
PSYCHOLOGICAL STRENGTH AND LEARNING ORGANIC CHEMISTRY

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Abstract: The study aims to determine Psychological strength and learning organic chemistry among higher secondary school students. A random sampling technique was adapted for the selection of sample in the schools. Then random convenient sampling technique was adopted and the sample of 50 higher secondary school students doing well and getting very good marks in organic chemistry were selected for the study. The investigator decided personal growth, Happiness, Resilience as some of the factors of psychological strength which are responsible for learning organic chemistry. Personal Growth Initiative Scale (2011) by Christine Robitschek, Happiness scale by Michael Argyle and Peter Hills, Resiliency scale (2006) by Ahern N, Kiehl E, Sole ML, and Byers J, were used to collect data. Results were statistically analyzed through Descriptive Analysis, Differential Analysis, Relational Analysis, and Chi-square Analysis in this study for the Psychological strength and learning organic chemistry. It has been proved that psychological strength has played a very important role in learning organic chemistry and personal growth, resilience, and happiness are contributing factors for their learning organic chemistry.

Key Words: Personal growth, Happiness, Resilience.

Introduction: Positive psychology is a growing area that attempts to balance positive aspects of human life and development with negative developmental challenges such as psychopathology (Seligman & Csikszentmihalyi, 2000). Positive psychology is interested in adaptive characteristics of individuals including creativity, positive emotions, positive behaviors, happiness, fulfillment in life, and other factors that lead an individual to the best possible functioning (Sheldon & King, 2001). According to Seligman and Csikszentmihalyi (2000) there are three areas of positive psychology. The first is positive subjective states (e.g., happiness, love, contentment), which are positive emotions. Secondly, positive individual traits (e.g., courage, wisdom, resilience) which are positive patterns of behavior. Thirdly, positive institutions, which are studied at a society level to increase their personal growth and include healthy family and work environments thus, positive psychology studies the positive aspects of human behavior and flourishing on many different levels. Positive psychology seeks to study and understand what people do right and what leads to "the good life" (Compton & Hoffman, 2013). The good life simply refers to the most fulfilling a life that is lived well. Seligman (2002) described the good life as being able to use personal strengths daily in order to attain true happiness and significant gratification. The good life is attained through personal growth and feeling connected to others, having positive personal traits, and life regulation abilities (Seligman, 2002). Studies have discovered that negative and positive emotions are more independent than dependent; thus, they can have different causes and co-occur (Schimmack, 2008). Increased personal growth and development is the goal of a wide range of men and women. It includes those who suffer from problems in their relationship with others, or who suffer emotionally

with feelings of low self-esteem, anxiety, or depression. It also includes individuals who are marginally successful or even very successful in life, but who want to improve their efficiency, their ability to be and feel intimate and relate to others, and/or their general level of satisfaction with, and enjoyment of living. Those who feel "happy" about life have often developed a sense of self-awareness, self-knowledge, and self-esteem. They have come to see that their personal growth enhances their outer relationships, work, and sense of success. The experience of happiness is different for different people. Some people like to feel content, satisfied and without the sense of yearning. Others feel good about themselves when they feel energized about a "purpose" in life. Still others focus on the happiness that comes from "sharing" with others-rather than looking for someone or something to bring happiness to them. If there is one goal in anyone's life, it is always to succeed at something. Whether you want to succeed at business, sports, relationships, or in education. It requires a certain mindset to get you constantly moving towards psychological strength.. Therefore, decreasing negative emotions will not automatically increase positive emotions. Positive emotions must be enhanced independent of changes in negative emotions. Fredrickson described ways in which positive emotions can be enhanced such as laughing, being empathetic, and challenging oneself (Fredrickson & Joiner, 2002). Many individuals report relatively favorable levels of subjective well-being (SWB) and happiness, and that they take pleasure in daily life, including work, play, and interactions with family and friends. Resilience is essential in today's world. In today's workplace everyone feels pressured to get more work done, of higher quality, with fewer people, in less time, with fewer budgets. In our personal lives things are

changing so rapidly everyone must learn how to be change proficient, cope with unexpected setbacks, and overcome unwanted adversities. Research shows that resilience isn't a rare quality found in a few, extraordinary people. One expert in the subject, Dr Ann Masten, describes it as 'ordinary magic' noting that it comes from our normal, everyday capabilities, relationships and resources. Resilience isn't a static characteristic of an individual but comprises many factors, internal and external. And we can be naturally resilient in some situations or at sometimes in our lives and not others. Each person and each situation is different. Additionally, Everly (2009) concluded that a central tenant of positive psychology is resilience. Resilience can be thought of as a person's ability to cope effectively with negative life experience, and can develop as a person experiences positive personal growth through negative events (Dunn, Uswatte & Elliot, 2009). A variety of protective factors inside the person, in the culture, and in the environment combine to foster resilience (Greve & Staudinger, 2006). Thus, resilience is a vital part of human flourishing. Two conditions enhance resilience in people (Peters, Leadbeater & McMahon, 2005). First, adversity has impacted the person, and secondly, the person adapted and functional well during or after the adversity (Peters et al., 2005). When people are able to adapt well to life's responsibilities, obstacles, and setbacks, they are resilient (Joseph, 1994). A resilient person effective coping strategies, attitudes, and personal attributes when dealing with stressful life events (Joseph, 1994). A high level of well-being results from many factors including overcoming negative life experiences and developing resilience (Wong 2010). Everly (2009) hypothesized that an individual's to have low or high resilience may be related to either being happy or regretful. To foster resilience one must be able to deal with stress effectively because adversity is bound to happen at some point in every person's life. Being resilient promotes health and happiness. To promote resilience one must create inner strength by using actions, beliefs, and principles. Actions include social support, making good decisions, taking responsibility, and living a healthy life style. Beliefs include being optimistic and having faith. One of Everly's (2009) principles of resilience is having moral guidelines and integrity. Happiness becomes a personal project, that each of us must now work on, like going to the gym. Since the 1970s, depression has come to be viewed as cognitive or neurological defect in the individual, and never a consequence of circumstances. All of this simply escalates the sense of responsibility each of us feels for our own feelings, and with it, the sense of failure when things go badly. Everly argued this concept is important when relating

happiness to resilience because the American culture promotes happiness as attaining materialistic objects, but true happiness should be a journey of living a life of integrity which is being resilient. People can achieve happiness through integrity by reflecting on what they accomplished and how they did it, which also leads to resilience. Psychological research has shown that people who are resilient tend to think in certain (adaptive) ways. And draws on two related theories: sense of coherence and hardiness, which both have been linked to resilience. Generally students are finding it very difficult to learn mechanisms and reactions organic chemistry. So investigator thought there should be some psychological strength needed by the students to learn organic chemistry. Personal growth, happiness and resilience are one of the factors of psychological strength which will definitely improve students' performance in organic chemistry. By having all these idea in mind, researcher has chosen the present topic as Psychological strength and learning organic chemistry for the present researcher.

Sample: A convenient random sampling technique was adapted for the selection of sample the schools selected for this study. Then random convenient sampling technique was adopted to select the sample. 50 students were taken for the study. 25 students boys and 25 students girls were taken from schools.

Statement of the Problem: Psychological strength and learning organic chemistry among higher secondary school students was chosen for the study.

Objectives of the Study:

1. To differentiate boys scores with that of girls in personal growth, happiness and resilience of the total sample.
2. To correlate personal growth, happiness and resilience of the total sample.
3. To find out the impact of personal growth, happiness and resilience.

Hypotheses of the Study:

1. Gender has no impact on personal growth, happiness and resilience.
2. Personal growth, happiness and resilience are not interrelating.
3. Personal growth has no relationship with happiness and resilience.

Research tools selected for the present study:

The following tools have been used by the investigator to carry out this study.

1. Personal data sheet developed by the investigator.
2. Personal Growth Initiative Scale by Christine Robertschek (2011).
3. Happiness scale by Michael Argyle and Peter Hills (2002).
4. Resiliency scale by Ahern N, Kiehl E, Sole ML, and Byers J. (2006).

Delimitations of the Study:

- The study was restricted to Higher Secondary School Students.
- Schools were selected from Ariyalur District of Tamil Nadu.
- A Sample size was 50 Higher Secondary School Students.

Table-1: Differentiation of personal growth scores of Boys and Girls

Variable	Gender	N	Mean	S.D	C.R	L.S
Personal Growth	Boys	25	41.2	6.27	2.73	0.01
	Girls	25	45.68	5.30		

Significant

From the table 1 and also from figure A, it is clearly understood that the calculated 'Critical Ratio' values are significantly greater than that of the table CR values ($P < 0.01$, $N=25$) in the case of boys and girls from the school sample. Hence the hypothesis is rejected and proved that there is significant difference between personal growth of boys and girls from School sample.

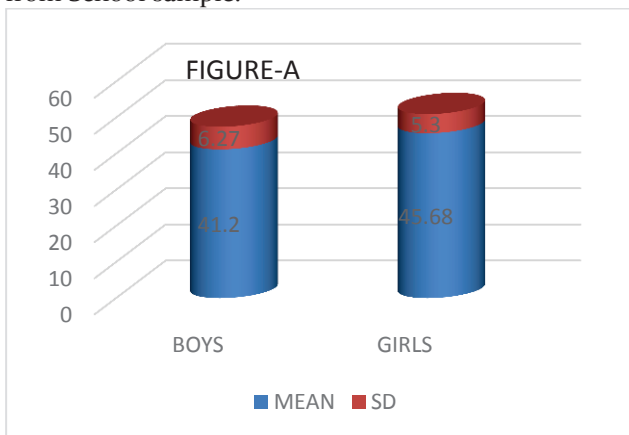


Table-2: Differentiation of Happiness scores of Boys and Girls

Variable	Gender	N	Mean	S.D	C.R	L.S
Happiness	Boys	25	121.68	10.83	3.442	0.01
	Girls	25	134.52	15.19		

Significant

From the table 2 and also from figure B, it is clearly understood that the calculated 'Critical Ratio' values are significantly greater than that of the table CR values ($P < 0.01$, $N=25$) in the case of boys and girls from the school sample. Hence the hypothesis is rejected and proved that there is significant difference between happiness of boys and girls from School sample.

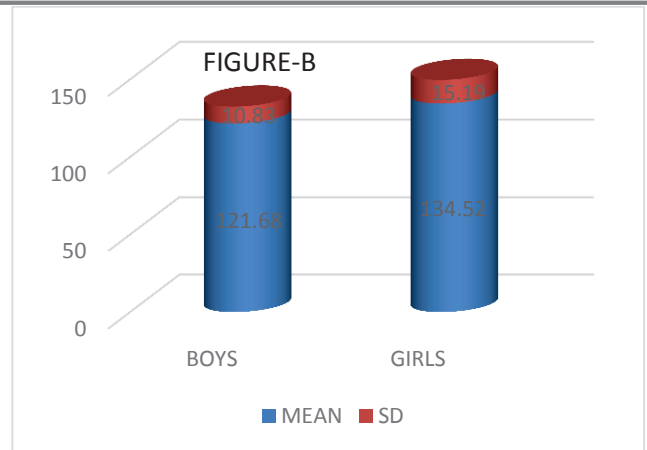


Table-3: Differentiation of Resilience scores of boys and girls.

Variable	Gender	N	Mean	S.D	C.R	L.S
Resilience	Boys	25	126.92	15.51	2.383	0.05
	Girls	25	136.12	11.55		

Significant

From the table 3 and also from figure C, it is clearly understood that the calculated 'Critical Ratio' values are significantly greater than that of the table CR values ($P < 0.05$, $N=25$) in the case of boys and girls from the school sample. Hence the hypothesis is rejected and proved that there is significant difference between Resilience of boys and girls from school sample.

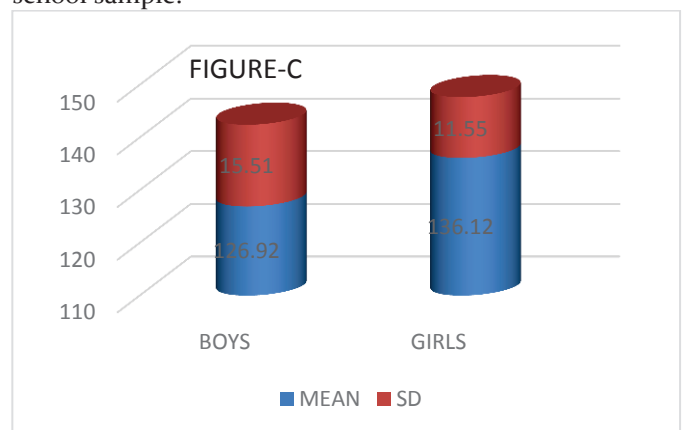


Table-4: Relationships between personal growths with Resilience

Variable	Gender	N	Correlation	T-test	L.S
Personal Growth	Boys	25	0.4817	2.6361	0.01

and resili- ence	Girls	25	0.6400	3.99 49	0.0 1
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Significant

From the table 4, and also from figure D, it is understood that calculated correlation coefficient values is more than that of table correlation coefficient values ($P < 0.01$ $N=25$). Hence hypothesis is rejected and proved that there is significant relationship between personal growth and resilience in the case of boys and girls from school sample.

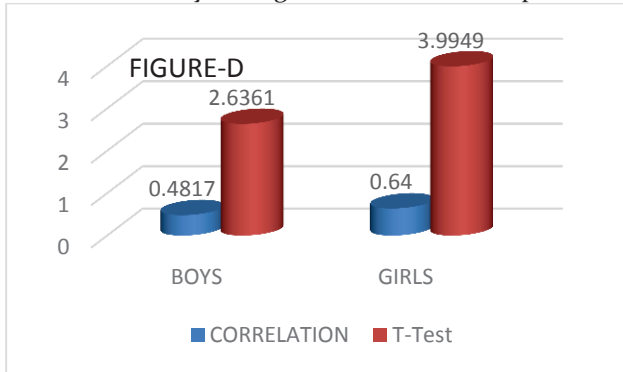


Table-5: Relationships between personal growths with Happiness

Variable	Gender	N	Correlation	T-test	L.S
Personal Growth and Happiness	Boys	25	0.2353	1.1610	N.S
	Girls	25	0.5781	3.3975	0.01

Significant, N.S-Not significant

From the table 5, and also from figure E, it is understood that calculated correlation coefficient values is more than that of table correlation coefficient values ($P < 0.01$ $N=25$). Hence hypothesis is rejected and proved that there is significant relationship between personal growths and happiness in the case of girls from school sample. In the case of boys of personal growths and happiness, the calculated coefficient values were less than that table of correlation values. Hence the hypothesis is accepted and proved that there are no significant relationships between Personal growth and happiness in the case of boys from school sample.

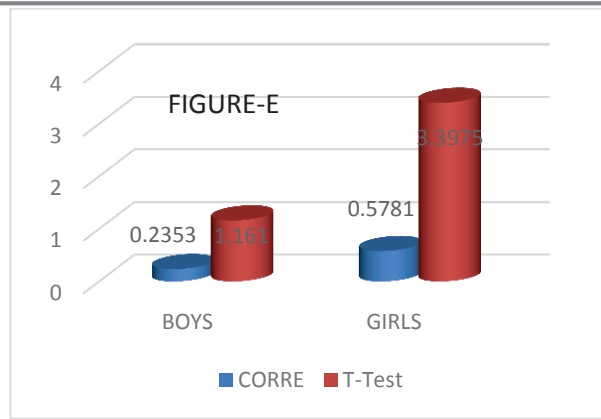


Table-6: Relationships between Happiness with Resilience

Variable	Gen- der	N	Correla- tion	T-test	L.S
Happi- ness and resilience	Boys	25	0.2033	0.9957	N.S
	Girls	25	0.6746	4.3825	0.01

Significant, N.S-Not significant

From the table 6, and also from figure F, it is understood that calculated correlation coefficient values is more than that of table correlation coefficient values ($P < 0.01$ $N=25$). Hence hypothesis is rejected and proved that there is significant relationship between happiness and resilience in the case of girls from school sample. In the case of boys of happiness and resilience, the calculated coefficient values were less than that table of correlation values. Hence the hypothesis is accepted and proved that there are no significant relationships between happiness and resilience in the case of boys from school sample.

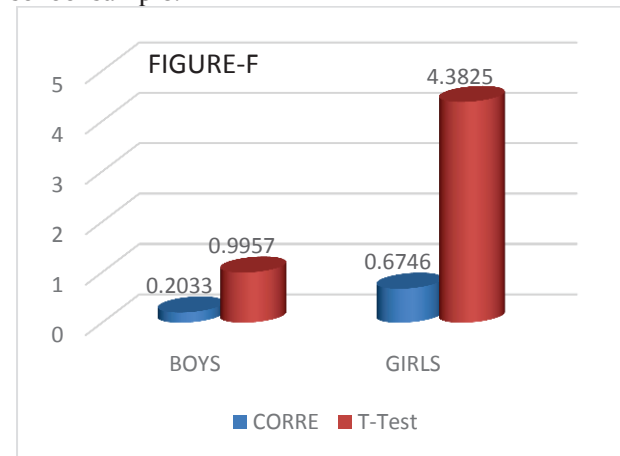
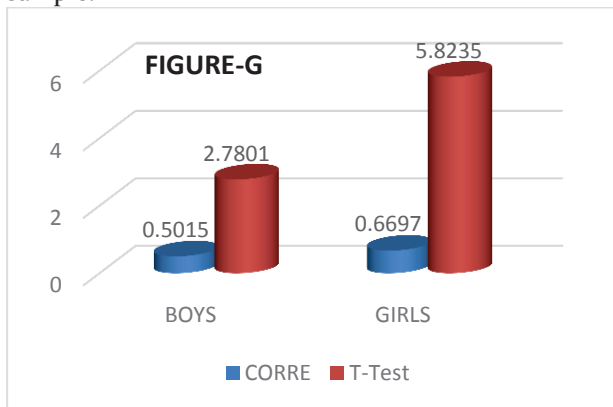


Table-7: Multiple regression analysis of personal growth with happiness and resilience.

Variable	Gender	N	Correlation	T-test	L.S
Personal Growth, Happiness, resilience	Boys	25	0.5015	2.7801	0.01
	Girls	25	0.6697	5.8235	0.01

Significant

From the table 7, and also from figure G, it is understood that calculated correlation coefficient values is more than that of table correlation coefficient values ($P < 0.01$ $N=25$). Hence hypothesis is rejected and proved that there is significant relationship between personal growth, happiness and resilience in the case of boys and girls from school sample.



Evidence: Women and girls do face entrenched structural disadvantages in many societies, but focusing on women in isolation and not looking at their relations with men, boys and the wider communities, runs the risk of ignoring the relational nature of gendered power and the interdependency of women and men, and paint a distorted picture of women’s vulnerabilities, choices and possibilities’ (Demestriades and Esplen, 2009). In addition, Shaheen Moosa and Tuana (2014) stresses that ‘a gendered focus on climate change must look not only at the vulnerabilities of women and of men, but also at the ways in which their knowledge and situations render them resilient. A plethora of scholars have attempted to discern the causes of slow growth in the sub-saharan Africa region. The effects of global economic integration, corruption, geography and ethnic diversity have been widely explored. Mainstream growth analyses, however, have not yet integrated the body of scholarship that identifies the linkages between gender, economic development and growth (Stephanie seguinoa, and Maureen wereb 2013) examines the gender-poverty nexus in Pakistan, and how gender disparities relate to, and link with, poverty reduction, economic growth and wellbeing. Females, who had trouble in adolescence, tend to

have a better outcome as adults than males who had a troubled past (Werner, 2005). Longitudinal research on resilience supports that gender and gender roles are associated with resilience (Werner, 2005). Khawar Mumtaz(2007) results indicates a significant relationship between ethnicity and levels of personal growth, use of religious coping, and type of loss. The present study found no clinically significant differences in male and female college student’s bereavement characteristics. (Rachel weiskittle, 2015) One of the pillars of positive psychology according to Wong (2010) is resilience. Vaillant (2003) wrote that one way to view mental health is through resilience, which he defined as the use of coping strategies to overcome stressful life experiences. Additionally, Everly (2009) concluded that a central tenant of positive psychology is resilience. Resilience can be thought of as a person’s ability to cope effectively with negative life experiences, and it can develop as a person experiences positive personal growth through negative events (Dunn, Uswatte & Elliot 2009). A variety of protective factors inside the person, in the culture, and in the environment combine to foster resilience (Greve & Staudinger, 2006). Thus resilience is a vital part of human flourishing.

Findings:

1. Hence the hypothesis is rejected and proved that there is significant difference between personal growth of boys and girls from School sample.
2. Hence the hypothesis is rejected and proved that there is significant difference between happiness of boys and girls from School sample.
3. Hence the hypothesis is rejected and proved that there is significant difference between Resilience of boys and girls from school sample.
4. Hence hypothesis is rejected and proved that there is significant relationship between personal growth and resilience in the case of boys and girls from school sample.
5. Hence hypothesis is rejected and proved that there is significant relationship between personal growths and happiness in the case of girls from school sample. In the case of boys of personal growths and happiness, the calculated coefficient values were less than that table of correlation values. Hence the hypothesis is accepted and proved that there are no significant relationships between Personal growth and happiness in the case of boys from school sample.
6. Hence hypothesis is rejected and proved that there is significant relationship between happiness and resilience in the case of girls from school sample. In the case of boys of happiness and resilience, the calculated coefficient values were less than that table of correlation values. Hence the hypothesis is accepted and proved that there are no significant relationships between happiness

and resilience in the case of boys from school sample

7. Hence hypothesis is rejected and proved that there is significant relationship between personal growth, happiness and resilience in the case of boys and girls from school sample.

Discussion: This means that it is easier to meet higher needs when basic human needs are mostly met, but it is not impossible to meet advanced needs without basic needs being met. When a child grows up without basic needs being met and has a successful life, this is due to unusually high resilience including the ability to be resistant to stress and rebound from adversity (Everly, 2009). Furthermore, both genetic and environmental factors impact how resilient an individual will be when combined with psychological factors such as temperament, personality, self-regulation skills, cognitive factors, and sociability (Deater-Deckard, Iyengar, & Smith, 2005) true happiness should be a journey of living a life of integrity which is important in being resilient. People can achieve happiness through integrity by reflecting on what they accomplished and how they did it, which also to resilience (Everly, 2009). Lyubomirsky (2001) wrote that happy individuals are more likely to view life events more positively and be able to better cope with stressful life events than unhappy individuals. Joseph (1994) similarly stated that resilient individuals view negative life events in a positive and helpful manner. Perception of childhood events had a positive relationship with resilience. This reveals that individuals who reported a more positive childhood also reported higher resilience. Possibly, individuals with higher resilience were able to more effectively cope with adversity in their

childhoods, which made them perceive it as better. On the other hand, respondents whose childhoods were truly filled with fewer negative events could view themselves as being more resilient due to not having to overcome as much adversity as other individuals. The literature has supported the finding that people who are more positive when faced with challenges are more resilient (Joseph, 1994; Shimizu & Belic 2011). Perhaps, these respondents viewed adversity in their childhoods as a positive challenge which led to them being resilient and viewing their childhoods more positively. Teachers are expected to demonstrate love to students. They are also expected to serve as mentors and motivate students who are unwilling to learn. Such kind of expectations leads to a kind of discrepancy between the expected and emotions of teachers leading to some kind of stress. This may be detrimental to student's personal growth. These psychological attributes are crucial for exploration to know their dynamic in the personality make up of students. As Cooper (2005) notes, individuals in the future will have to take responsibility for their own personal development. Since juggling different work demands and stakeholders at work can lead to a lifestyle of long working hours and workaholicism, it is important to appreciate the importance of sustaining a personal and family life outside work. That is, better educated parents with higher than average occupational status should place a priority on the development of a child's human capital in the form of good health and educational success.

Conclusion: Personal growth, happiness and resilience as some of the factors of psychological strength will definitely improve the learning in organic chemistry.

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