scored better on intelligence test than the low self-efficacy (LSE) group. Here, the hypothesis No. 2 has been proved that high self-efficacy (HSE) group scores higher on intelligence test than the low self- efficacy (LSE) group. High self-efficacy (HSE) subjects are more confident about their potentialities. They take the stressful situations as challenging and believe in their achieving abilities thereby increase their efforts to cope with them as compared to the low self-efficacy (LSE) subjects (Bandura, 1986; Podsakoff & Farh; 1989). Individuals of high self-efficacy (HSE) group are to experience feelings of satisfaction, competence, persistence and control (Baron, 1998; Kloosterman, 1997; Wassertein, 1995). Payne (2000) in a recent study also found that a relationship exists between general self-efficacy and physical aggression.

The High self-efficacy (HSE) group has the capacity to use the intellectual efforts in more creative tasks and always tries to explore new horizons of success. They prove to be helpful, graceful, energetic, aesthetic, and optimistic, do not easily loose their temperament and adjust with the environment as per the demand.

Low self-efficacy (LSE) group scored less on the intelligent test and the individuals of this group may use reversal in denial or repression against the people or event. If the people's attitude toward the low intelligent individual is cold, abusive, and inconsistent, it lays foundation for the individual to develop a sense of basic hostility toward the people. The High

self-efficacy (HSE) group, in spite of having the potentiality to face stressful situation, often cannot openly express its anger or hostility for the fear of the powerful people or situations and therefore they repress their feelings. On the other hand, the low self efficacy (LSE) and less intelligent group used reaction formation against the frustrating situations, self-assured and able to compensate inferiority feelings, showed adventurous and risk taking behavior to cope up with the stressful situation. Self-efficacy expectancies refer to personal action control and this "can do" – cognition mirrors a sense of control over one's environment. It reflects the belief of being able to control challenging environmental demands by taking adaptive action.

The subjects were also studied according to their economic parameters. On the basis of their family income, they can be grouped into the high-income and low-income categories. However, it was seen that with all the facilities available, the high-income group students are not necessarily better in intelligence than the low-income group students who can outscore them in studies and in day-to-day life. In the present study no significant interaction effect of gender and self-efficacy was found.

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