

**RELATIONSHIP OF TEACHERS' RESILIENCE
WITH STUDENTS' ACADEMIC RESILIENCE
AND LIFE SKILLS DEVELOPMENT AT
HIGHER SECONDARY LEVEL**

By

Nighat Parveen



**NATIONAL UNIVERSITY OF MODERN LANGUAGES
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Nighat Parveen

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ABSTRACT

Thesis Title: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

Resilience helps individuals to bounce back at any adverse moment. This study was designed to examine teachers' resilience, students' academic resilience and students' life skills development at higher secondary level. It aimed to find out the relationship of teachers' resilience with students' academic resilience and with their life skills development. It investigated the relationship between students' academic resilience and their life skills development. The study also envisioned an investigation of research variables in relation to demographic variations among respondents. Null hypotheses were framed to achieve the research objectives. The research design was descriptive and used a quantitative approach. All the students enrolled in Intermediate part-II and their teachers constituted the population of the study. The population consisted of 620 teachers and 5783 students. Data were collected from a sample of 174 teachers and 588 students at higher secondary level using the multi-phase sampling technique. Three research instruments were used for data collection. Means, percentages, correlation coefficient, t-test and analysis of variance were applied to data. The descriptive analysis revealed that resilience level of teachers was high with skill, education and family and identity as major sources of resilience. Students' academic resilience and life skills development were also at high level. Teachers' resilience was significantly associated with students' academic resilience and their life skills development. A positive and significant association existed between students' academic resilience and their life skills development. The investigation on gender differences revealed no significant difference in overall teachers' resilience and overall students' academic resilience. However, gender-based difference existed in students' overall life skills development at higher secondary level in favour of females. Demographic variations other than gender placed no significant differences on research variables. Community being identified as a weak source of teachers' resilience may be improved by providing memberships of libraries, clubs and opportunities for socializing. Short courses, projects, debates, speeches and classroom strategies may help students improve their leadership life skill.

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LIST OF ABBREVIATIONS

<i>ANOVA</i>	One-way analysis of variance
B.Ed	Bachelor of Education
CD	Confidence
CF	Community Factor
CM	Commitment
CN	Communication
CP	Composure
CR	Coordination
CT	Control
<i>df</i>	Degree of freedom
DM	Decision Making
EF	Education Factor
e.g.	For example
EP	Empathy
etc.	And so forth
<i>F</i>	Value of ANOVA
FA/FSc.	Faculty of Arts/ Faculty of Science
FDE	Federal Directorate of Education
FIF	Family and Identity Factor
<i>H₀</i>	Null Hypothesis
HLS	Healthy Lifestyle
HSSC-II	Higher Secondary School Certificate Part-II
ICT	Islamabad Capital Territory
i.e.	that is
IMCB	Islamabad Model College for Boys
IMCG	Islamabad Model College for Girls
IMCs	Islamabad Model Colleges
LD	Leadership
M.Ed	Master of Education
MF	Money Factor
M.Phil	Master of Philosophy

M.Sc	Master of Science
<i>N/n</i>	Sample
No./no.	Number
NUML	National University of Modern Languages
<i>P / Sig</i>	Significance Level
PF	Peer Factor
Ph.D	Doctor of Philosophy
PYD	Positive Youth Development
<i>r</i>	Correlation Coefficient
READ	Resilience Scale for Adolescents
RSA	Resilience Scale for Adults
SAR	Students' Academic Resilience
SD	Standard Deviation
SF	Skill Factor
SLSD	Students' Life Skills Development
SPSS	Statistical Package for Social Sciences
SR	Self Responsibility
<i>t</i>	Value of t-test
TAR	Teachers' Awareness of Resources
TLSM	Targeting Life Skills Model
TSE	Teachers' Self-efficacy
TSET	Teachers' Self-esteem
TR	Teachers' Resilience
UK	United Kingdom
UMLS	Useful Marketable Life Skills
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization
WUR	Wise Use of Resources
yrs	Years
4H	Heart, Head, Hands, Health
5Cs	Confidence, Coordination, Commitment, Composure, Control
<	Less than
>	More than
%	Percent

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Nighat Parveen

**DEDICATED
TO
THE GREATEST EDUCATOR
AND BENEFactor OF MANKIND
THE HOLY PROPHET MUHAMMAD
خاتم النبيين ﷺ
WHOSE FIRST LESSON IS
'IQRA'
"READ! IN THE NAME OF YOUR LORD, WHO HAS CREATED (ALL THAT
EXISTS),
[AL- 'ALAQ 96:1].**

CHAPTER 1

INTRODUCTION

1.1 Background of the Research Study

During the current era of scientific wonders, man is enjoying greater ease and comfort of modern life but concurrently his life has become harder and tougher as well. Life today faces new challenges, greater expectations, and an ever-greater zeal towards the achievement of ambitions, dreams, and goals. For success in modern life, individuals need to possess certain characteristics that might help extract positive outcomes from all the efforts made. When someone is going through tough times, he or she is required to appreciate the available resources, make good decisions, and find out solutions to problems for attaining his or her set targets. Such an ability of individuals is called resilience. Resilient people can spring back successfully from hard events of life to lead happier lives. It is the major ingredient of human health and wellbeing.

Vella and Pai (2019) conducted a theoretical review of resilience research. Resilience is a construct presented by positive psychology. Despite decades of research, there is no agreement on the definition of resilience. As commonly described, resilience is the ability to bounce back or overcome adversities along with positive outcomes. A debate continues to decide whether resilience is a personal characteristic, a process or an outcome.

Werner (1971) used the term resilience for the first time in the field of psychopathology. She investigated the effects of inverse factors on child development. It was discovered that many children successfully managed a normal developmental pattern despite chronic risk factors working in their lives. These findings paved the way towards investigations of factors that can enhance resilience. The term “resilience” was later used in all fields of studies in different contexts.

Wolin and Wolin (2010) conceptualized resilience as a trait or capacity to confront, recover, bounce back and mend oneself in the moment of adversity. Luthar and Cicchetti (2000) presented resilience as a two-dimensional construct that at one end considers the adversity and at the other end deals with its outcomes in the form of a positive adjustment. Garmezy (1993) concluded resilience research in two ways, one mentions the risk factors and the other deals with the factors that protect individuals from these risks. Masten (1994) deals with resilience as a dynamic process of reaching an equilibrium between risks and coping abilities.

Among the earliest resiliency researcher, Gordon (1995) defined resilience as a capability to thrive when facing adversity that might be biological or environmental. According to Beltman, Mansfield, and Price (2011), the interaction between individuals and the surrounding environment develops resilience. There are some vital individual attributes including self-efficacy, confidence, and certain skills which help in coping with obstructions and challenges (Castro, Kelly, & Shih, 2010). Resilience is the characteristic that empowers people to ascertain opportunities through difficulties rather than being damaged by them. It is the process that anneals an individual like a piece of metal that had been broken, melted, and fixed again for a better shape and strength. It builds up the competence to cope with adversities so that the overall wellbeing of an individual improves. To be resilient, one needs to know the most

helpful resources available in a tough time. Worsley (2006) defines resilience as an ongoing process in which personal competence is developed as a result of negotiating the available resources at the moment of adversity. Her approach to resilience as ‘a process’ encourages researchers to find ways of improving resilience and designing resilience improvement programs.

No doubt, resilience is an important construct for any individual but in an educational set up the resilience of a teacher plays a central role (Pretsch, Flunger, & Schmitt, 2012). A teacher acts as a role model for students. Teachers have to face problems such as scarcity of resources, non-availability of teaching aids, inappropriate training, overcrowded classrooms, financial instability, too many expectations of parents, students, and administration and issues in personal life, etc. The way a teacher is influenced by adversities, places an impact on his students too, as both have to interact for sufficient duration during the teaching-learning process. Similarly, the way a teacher resolves problems and develops strategies for achieving his goals in a classroom always inspires the students. It is usually ignored when teachers demonstrate how overworked they feel, when they might grow discontent with teaching itself, when they develop a detachment with students and grow fraying relationships with fellow teachers and administrations. Hargreaves and Fink (2006) believed that teaching is a challenging profession in the current era of diversity and sustainability.

Daily Khabrain (2019, May 14) reported the psychological collapse and later on the death of a young teacher (Asma) who couldn't withstand the inappropriate behaviour of the administration and peers. She was asked for a spoken English presentation which preceded the unfortunate incident. Further information revealed that she was facing financial constraints and social issues as well. It indicated that factors such as peer, money, skill, education, community, family and identity were not working

well for her. Worsely (2006) has identified these factors as major sources of resilience in an individual's life. Incidents such as mentioned above indicate the vulnerability of teachers in the local context of Pakistan. Therefore, research is needed to focus upon all those factors which help teachers enhance their motivation and commitment rather than investigating the factors which lead them to quit the job (Day, 2008). Researches have established that teachers' resilience is significant for the well-being of teachers (Brouskeli, Kaltsi, & Loumakou, 2018).

Henderson and Milstein (2003) identified that students cannot become resilient without having teachers as resilient role models who establish the main source of inspiration for them. Schofield and Bates (2016) opined that the best teachers and schools are those who know how to build strong and resilient pupils. Hence, most governments focused upon the required initiatives regarding teachers to be trained in such a manner that they become capable of building character and resilience, not just academics. Characteristics like resilience, persistence, grit, self-confidence, self-esteem are indeed imperative and if students are not getting these from homes, school is the other way to attain these traits. Cultivating abilities to cope with distresses can help boost academic attainment. These are considered two sides of the same coin, so by having skills of persistence and resilience, students can be helped in academic attainment (Schofield & Bates, 2016).

Despite recent researches, resilience is a concept that still needs refinement. Managing adverse situations is not simple, one has to bounce back effectively and efficiently (Malloy & Allen, 2007). Although stressors that teachers have to face in their routine are very well-investigated and reported, limited research work has been conducted in the area of teachers' resilience (Goddard & Foster, 2001; Tait, 2008). During the last two decades, researchers have started exploring this new area in the

field of education. The fundamental research question which remained the center of inquiry was; what are the factors that sustain teachers and empower them to thrive rather than to just continue their field of the profession (Gu & Day, 2007).

Quite similar is the case of students who need to face, bounce back, and thrive at the moment of an adverse academic situation. Difficulties may lead students to flunk out of college. But the danger is not only flunking out of the college; it might be much more. Therefore, it is needed to foresee the likelihood of emotional collapse of students before it happens. Rehmani, Khan, and Fatima (2018) reported that stress, anxiety, and depression are prevalent among Pakistani students. The students currently are more stressed up due to unreasonable competition in educational setup particularly at the higher secondary level causing stress and tension among them. In Pakistan, students who plan to join professional colleges after their higher secondary education have to strive through rigorous competitions for admissions regardless of having achieved remarkable scores in central examinations at the intermediate level. They face various hardships such as time management, financial issues, high expectations of parents and teachers, uncertainty about the future, learning modern concepts in a traditional environment, peer pressure, self-esteem, confidence, competency, social norms, and religious duties, etc. Briefly speaking, the higher secondary level students are expected to achieve high scores at school in the face of numerous adversities. In other words, they are expected to be academically resilient to work through hardships. Resilience is generally conceived as competence to thrive back in the face of challenges, but academic resilience is conceptualized specifically as the capability of students to effectively face adversity, tension, or pressure in academic circumstances. It is the capability of a student to beat the odds for academic attainments. Since the 1990s, researchers such as McMillan and Reed (1993) started a context-specific investigation

in the field of resilience. With that, resilience studies began in the context of education too. The construct of academic resilience emerged for new expeditions. Research studies assisted in identifying the characteristics of individual students that help them beat the adversities and improve their academic outcomes (Wang, Haertel, & Walberg, 1994).

Investigations have discovered a significant positive relationship between academic achievement and academic resilience. It was discovered that resilient students were academically more successful at school and could thrive. Therefore, efforts were recommended to promote academic resilience among students for more positive outcomes. However, it is accepted that the construct of educational resilience is still vague and not precisely defined. It is needed to explore various factors that may influence the academic resilience of students (Mwangi, Okatcha, Kinai, & Ileri, 2015).

In 2006 Martin and Marsh, investigated elements for predicting academic resilience. They suggested 5Cs including confidence (self-efficacy), coordination (planning), commitment (persistence), composure (low anxiety), or control (low uncertain control). Their later studies (Martin & Marsh 2008a; 2009) bifurcated the concept of resilience in educational settings as academic resilience and academic buoyancy. According to them, academic resilience is the ability of an individual to deal with a more chronic adverse situation, while academic buoyancy is referred to as everyday resilience. They are of the view that overall success might be achieved if one gets the capability of responding effectively to adverse academic situations. Resilience helps individuals in learning adaptive action when challenging life events occur. Hence, the individuals gain skills and competence which make them stronger and more successful as compared to those who lack such adaptability (Chung, 2008). It is due to academic resilience that students do not crumble under the stressful spells of studies

and examinations, instead, they take the challenge and energize themselves from the situation.

Studies have indicated various personal factors to foster academic resilience. Harrington, (2013) described seven elements of academic resilience which are self-confidence, Risk-taking, Optimism, willingness to learn from mistakes, concern about what you can control not what you can't, a strong network of trusted people, and efforts to build connections on campus. Doll and Lyon (1998) have also described a summary of factors affecting academic resilience in three categories which are individual or personal, family, school, and community. Recently, Stelnicki, Nordstokke, and Saklofske (2015) in a qualitative study investigated factors for academic resilience. Their research was designed to identify the personal resources and characteristics that play a key role in achieving personal goals. Research studies have helped in exploring the elements for improving resilience in vulnerable children. Resilience helps in building lifelong skills such as solving problems, communication, empathy, self-efficacy, confidence, determination, perseverance, and motivation. Resilient people get the ability to make realistic choices and follow their plans. Hence, life skills that are cultivated and fostered via the educational process by resilient teachers might support students to become academically resilient.

The life skills studies have included resilience as one of the important life skills. Additionally, its important attributes such as confidence, coordination, persistence, composure and control also remained part of the life skills development programs. Werner (1993) believes that research on resilience is important for progress in youth development programs. Researchers have indicated that focusing on deficits has caused iatrogenic harm to youth, therefore, it is needed to stop fixing youth by identifying risk factors, instead, a focus on strengths is required (Nixon, 1997). It might be difficult to

control risk factors rather it seems feasible to enculture and nourish strengths among people. Education equips individuals with the capabilities of making suitable decisions to cope with daily life circumstances. The skills which young people use to deal with their routine circumstances enhance their quality of life. These skills are named life skills. Youth with better life skills generates opportunities for themselves to become competent, capable, and contributing individuals to others. During the past two decades, the world around us has majorly focused on the development of life skills among youth through various educational programs and activities. These programs have clear objectives of enabling youth with skills that help them become productive participants of society by negotiating and mediating challenges and risks (World Health Organization, 1999). The researchers have given various definitions of life skills, but a single commonly agreed definition could not be developed.

The concept of life skills is elastic and wide open to explanation. Life skills include a long list of skills and knowledge which are different for different age groups. Some skills are related to personal life, some are related to the interpersonal and psychosocial domain of the individual, enabling him to act aptly, become emotionally intelligent, and make suitable decisions (WHO, 1999).

Hendricks (1998) has given the simplest definition of life skills. She defines life skills as competence that is acquired to do something well. Life skills development is related to the knowledge and skill that one can apply to everyday life. In most life skills development programs, practice and experience are used to teach skills until the skills become a force of habit. Hendricks (1998) developed a model named “Targeting Life Skills Model (TLSM)”. It is one of the most comprehensive models, as it targeted almost all areas of life under its 4Hs design. 4Hs are denoted for an individual’s health,

heart, handwork, and head (intellect). Each major H is further bifurcated into two subgroups. These eight subcategories further address 35 vital skills.

A student's progress from secondary school to higher secondary level puts certain challenges upon him/her. These challenges are beyond students' academic demands. Being part of the youth, they are expected to take up their role in everyday life activities besides their academic responsibilities. Thus, students need to modify their orientations towards progress in learning. They are usually faced with physiological, psychological, and environmental stressors making their responsibilities complex to be managed. They are required to regulate their freedom according to the norms set by society and religion. At this stage, they are not far from the obligations of their future life, so, they must be helped to become competent in life skills and to be prepared for the transition to adulthood. Their active participation in society can be ensured through educational programs. Hence, research work by scholars and educators is required to address various dimensions of this educational stage.

To the limited knowledge of the researcher, teachers' resilience, students' academic resilience, and life skill development are not much-explored areas of educational research in Pakistan. Teachers' jobs and lives remained a subject area in educational research, but their competencies still need to be explored for their progress as teachers. For the promotion of teachers' resilience, it is needed to investigate teachers' life with reference to key factors that affect their resilience. It is also desirable to examine the correlation between teachers' resilience and students' academic resilience. Similarly, life skills development has become a focused area for youth development. The modern curriculum is incorporating life skills as its imperative part. The role of a teacher in life skills training is of vital significance. Educational research is required to investigate the relationship between teachers' resilience and students' life

skill development. Moreover, the connection between students' academic resilience and their life skills development is also of key importance. The review of related literature discloses that in Pakistan there is no sufficient research work done in these areas at the doctorate level. Therefore, the present study was designed as an effort to add some contribution to this field of knowledge. It was focused to find out the relationship of teachers' resilience with students' academic resilience and students' life skills development at the higher secondary level. Discussion on teachers' resilience takes various demographic factors into consideration including gender, age, teaching experience, designation held, marital status, academic and professional qualifications, etc of teachers. Similarly, demographic variations among students like gender may also play a significant role. Thus, the effects of these demographic variables on teachers' resilience, students' academic resilience and life skills development were also taken into account.

1.2 The Rationale of the Research Study

No human being lives in an ideal situation. Everyone has to face problems and hurdles while struggling to achieve one's goals in life. Some take these hurdles as a challenge while others do collapse and fail to reach their goals. The reaction of individuals towards difficult situations depends upon their mental health. Researchers have invested efforts to find out the sources of success in life and have investigated factors causing failures which led them to introduce the constructs such as resilience. Resilience is seen as a necessary life skill in the modern era. Resilience and other life skills are fundamental for the mental health and wellbeing of individuals, especially in a society with constrained resources. Researchers have started thinking about the concept of resilience in the educational context during the past two decades. Therefore, it is considered a relatively new construct in the educational research field. Currently,

educational research is investigating factors affecting resilience and the strategies through which the resilience of both teachers and students might be enhanced for better educational outcomes. Its implications have been studied and are part of the considerate research activities of educational researchers around the world.

Teachers and students have to face numerous problems and steeplechases while making efforts to achieve their educational targets. The need for the psychological well-being of teachers is reflected when they commit corporal punishment to students which is reported from time to time at schools. Teachers who are not resilient may fail to develop resilience and other life skills among their students. This may result in students' dropout or failure as they fail to bounce back from pitfalls in academic settings. The educational process is not meant to program students for success only but it is meant to teach students how to handle failures. There is no sufficient work done on educational resilience especially at the doctorate level. Similarly, the concept of life skills development is also new in the educational setup. In Pakistan, the existing curriculum and teacher training programs do not support the constructs of teachers' resilience, students' academic resilience, and development of life skills. Traditionally, people in Pakistan have unique parenting styles, family structures, community bounds, and peer relationships, etc. Studies have identified them as external factors related to resilience. We can assume that these factors may unite in a unique manner to affect the resilience of teachers and students. Similarly, life skills development is not a direct subject of the curriculum at any level, while the world around us is practicing life skill development programs at all levels of formal and informal education to make their students competent and productive for the nation and themselves. Factors such as financial constraints, terrorism, social insecurities, and injustice may also have placed psychological effects upon teachers and students. To better equip teachers and students

with characteristics such as resilience and life skills, it is vital to explore the resilience among teachers and its relationship with the students' academic resilience and their life skill development. The relationship of resilience with demographic variations has been reported in previous studies (Day, 2008; Wagnild, 2016). Resilience varies with age, gender, position held, marital status, and educational level of individuals. Therefore, it is needed to incorporate demographic variations in resilience research.

1.3 Statement of the Research Problem

Teaching demands personal skills and attributes. Teachers have to face challenges to fulfill their professional demands. Their resilience may determine whether they will collapse or bounce back in the face of adversities. The problem which invited the researcher's interest was the investigation of teachers' resilience and its sources. Students also have to face academic challenges while learning. Hence, learning also demands academic resilience and various skills to face academic challenges. So, this study intended to assess academic resilience and life skills development among students. As the students are led by their teachers, they acquire knowledge and skills from them, therefore, the study aimed to seek a relationship of teachers' resilience with students' academic resilience and students' life skills development. Enhancing various life skills may enhance academic resilience among students. Therefore, the study meant to discover a relationship between students' academic resilience and students' life skills development. It aimed to investigate variations in teachers' resilience in relation to demographic features including gender, age, experience, designation, academic qualifications, professional qualifications, and marital status. Similarly, the gender of students was also taken into consideration for the difference they place on students' academic resilience and students' life skills development. The whole investigation was conducted at higher secondary level of education.

1.4 Objectives of the Study

Following were the objectives of research.

1. To examine teachers' resilience at higher secondary level.
2. To examine students' academic resilience at higher secondary level.
3. To examine students' life skills development at higher secondary level.
4. To find out relationship of teachers' resilience with students' academic resilience and students' life skills development at higher secondary level.
5. To find out relationship of students' academic resilience with students' life skills development at higher secondary level.
6. To investigate teachers' resilience in relation to demographic variations (gender, age, teaching experience, designation, academic qualifications, professional qualifications and marital status) at higher secondary level.
7. To investigate gender-based difference in students' academic resilience at higher secondary level.
8. To investigate gender-based difference in students' life skills development at higher secondary level.

1.5 Hypotheses

Null hypotheses were framed to achieve the study objectives.

- H₀ 1* There is no significant relationship between teachers' resilience and students' academic resilience at higher secondary level.
- H₀ 2* There is no significant relationship between teachers' resilience and students' life skills development at higher secondary level.

- H_o 3* There is no significant relationship between students' academic resilience and students' life skills development at higher secondary level.
- H_o 4* There is no demographic-based (gender, age, teaching experience, designation, academic qualifications, professional qualifications and marital status) significant difference in teachers' resilience at higher secondary level.
- H_o 4(a)* There is no gender-based significant difference in teachers' resilience at higher secondary level
- H_o 4(b)* There is no significant difference in teachers' resilience in relation to age at higher secondary level.
- H_o 4(c)* There is no significant difference in teachers' resilience in relation to teaching experience at higher secondary level.
- H_o 4(d)* There is no significant difference in teachers' resilience in relation to designation at higher secondary level.
- H_o 4(e)* There is no significant difference in teachers' resilience in relation to academic qualifications at higher secondary level.
- H_o 4(f)* There is no significant difference in teachers' resilience in relation to professional qualifications at higher secondary level.
- H_o 4(g)* There is no significant difference in teachers' resilience in relation to marital status at higher secondary level.
- H_o 5* There is no gender-based significant difference in students' academic resilience at higher secondary level.
- H_o 6* There is no gender-based significant difference in students' life skills development at higher secondary level.

1.6 Conceptual Framework

Resilience is a construct that accounts for success in a difficult situation. It involves springing back from challenges and beating the odds. For the current study, teacher resilience was investigated using the Resilience Doughnut Model of Worsley (2006). She has comprehended resilience as a process where personal competencies are developed at the moment of adversity when the individual negotiates and navigates the accessible resources. Her model named, “The Resilience Doughnut Model” has two tiers of circles indicating internal and external sources for developing resilience. The outer circle consists of external sources for developing resilience in individuals. The study included six external factors which are “skill, family and identity, education, peer, community and money factor”. Whereas, the inner circle of the model indicates internal sources of resilience. It includes internal factors mentioned as “self-efficacy (I can), self-esteem (I am) and the awareness of resources (I have)”.

According to Henderson and Milstein (2003), it is difficult to foster academically resilient students without having resilient teachers. Therefore, this theoretical framework was developed to study the relationship of teachers’ resilience with students’ academic resilience. The concept of academic resilience is presented as an ability of students to beat challenges in educational setup and acquire desirable educational outcomes regardless of adverse situations. Martin and Marsh (2006) mentioned 5 fundamental factors (5Cs) which are determinants of academic resilience among students. They suggested a model for academic resilience based upon these 5Cs. It was proposed that confidence, coordination, control, composure, and commitment are the attributes that can predict the academic resilience of students. The current study used these 5Cs to determine the resilience of students at the level of higher secondary education.

Harrington (2013) describes that certain life skills help students to become academically resilient. Hence, life skills development among pupils was investigated using a model proposed by Hendricks (1998) called 'Targeting Life Skills Model'. A life skill is conceived as a learned capability among students for adaptive and positive behaviour which helps in dealing with the strains and stresses of everyday life effectively. According to Norman and Jordan (2006), the concept behind Hendricks model uses 4H clover categories which comprise head, hand, health, and heart. Each category of H is further bifurcated into two subcategories. Specific skills are mentioned for each subcategory. The Hendricks model addresses thirty-five life skills. For the current study, one life skill was selected from each subcategory of H, making a total of eight life skills. Only those life skills were selected which were relevant to resilience according to previous literature. These eight life skills included decision making, wise use of resources, communication, empathy, leadership, useful/marketable skills, healthy lifestyle choices, self-responsibility.

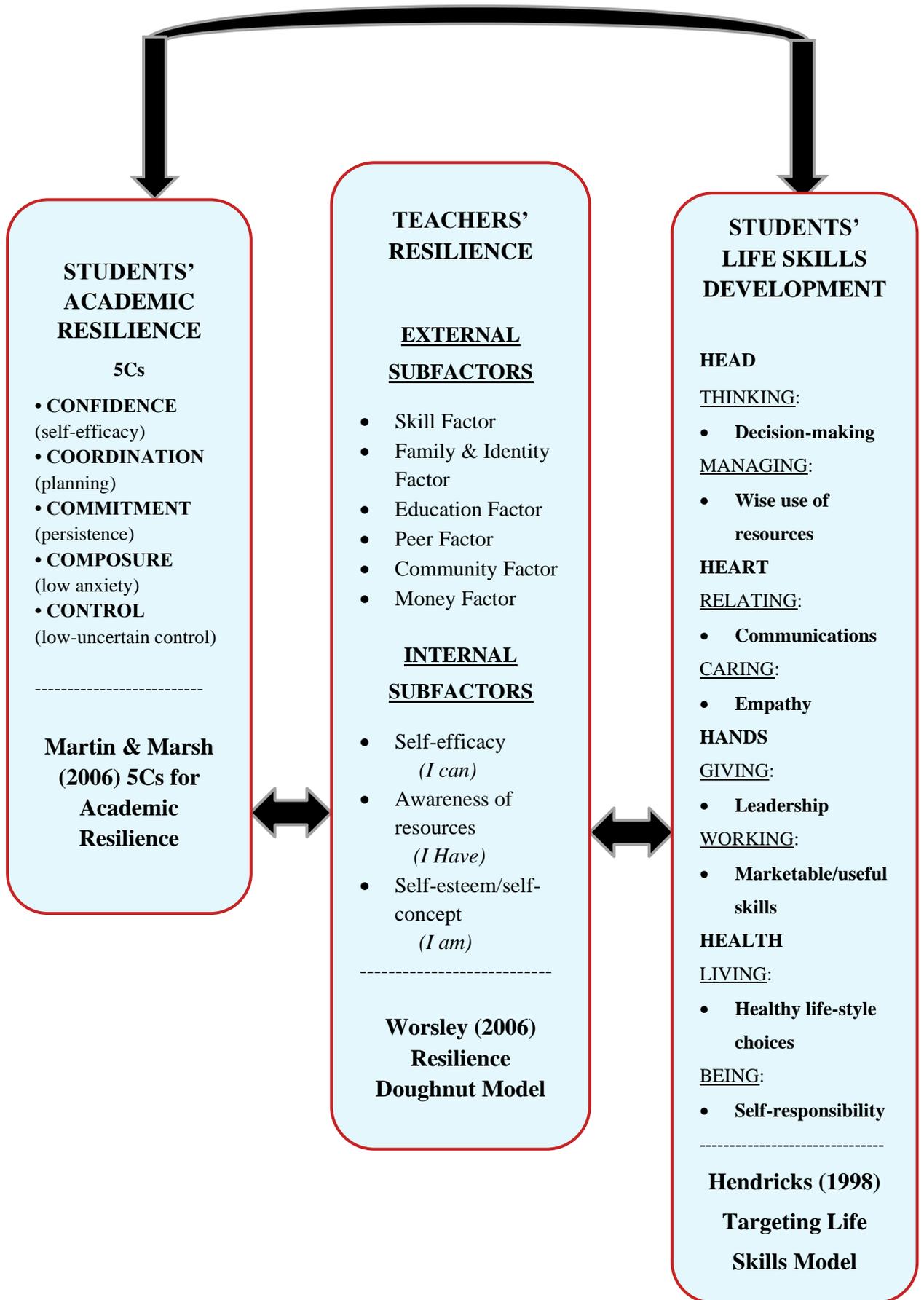


Figure 1.1 Conceptual Framework of the Study

1.7 Significance of the Study

The findings of the study will bring more clarity on the constructs of resilience and the development of life skills in an educational context. The cognizance of the constructs will help researchers to widen the investigation in future. These findings will be valuable for all stakeholders including teachers and students at the higher secondary level. Research on teachers' resilience has its significance for teachers' training programs as well as for school administration, managers, and teachers. It will help identify the factors contributing to resilience, which may help in improving resilience. The findings of the study will be beneficial for designing appropriate teachers' training programs and life skills development programs based upon the constructs of resilience and life skills development. The policy implication of the present study is that its findings will highlight factors to be taken under consideration while designing curriculum for both students and prospective teachers. The study will also help parents to hold a better understanding regarding their young children's potential to cope with academic adversities and to develop appropriate life skills. The study will provide information on external and internal protective and risk factors affecting teachers' resilience, understanding of which may help in the improvement of teachers' resilience. It may assist teachers to become psychologically healthy and productive professionals. Such information may prove supportive to management while recruiting teachers. It will be equally helpful to policymakers in taking measures for building resilience among teachers.

1.8 Research Methodology

The following research methodology was adopted for the investigation of the research problem.

1.8.1 Research Design

The study used a quantitative approach to research. In a correlational design, a survey method of descriptive research was applied to gather the required information.

1.8.2 Population

The research population encompassed individuals in two sets.

1. All teachers teaching in Islamabad Model Colleges, Islamabad at higher secondary level part-II (HSSC-II) constituted the population of teachers for the study.
2. All students enrolled in Islamabad Model Colleges, Islamabad at higher secondary level part-II (HSSC-II) constituted the population of students for the study.

1.8.3 Sample and Sampling Technique

A representative sample of teachers and students was selected by following a multi-phase sampling procedure. First of all, colleges for girls and colleges for boys were identified. One class (section) was randomly selected from each college. As the population existed in two strata based on gender, therefore, a proportionate ratio was maintained in each stratum of the sample according to the population at the HSSC-II level.

1.8.4 Research Instruments

Three self-reporting questionnaires were used as research instruments to collect responses from the sampled respondents.

1. The Resilience Doughnut Quiz (Worsley, 2006) was used to collect data from teachers on the variable of teachers' resilience.
2. The academic Resilience Scale was used for the data collection on the variable of students' academic resilience. It was developed by the researcher.

3. For measurement of life skills development at HSSC-II level, the tool for Measurement of Life Skills Development (Bailey & Deen 2002) was used.

1.8.5 Data Collection

The required data were collected from teachers and students of public sector colleges of Islamabad during personal visits by the researcher. The sampled students and teachers were requested to respond to questionnaires. The process of data collection was completed in 35 working days.

1.8.6 Data Analysis

After collecting responses from the respondents, the data were assembled and properly arranged. It was tabulated to the software program of statistical package for social sciences (SPSS.21). Statistical techniques including percentages and means were used to assess the overall teachers' resilience, students' academic resilience, and their life skills development. To assess the relationship of teachers' resilience with students' academic resilience and life skills development the Pearson product-moment correlation coefficient was applied. Gender differences in teachers' resilience, students' academic resilience, and life skills development were determined by using t-test. Differences caused on teachers' resilience, students' academic resilience, and students' life skills development due to other categorical variations among respondents were assessed by applying one-way analysis of variance (ANOVA) to data.

1.9 Delimitations

The limited resources in hand including time, finance, and human resource employed the following delimitations to the study.

1. It was delimited to public-sector colleges situated in Islamabad and governed by Federal Directorate of Education (FDE).

2. It was delimited to teachers teaching and students studying at Higher Secondary School Certificate Part-II (HSSC-II) level usually known as Intermediate IInd Year.
3. Variable of life skill development was delimited to eight subscales from Hendricks (1998) model.
4. The variable of teachers' resilience was delimited to six external and three internal factors of resilience defined by Worsley (2006) in "The Resilience Doughnut Quiz".

1.10 Operational Definitions

The following terms are operationally defined for the current research study.

1.10.1 Teachers' Resilience

Teacher Resilience is the outcome of an ongoing process in which a teacher develops his/her competence by realizing the available resources at the moment of adversity. In this study, teachers' Resilience was determined by assessing the score of teachers on "The Doughnut Resilience Quiz". The factors upon which teachers' resilience was measured included six external factors and three internal factors.

1.10.1.1 External Factors of Teachers' Resilience

The factors affecting resilience that exist in the outer environment of the individual are called external factors of resilience. The current study is delimited to the following six external factors of the Resilience Doughnut.

1. Skill Factor

It is the extent to which any of the individual's acquired skills contributes to the overall resilience of the individual.

2. Family and Identity Factor

It is the extent to which family and identity contribute to the overall resilience of an individual.

3. Education Factor

It designates the contribution of education to the overall resilience of an individual. It is measured under the education factor.

4. Peer Factor

It is the extent to which peers contribute to the overall resilience of an individual.

5. Community Factor

It is the extent to which community plays a role in enhancing resilience. Resilience is built when individuals grow links with the local community which provides supportive social services.

6. Money Factor

It represents the extent to which money is important to build an individual's resilience. The money factor refers not only to the economic stability of an individual and his family but to the attitude towards the acquisition of material possessions.

1.9.1.2 Internal Factors of Teachers' Resilience

Internal factors are represented by the vital beliefs that individuals develop about their competencies to survive and face the world. Three categories of internal factors are there that underwrite an individual's level of resilience.

1. Self-efficacy (I can)

It represents the extent to which one believes in his own competencies.

2. Awareness of Resources (I have)

It represents the extent to which one is aware of the support and social ecologies available, sustainable, and useful to him or her in any adverse situation.

3. Self-esteem (I am)

It represents the view one has for one's own self. It is based upon the strengths and characteristics that an individual possesses.

1.10.2 Academic Resilience

It is the capability of a pupil to respond effectively to a challenging academic situation using individual resources including confidence, coordination, commitment, composure, and control. For the current study, academic resilience is determined by scoring the responses of students on the "Academic Resilience Scale". The sub-factors of students' academic resilience are described as following.

1. Confidence (Self-efficacy)

The extent to which a student believes in his/her own abilities to do well at learning is called confidence.

2. Coordination (Planning)

Coordination or planning is the extent to which a student plans his assignments, college work and keeps a track of his/her progress.

3. Commitment (Persistence)

Commitment is the extent to which a student intends to continue his/her efforts for solutions to problems which he/she faces. Even when the problems seem difficult and challenging.

4. Composure (Low Anxiety)

Composure is the extent to which a student can reduce his or her nervousness, worries, or anxiousness when faced with a challenge in his or her academic work.

5. Control (Low-Uncertain Control)

The extent to which a student feels certain about how to do well or how to avoid doing poorly in his or her academic tasks.

1.10.3 Life Skills Development

Life skills are personal, interpersonal, or psychosocial competencies of applying learned knowledge into real-life situations to cope with daily circumstances for an improved quality of life. For the present study life skills are determined by scoring the respondents' score on eight life skills on the "life skill development scale".

1. **Decision-Making:** Ability to choose among various alternatives.
2. **Wise Use of Resources:** The extent to which one makes sound judgments, is not wasteful, shows responsibility, and sets priorities.
3. **Communications:** The extent to which one has the capability of exchanging thoughts, sharing information, and messaging through speech, gestures, written and artistic expression.
4. **Empathy:** To be sensitive and to be capable of identifying with someone's situation, feelings, and motives.
5. **Leadership:** The extent to which one uses his/her influence to assist and guide a group in achieving its goals.
6. **Marketable/Useful Skills:** The extent to which an individual possesses capabilities required by employers to perform a job.
7. **Healthy Life-Style Choices:** The extent to which one knows about those attitudes and behaviours that ensure good physical health and future wellbeing. For example, personal safety, exercise, healthy diet, vaccination, prevention from disease and injury, etc.

8. Self -Responsibility: The extent to which an individual takes care of himself, presents his behaviour for accountability, and makes correct choices between right and wrong.

1.10.4 Higher Secondary Level of Education (HSSC)

In the Pakistani education system, the higher secondary level includes the 11th and 12th years of formal education. It is named as Higher Secondary School Certificate (HSSC). The classes are attended by students of 15 to 18 years of average age. Other names used for higher secondary education are HSSC, intermediate level, Inter, and F.A/F.Sc (Faculty of Arts / Faculty of Science).

CHAPTER 2

REVIEW OF LITERATURE

This chapter encompasses a review of studies that were done in the context of research variables. An effort has been made to organize the literature for defining and explaining research variables, identifying methodologies adopted in previous studies, highlighting the trends followed, presenting findings of the research done in these areas and limitations identified by previous work.

2.1 Introduction

Every parent wants to raise a child who is ‘perfect’, free of worries, free of physical and psychological ailments; a child who never loses a game, who never stays lower than an A-grader, who gets the perfect company of peers, who never deviates from social norms and much more. Parents fantasize to insulate their children from any possible adversity even from a headache or flu. But such immunized children cannot taste the real flavour of success and can never empathize with the feelings of others. It is needed to raise children and youth who are strong and proficient in handling the bruises and bumps of real life. The educational process is expected to equip students with skills to successfully face challenges and adversities. Invulnerability should not be an objective, but “resilience” must be. Resilience is the ability of an individual to face hardships and challenges in life effectively. A resilient individual gets energy from any difficult situation that comes on his way and bounces back rather than getting harmed

by it. In an educational context, the researchers introduced the concept of academic resilience. Progress in educational settings cannot be imagined without the contribution of teachers. Students learn directly or indirectly from their teachers, who perform as role models for them. Hence, expecting students to be academically resilient without having resilient teachers is far from reality. Resilience is considered one of the life skills, whereas, numerous other life skills may contribute to the resilience of individuals. It is important to find a link between life skills and resilience in literature. This research work addresses teachers' resilience and its relationship with students' academic resilience and their life skills development. The study is conducted at the level of HSSC. It also tries to investigate the sources and attributes of resilience and life skills through empirical research. Before conducting the field research, the following literature was explored to obtain an understanding of the previous research work regarding resilience and life skills.

2.2 Conceptualization and Definition of Resilience

The term resilience was used for the first time by Werner (1971) in her study where she sampled children belonging to poor backgrounds mostly to alcoholic and mentally disturbed parents of Kauai, Hawaii. She found that two-thirds of these children had behavioural issues in their teens. However, one-third of these children showed a normal pattern of psychological growth and did not grow with destructive behaviour. She later used the term 'resilient' for these children (Werner, 1989a).

Dreyer (2013) mentioned that nearly all fields of science such as ecology, psychology, medical sciences, political science, business, sociology, history, etc. have used the term resilience in different contexts and different meanings. The crux of most typologies elaborates that resilience is the capability of bouncing back or recovering

quickly from a disruption, change, or stress. According to the Merriam-Webster Dictionary, the word resilient is rooted in the Latin word '*resiliens*' which means to jump back or to recoil. The dictionary shows its first known use in 1674, according to which it is the competence of something to turn back to actual shape if pulled, pressed, stretched, or bent. The Oxford Dictionary of English defines resilience as an ability to recover or withstand swiftly from hard situations (Soanes & Stevenson, 2006).

After fifty years of research in the field of resilience, different viewpoints and thoughts have emerged. Still, very little agreement has been reached regarding the conception and definition of resilience. Various scholars have conceptualized the construct of resilience in different ways (Carle & Chassin, 2004; Dugan & Coles, 1989; Joseph, 1994; Taylor & Wang, 2000; Ungar, 2005).

Richardson, Neiger, Jensen, and Kumpfer (1990) presented one of the earlier conceptions of resilience. Resilience is conceived as a process that involves handling difficult, challenging, and stressful life situations in such a manner that the individual attains new skills for coping with disruptive events. Similarly, Higgins (1994) also conceived resilience as a process of growth and self-healing. On the other hand, Wolin and Wolin (2010) presented resilience as a trait or capacity to face, recover, spring back and mend oneself at the moment of adversity.

Luthar and Cicchetti (2000) explain resilience as a two-dimensional construct. At one end it is concerned with the exposure of the adverse situation, whereas, on the other hand, there is an outcome in the form of positive adjustment. Along with the concept of resilience they have mentioned a lack of consensus on the definition of adversity as well. They defined resilience as a positive adaptation. It is a behaviour demonstrated as social competence at any hard life event. On similar grounds, Jew, Green, and Kroger (1999) believed that academic resilience is a product of successful

adjustment in a school setting. Garmezy (1993) has summarized resilience research with two major dimensions. First, it tries to deal with factors related to individuals, families, and their surrounding environment that curb adjustment while facing a challenging situation? Second, it deals with factors that protect or shield individuals from maladjustment?

Masten (1994) believed in resilience as a process. She described it as an interaction between an individual's characteristics and his outer environment. It is a dynamic developmental process of reaching equilibrium between stress and coping ability. She has identified three categories of resilient people. 1) Those who perform better than what is expected. 2) people who demonstrate good adjustment under stressful events. 3) those who recover from trauma successfully.

Bernard (1995) identified four major characteristics of resilient people.

- i. They are socially competent. They can develop positive relationships with others either adults or peers.
- ii. They have problem-solving abilities. They solve problems with the help of planning, organizing, and controlling resources.
- iii. They can enjoy autonomy. They can recognize their identity and can act independently. They have control over the outer environment.
- iv. They have a sense of purpose and have goals and objectives for their future, which makes them work with persistence.

Werner and Smith (1992) conducted longitudinal studies on children with at-risk backgrounds who needed interventions. Despite a challenging environment, they grew as healthy and competent adults. It was reported that these children could love well, work well, play well, and could expect well.

The available literature establishes that resilience is a “dynamic process” that incorporates constructive reworking at adverse life situations. This notion highlights two critical conditions; the presence of an adverse situation or a significant threat and reaching equilibrium. Research has emphasized the concept of resilience as the product of developmental transitions among people at risk (Garmezy, 1990; Rutter, 1990; Werner & Smith, 1992).

After reviewing the literature on resilience in the context of education, Beltman et al. (2011) have presented a few definitions of teachers’ resilience. Mentioning Brunetti (2006) they described teachers’ resilience as a trait or capacity which keeps teachers committed to teaching while facing challenging situations and setbacks. Oswald, Johnson, and Howard (2003) also defined resilience as an ability to fight against stressors and vulnerabilities so that the individual bounces back at the moment of risk. It helps in maintaining the overall wellbeing of the individual. Patterson, Collins, and Abbott (2004) define teachers’ resilience as constructively using energies for achieving school goals while facing hard situations. Beltman et al. (2011) further mention Sammons et al. (2007) who described resilience as a capacity to recover energies and bounce back quickly and efficiently during tough times. Whereas, environment, in work specific and personal context puts its influence. Tait (2008) specifies resilience as a mode that is strengthened and activated while interacting with a tough environment. So far, the literature represented resilience as a multidimensional and multi-determined process, which is a product of a dynamic interplay between social systems and individuals. Whereas, a debate on its nature as to whether or not resilience is a capacity or a process still prevails.

2.3 Resilience as a Capacity or a Process

The resilience literature raises a major question, “Is resilience a capacity or a process? It is shown that resilience is a process of adaptation in a challenging situation. Whereas, Chung (2008) has described it as a characteristic which people usually demonstrate through different life experiences. The trait conception of resilience shows that people either possess it or do not possess it. However, the process conception believes that behaviours and actions related to resilience can be learned and boosted. Various risk and protective factors interact to crop resilience among individuals. Risk factors are the individual and environmental elements which predict the future undesirable outcomes. Whereas, the protective factors shield the individual from the negative impact of risk factors (Wright & Masten, 2005).

Resilience indicates the well-being and psychological maturity of individuals. As a process, it is dynamic and is displayed as a result of life events (Cloninger & Zohar, 2011; Drybye, & Shanafelt, 2012; Tempski, Martins, & Paro, 2006). The ingredients of psychological competence are self-discipline, self-directedness, and cooperativeness. These characteristics of individuals are reinforced by high persistence and disposition of low harm avoidances (Cloninger, Syrankic & Pryzbeck, 1993). A psychologically mature person can successfully cope with the challenges of life and can bounce back from adversities, so is called resilient (Cloninger, Salloum & Mezzich, 2012).

Resilience as capacity is the set of characteristics that makes individuals capable of handling life’s challenges (Connor & Davidson, 2003). Researchers believe that such capacity develops with time as a result of a person’s interaction with the environment (Egeland, Carlson, & Sroufe, 1993).

The dynamic nature of resilience makes it different from ‘hardiness’ and ‘mental toughness’ as described by Howe, Smajdor, and Stockl (2012). Windle (2011) has distinguished resilience from ‘hardiness’ and ‘mental toughness’ by defining resilience as a dynamic process that changes with developmental transitions, whereas ‘hardiness’ or ‘mental toughness’ is a stable personality characteristic.

Werner and Smith (1982) reported that the earlier researchers in resilience labelled individuals as hardy, invulnerable, or invincible who were successful in beating hard life events. These labels alluded that resilient individuals possessed a rare constellation of qualities which makes them able to bounce back from whatever risks came their way. It seems as if these people had a magical power that protects them from harm. With progress in resilience research, scholars such as Masten (2001) somehow seem to disagree upon the concept of resilience as a magical innate quality, instead, conceived it as a developmental process that integrates the self-healing capacities of people.

Garmezy (1993) has warned about using the term ‘invulnerable’ because it shows as if such an individual cannot be injured or wounded. Masten (2001) believes in resilience to be an ‘ordinary magic’ as the majority of people successfully manage to achieve a developmental outcome that is normative while undergoing stressful events. Benard (1995) opines that everyone has some innate tendency of resiliency which is best demonstrated when resiliency-building conditions support the individual. It is developmental wisdom that is inborn but environmental conditions can foster it. In her book, “Fostering Resiliency in Children” she stated that every child is born with a capacity for resilience that helps in building skills for solving problems, sense of purpose, autonomy, and social competencies.

The progressive view of resilience research has motivated researchers to investigate resilience as a combination of dynamic processes which can be established and cultivated (Masten, 2001). Throughout the resilience research, there is an emphasis on interaction between risk and protective factors which exist in the environment or belong to individuals. The ecological system theory has helped in explaining the interaction between individuals and their environments and has also highlighted the influence they made on the development of individuals (Bronfenbrenner, 1989; Garbarino, 1995; Garmezy 1991a).

Garmezy (1991a) introduced a model named the “triadic model of resilience”. This model sets an ecological framework for various studies of resilience. This model addresses three levels of the dynamic interplay between protective and risk factors that are related to individual, family, and environment. It describes the fact that by the process of resilience individuals are empowered to reconstruct their environment and in turn to be reshaped by the environment.

Cicchetti and Lynch (1993) presented a similar model called ‘the interactive ecological-transactional model of development’. They identified environmental circumstances such as culture, neighbourhood, family, etc. which interplay over a period resulting in developmental transitions and adaptations.

These models have helped researchers in understanding the influence placed by the interaction of risk and protective factors upon a person’s resilience. The significant aspect of process cognition of resilience is the fact that resilience can be fostered or declined over the time due to influence of interaction between risk and protective factors of individual’s life. It explains the phenomenal decline in an individual’s resilience at a certain time. It further tells that an individual may be resilient at a particular event and may not be resilient at others. This is due to the circumstances

around the individual's life where the strength of protective and risk factors becomes relevant to each other for explaining the resilience of an individual (Borman & Rachuba, 2001).

The earlier terms of 'invulnerable', 'hardiness', 'mental toughness' etc. were replaced by the term resilience as it precisely translated the conception of a dynamic process (Wolin & Wolin, 2010). Resilience presents a good adaptation pattern over the time where an individual performs well despite risks, challenges, or chronic adversities (Masten, 1994).

Secombe (2002) invited attention to a significant aspect of resilience. It is needed to view resilience in the wider context of societies. As individual tendencies, family patterns and community structure cannot sufficiently explain the phenomenon of resiliency. It is needed to pay attention to structural deficiencies of society and social rules which families need to gain strength and to get competency for better functioning while facing challenges.

Masten (1994) has commented upon the issues related to terminologies used in resilience research. Maintaining positive adaptation in the face of adverse situation is resilience. She has warned against using the term 'resiliency' as it carries an idea of a personality characteristic. The scientific explanation of such a term leads to the perception that it is something that certain people possess and others do not possess. So, some people cannot overcome adversity. Such misconception may cause damage to research and may fail in designing appropriate intervention programs. It was recommended that the term "resilience" means maintenance of positive adaptation under a challenging situation, hence, use of the term "resiliency" is cautioned.

The term 'resilient children' is occasionally used in resilience literature which adds further confusion in the concept of resilience as the term resilient children does

not refer to a distinct personality trait. Instead, it refers to the existence of two opposite conditions at the same time which are: the presence of risk or threat to the wellbeing of a child and evidence of positive adaptation by the child while encountering adversity (Luthar, 1993; Luthar & Cushing, 1999; Richters & Weintraub, 1990). Therefore, the two-dimensional role of resilience incorporates life circumstances of an individual's maltreated, impoverished childhood and a successful encounter through positive adaptation across various spheres of operation.

2.4 Research History of Resilience

The concept of resilience was developed from research work in the fields of psychopathology, poverty, and traumatic stress. Some studies were focused upon the investigation of the effects of certain risk factors on child development. The researchers identified many children who despite chronic stressors managed a normative pattern of development. These surprising results led to a decade of further investigation in various fields of studies such as psychology, education, public health. The research studies invested efforts for the investigation of factors and processes which can enhance resilience (Garmezy, 1971; Rutter, 1979; Werner & Smith 1982).

Resilience research started around the last quarter of the twentieth century. In 1971, Garmezy conducted a study on children of schizophrenic parents. This pivotal study laid the foundation for resilience research. For the first time existence of protective factors was postulated, which enables an individual to fight against hard events of life. It was observed that child's risk for developing disorder increases with having schizophrenic parents. It was discovered, that 90% of these children did not develop the disorder. This was a unique phenomenon and was explained for having indices of competencies such as having appropriate peer relations, commitment to

education, academic achievement, and persuasion of a purpose in life among these children. This observation led to a shift from 'risk factors to protective factors' which could help such children's survival against negative forces (Garmezy, 1971).

Garmezy (1973) used the epidemiology approach to study disease prevalence while discovering risks and protective factors in first resilience research. Later, Garmezy and Streitman (1974) developed a tool to find out systems that could help in improving resilience. A substantial amount of research work has investigated the factors for adaptive outcomes in presence of hard situations.

Understanding of maladaptive behaviour of patients with the severe disorder was the major focus of the early investigation. Patients who demonstrated adaptive patterns were considered exceptional and were not paid attention. It was discovered that patients with less severe schizophrenic symptoms had a premorbid history of fulfilling responsibilities of social relations, marriage, work, etc (Garmezy, 1970; Zigler & Glick, 2001). These atypical schizophrenics were not described in the content of resilience, but today these social competencies might be predictive in tracing the resilient trajectories.

The 'childhood resilience' emerged as a central topic after research studies on children of schizophrenic mothers (Garmezy & Streitman, 1974). The findings paved the path for further investigation of individual variations while responding to adverse situations. A similar phenomenon of resilience was observed in a study by Rutter (1979), where children of mentally ill parents were sampled. Rutter interviewed these children and found that nearly half of these children demonstrated positive developmental outcomes and were mentally normal as they did not exhibit any maladaptive behaviour. Rutter's study helped in setting a foundation for educational resilience. He opined that the school environment can play a role of protective factor

which can prepare children to face stressful situations effectively. In a later study (1983), Rutter identified protective factors at schools such as sports and musical achievement, holding a position, responsibility assigned at school, good peer relationship and positive relationship with teachers, etc. It was concluded that school can foster a sense of achievement, hence, can contribute to the personal and social growth of students.

Werner (1984) conducted a longitudinal study for four decades on the Hawaiian island of Kauai. This study on children provided the third landmark in the history of resilience research. The developmental psychologists sampled 698 children for the study. Out of these one third were 'high risk' children. Among these high-risk children, one-third displayed better developmental outcomes. During this longitudinal study, when participants entered their early 30s, more progress was noticed, as by then, two-third of those who faced issues during adolescence led to successful adult life (Werner & Smith, 1982). The researchers invested efforts to find out protective factors in the lives of individuals who led to developmental outcomes during these four decades of research. They came to agree upon the fact that protective factors may be internal or external to individuals. These factors included dispositional traits of individuals, emotional bonds with family and support in the outer environment. Major protective factors were present within the family and were identified as family size, access to a caregiver, attention given during infancy, disciplinary measures during child's adolescence, connectedness within the family, a formal and informal network of peers and fellows, etc. Kauai's study revealed that high-risk resilient children had at least one teacher as a source of resilience. The findings of the Kauai study opened doors of hope that individuals can demonstrate a normal developmental transition despite traumatic

life experiences. These three studies developed a framework for future resilience research.

The ground-breaking findings of the Hawaii study by Werner, Bierman, and French (1971) and later in 1977 by Werner and Smith have helped resilience research expand across various contexts. Multiple stressful conditions became the topic of resilience research such as constricted socioeconomic conditions and related risks, illness of parents, poverty and severity in community, severe disease, and tragic life events.

Masten and Garmezy (1985) stressed personal characteristics of children with higher resilience such as self-esteem, self-sufficiency, etc. The labels such as 'invulnerable' are finally considered misleading because resilience does not mean an absolute risk evasion. In fact, developmental progression involves positive adaptation in the face of hard situations, where changing of life circumstances introduce new vulnerabilities along with new strengths. Progress in resilience research acknowledged the significance of factors that were external to the individual. Later studies identified three sets of factors that are instrumental in resilience development. These were (1) Individual attributes of children (2) factors within the family (3) structure and characteristics of the societal environment (Werner & Smith, 1992). Further progress in resilience research shifted the focus of researchers away from just identifying factors towards developing an understanding about them. Researchers tried to investigate not only protective factors for resilience but the way these factors contribute to positive outcomes in behaviours. This theoretical progress for an understanding of resilience laid the foundation for developing prevention and intervention programs for resilience enhancement (Luthar, 1999; Rutter, 1990).

In this regard various studies (Beeghly & Cicchetti, 1994; Cicchetti & Rogosch, 1997; Cicchetti, Rogosch, Lynch, & Holt, 1993; Garmezy, 1991b; Luthar, 1999; Masten & Coatsworth, 1998; Moran & Eckenrode, 1992; O'Dougherty-Wright, Masten, Northwood, & Hubbard, 1997; Richters & Martinez, 1993; Wells & Schwebel,

1987; Werner & Smith, 1992) systematically investigated protective factors to identify well-adjusted children and those having maladaptive behaviours. So that, the construct of resilience was introduced to describe a relative rather than fixed nature of the construct resilience, which was once used interchangeably with invulnerable, hardiness, tough-mindedness, etc.

2.5 Two Major Elements of Resilience

The phenomenon of resilience focuses upon two major elements, which are exposure to risk and the presence of protective factors (Barrett & Turner, 2004). Beltman et al. (2011) concluded that resilience is the outcome of the interaction between risk and protective factors. This relationship is dynamic in nature. Therefore, protective factors can moderate or even neutralize the negative implications of risk factors. According to Lewis (2000) factors such as self-confidence, self-efficacy, self-esteem, sense of humour, optimism, internal locus of control, autonomy, positive peer relationship, high-quality childcare during infancy serve to alleviate the undesirable effects of risk factors which an individual face in environment. Whereas, philanthropic motives and higher self-efficacy are the major personal factors that protect individuals. Sources at school such as administration, peers, students, etc. present various risk and protective factors to teachers. Beltman et al. (2011) identified that reducing risk factors and enhancing protective factors of teachers provide them opportunities to thrive rather than just survive.

The force of individual and environmental protective factors might change with the age of individuals. As for a young child environmental protective factors are of greater significance such as family, school, community, etc. However, with growing

age, the individual personal protective factors such as self-efficacy, perseverance, composure, planning, etc get a greater role to play in building resilience.

2.5.1 Risk Factors

Kirby and Fraser (1997) defined risk factor as an influence that maintains problem situation and increases its seriousness. In other words, risk factors can increase the magnitude and intensity of a hard situation. Masten (1994) describes risk factors as traits that increase undesired outcomes among people particularly among children at a higher ratio. The related literature revealed that risk factors have been investigated in the following ways (1) scholars have studied particular risk factors which are correlated to future outcomes (2) investigators tried to find out the effects of additive risks to understand the cumulative risk. Among earlier research approaches, the ecological theory affected the later research work. The ecological model presented by Bronfenbrenner (1989) describes the child development process as a complicated system of interrelationships between various levels of the outer environment. Whereas, the environment was described as four connected levels of a system.

1. Microsystem: It is the intermediate environment of a child.
2. Mesosystem: It has resulted from an interaction between factors of the microsystem.
3. Exosystem: It consists of the factors of wider connectivity around a child.
4. Macrosystem: It contains morals, rules, and traditions, etc.

The investigation has proved that the proximal factors of risk such as poverty have placed a deeper influence on individuals as compared to distal factors. However, these limitations in research methodology suggest that the macrosystem is more influential on the development of a child (Bronfenbrenner, 1989). Cowan, Cowan, and Shulz (1996) revealed that adversities or risks are dynamic and the same is the response

to them depending upon the individual and contextual factors. Furthermore, the concept of risk is taken synonymous with cumulative risk however has been taken differently, which is relative to an individual's reaction and adaptation to a hard situation of life. Lazarus and Folkman (1984) have explained stressful events as those which are determined by the individual as a threat. These aspects have made the definition and examination of risk factors a challenge for resilience researchers. According to Howard, Dryden, and Johnson (1999) the assumption that all participants hold the same understanding about risk and resilience sets a potential problem in resilience research. Luthar, Cicchetti, and Becker (2000) have emphasized that there are cases in which individuals consider themselves as fine even if their living conditions are reported as extremely stressful by the investigators. Parallel to the situation is that in which students with high-risk factors are not included in resilience research for not displaying poor adaptation or antisocial behaviours which are attributed to such stressful factors.

Fleming, Mullen & Bammer (1997) pointed out that quiet victims of child abuse are at risk, equally to those peers who are more vocal. Similarly, the alignment of children's accounts and understandings of risk with adult research is not possible (Howard et al., 1999). Condly (2006) highlighted the significance of an accurate description of the nature of risk as it is important to understand how risk affects people and how is resilience operated. Additionally, it helps in building interventions for resilience development. As risk is multifaceted, therefore resilience is also a multifaceted construct.

2.5.2 Protective Factors

Jessor (1993) has identified that investigation on protective factors brought a paradigm shift in investigator's focus from factors of risk to the strategies which enables people to deal effectively with hard events. Masten (1994) defines protective factors as

those circumstances which moderate the effect of risk and improves adaptation. Parallel to this opinion, Werner and Smith (1982) also described that internal and external protective factors can enhance resilience by interpreting and preventing risk.

Kirby and Fraser (1997) cognized that the term protective factors are broad. Risk and protective elements are two opposites on a continuum, here a decrease in stress increases competence. Rutter (1983) presented a different view, according to which risk and protective factors both interplay with each other to produce a consequence. The influence of protective factors may become low when there is less stress.

Howard et al. (1999) described that protective factors also have a collective effect on an individual's life just as the risk factors may have. Individuals who have protective factors are more likely to display resilient behaviour. According to Rutter (1990), a factor that can temper a risk factor is called a protective factor. He has presented the following kinds of protective factors.

1. Factors that lessen the risk exposure or lessen the impact of risk.
2. Factors that decrease the negative chain-reactions resulting in bad circumstances.
3. Factors that improve self-efficiency and self-esteem.
4. Factors that help in promoting relationships and creating resources and direction in life.

A study on 11-15 years old children by Ratrin (2006) found that various internal and external factors contribute to reducing the influence of risk factors. Later research mentioned the significance of positive factors within an educational setting. They believe that despite the risk that students bring to the classroom along with them, protective factors are the source of hope for schools in their efforts to bring up children

as healthy and productive individuals of the society (Esquivel, Doll & Oades-Sese, 2011).

2.6 Resilience and Mental Health

Resilience studies help in identifying positive sources of individuals and societies. This practice has the potential for improving the mental health of those who are facing adversities. The strong factors can be replicated for greater contribution to mental health (Liebenberg & Ungar, 2009). Numerous risk factors are mentioned by research studies such as the incidents of bullying (Seals & Young, 2003) and anxiety due to social issues (Chartier, Walker, & Stein, 2001). These factors increase symptoms of depression in life (Pine, Cohen, Johnson, & Brook, 2002).

Hjemdal, Friborg, Sites, Rosenvinge and Martinussen (2006) mentioned that anxiety and depression symptoms are negatively correlated with five resilience factors of the READ (Resilience Scale for Adults). They revealed that there are chances of depression if social resources are limited and family connections are poor. In such a situation, protective elements of the social environment become significant. A similar conclusion was presented by Hjemdal, Aune, Reinfjell, Stiles, and Friborg (2007). They explained that depressive symptoms are predicted by poor social competence.

In their study, Benetti and Kambouropoulos (2006) noticed that people with high anxiety were low in resilience. This has invited a debate regarding social competence, which is a product of social experience. People who lack positive social competence are more likely to be exposed to a risk of mental illness.

A significant negative correlation is reported between protective factors and maladaptive or bullying actions such as violence and defacing property. The self-discipline traits helped individuals in avoiding acting out behaviours. The individuals

with a greater number of self-reported developmental strengths displayed more productive behaviours such as serving others, leadership, physical and mental health, volunteering actions, resisting risks, and delaying gratification (Donnon & Hammond, 2007).

Information about various indicators of individuals' behaviour may predict their resilience level, such as involvement at school, family and peers, etc. It was discovered by Dishion and Connell (2006) that adolescent resilience may be measured through the self-regulation index which moderates antisocial behaviour, depression, anxiety, and peers deviance. Researchers have helped in identifying other behavioural indicators for resilience such as regularity at school, participation in co-curricular activities, academic achievement, and motivational level (Ben-Arieh & Frones, 2007; Zimmerman, Phelps & Lerner, 2008). People with various behavioural disorders show similar functional indicators as are appeared in people with low resilience. The effect of protective factors is decreased by these behavioural disorders which in turn fails to develop a resilient mindset (Goldstein & Rider, 2005).

In 2002, Richardson described that resilience research has progressed by integrating the environmental and personal factors of resilience. Now resilience is investigated more holistically with an interdisciplinary approach. Researchers (Kim-Cohen, 2007; Smolka et al., 2007) have started investigations about resilience by integrating biological, psychological, and social aspects of life. This new wave of investigation has integrated individual and environmental characteristics. A biological study discovered that in rats and seemingly in human beings also, early-life environmental conditions at early life such as nurturing can significantly change the expression of important genes which have a role in response to stress and response to

punishment and reward (in rats and presumably in human beings also) underpinned by attachment and bonding (Leckman & Mayes (2007).

Some later researchers have revealed that gene to gene interaction and gene to environment interaction are influencing individuals' resilience and their ability to adapt in a very complex way (Hoge, Austin & Pollack, 2007; Smolka et al., 2007). But researchers agree that genetic aspects of resilience alone cannot explain an individual's response to different situations. Instead, it is required to fully investigate the biological processes involved in linking risk with positive environmental factors. Kim-Cohen (2007) further explained that genetic and biological characteristics may be taken as protective factors in a similar fashion as other environmental factors.

It is difficult to exactly find out an individual's resilience level as it is produced as an interplay between genetic, biological, and environmental features. However, neurological proof confirms the psychological data showing that people may have a low or high level of resilience. In a study, individuals were shown cue signalling pictures. There was an equal chance of disrupting or neutral pictures to be shown. It was noticed that people with high resilience demonstrated unpleasant emotional responses only when they were actually shown disrupting pictures. Additionally, people with high resilience returned to normal or baseline cardiac and neurological conditions much sooner as compared to those who had low resilience when exposed to a hard situation. The reaction of people having low resilience to threatful events or even to a possibility of threat lasts for longer which was indicated by the amygdala and insular areas of the brain (Tugade & Fredrickson, 2004; Waugh, Wager, Fredrickson, Noll, & Taylor, 2008).

Resilience involves different systems, therefore, investigation on resilience should be conducted at various levels such as from molecular to behavioural level and

from behavioural to the cultural level. Such investigation may enhance the educators' understanding regarding resilience. Neuroscience and education seem to be interconnected fields, but in actuality, this connection is in its emerging stage and requires further investigation (Kim-Cohen, 2007).

Dweck (2008) introduced the concept of mindset. It was established that individuals' belief regarding learning approaches is influenced by their mindsets. She pointed out two types of mindsets; one is called *Growth-Mindset* and the other is *Fixed-Mindset*. There are people with a fixed mindset, who think that intelligence, abilities, and talents are fixed and cannot change. Whereas, the growth mindset believes that these can grow and develop just like our muscles. A growth mindset is those who are resilient to failure. They are capable of developing strategies when they fail and can improve through failure. Their belief in the effort is strong, which gives meaning to their efforts. Growth mindset people choose to work harder, when faced with challenges, on the contrary, people who hold a fixed mindset, think that effort is a condemnation of their intelligence. They usually quit in the face of adversity. The learning and academic attainments of students are decided by the academic mindset of the students as their beliefs and attitudes strongly affect the intensity of their academic behaviour such as study hours, concentration while attending classes, etc.

Snipes, Fancsali, and Stoker (2012) opined similarly and described that students who are capable to articulate and monitor their strategies for learning become lifelong learners with academic mindsets. Hence, ownership of learning by students must be encouraged at schools.

2.7 Challenges for Resilience Research

One of the major reasons which make resilience research difficult is that risk and protective factors are investigated in isolation on different populations using different research methodologies in different contexts. For a long time, research studies used to measure the influence of protective factors or resilience by measuring the ability of at-risk individuals to protect themselves from adverse situations. For example, a study was conducted on children of imprisoned mothers to investigate the role of protective factors by Hagen, Myers, and Mackintosh (2005). Likewise, children of alcoholics were investigated for behavioural resilience by Carle and Chassin (2004). Whereas, academic resilience was investigated by Hines, Wyatt, and Merdinger (2005).

Although studies targeting specific populations and specific factors have contributed to resilience literature, yet it is impossible to investigate each and every risk and protective factor. Hence, it is required to investigate resilience in a more practical manner to describe the concept. Hoge, et al. (2007) have identified various risk and protective factors related to 'Post Traumatic stress disorder' while explaining that in a certain situation, specific factors are more effective as compared to others but possibly it is so because individual studies can investigate only a few factors. Studies related to an internal locus of control have contributed to investigate various factors in multiple contexts as reported by Soet, Brack, and Dilorio (2003) in women who experienced traumatic childbirth, in children surviving under war-situation (Kuterovac-Jagodic, 2003) or in firefighters who experienced trauma related to their job (Regehr, Hill & Glancy, 2000).

Another central challenge to resilience research is the use of inappropriate research instruments. A review of literature has revealed that variables such as self-perception were investigated with the help of instruments used for psychological well-

being even though the two are not the same (Hemenover, 2003). Likewise, a complementary study of the “Isle of Wight” research also measured resilience with tools that were not used for measurement of resilience. Nevertheless, this study has proved itself as a landmark in resilience research and generated useful literature on resilience. It defines resilience as an absence or lack of psychopathological state yet measures resilience with research instruments other than those used for measuring resilience (Collishaw, et al., 2007; Hoge, et al., 2007). One important aspect of the construct of resilience that places a challenge is the fact that resilience is not just a lack of post-traumatic stress disorder or any outcomes of exposure to adversity, establishing that absence of psychological ailment does not ensure the mental health of individuals (Almedom & Glandon, 2007).

Ungar (2005) conducted a comprehensive study on resilience using a mixed-method approach. This study involved 1500 young participants across different cultures, from 11 different countries. The study was ground breaking, which sampled those individuals who were exposed to at least three risk factors among some prominent risks such as community violence, mental health problems, institutionalization mental illness, poverty, homelessness, social dislocation, political turmoil, war, etc. Additionally, they were able to demonstrate skills for positive adaptation.

Ungar (2006) later described resilience as a multidimensional concept, which is defined relative to individuals and societies, where individuals display homogeneity and heterogeneity across culturally diverse settings of research studies. CYRM (Child and Youth Measure of Resilience) was found reliable and valid across several research settings. It was revealed in eighty-nine interviews and 14 investigations that even if adversities are similar, the ways youth responded to cope with them showed variations.

It also highlighted the significance of western paradigms in which resilience is examined (Ungar, 2006).

The lack of quantitative studies which used validated instruments made resilience research challenging and have added methodological complexities. An instrument consisting 28 items was developed and validated by Von Soest, Mossiege, Stefansen, and Hjemdal (2010). It is famous as the READ scale “The Resiliency Scale for Adolescents”. It was adapted from RSA's “Resilience Scale for Adults” which is a validated instrument for measuring resilience. READ has five dimensions which include individual competence, social competence organized style, family organization and social resources. It used the Likert scale on five points from “strongly agree to strongly disagree” for a response on positively phrased items. For the adaptation of 23 items of READ scale, data were collected from 6723 students of age between 18 to 20 at senior high school. The scale demonstrated an acceptable level of convergent validity. It can assess the resilience level of students who faced various risk factors. However, researchers pointed that READ is not a wide-ranging instrument, showing limitations in its validation. Furthermore, it is a time-consuming tool for measuring resilience in adolescents. Von Soest et al. (2010) stressed the need for continued studies while sampling students who are at the earlier end of adolescence instead of restricting with ages between 18-20 years. Additionally, READ must address various ethnic groups as its generalizability is delimited due to the Norwegian sample. Still, it is hoped that further research with READ may improve its utility.

The “child and youth measure of resilience-28 (CYRM-28)” was developed for acquiring wider understanding across various cultures. The psychometric properties of the instrument were investigated by administering it on two groups of respondent youth, who were receiving various social work services. This scale measures three dimensions

for resilience. One aspect includes personal factors focusing on individual skills and skills related to social and peers support. The second aspect is related to those who are physical and psychological caregivers. The third one includes contextual factors related to a sense of belonging. These focus upon spirituality, culture, and education. Investigations have revealed that the scale is tested for reliability and validity to measure resilience among youth from different cultural backgrounds. It studies sampled school-aged youth and investigated youth who were receiving social services such as child wellbeing, psychological health, juvenile justice, community support, and special education (Liebenberg, Ungar & Vijver, 2012).

Another significant aspect of resilience research is the comparison between resilient and non-resilient students. The methodologies adopted were descriptive, causal-comparative, and sometimes correlational. However, more rigorous research is needed to understand resilience in educational settings. Masten and Coatsworth (1998) highlighted the challenges related to educational resilience. They are of the view that children face multiple risk and protective factors at the same time. Therefore. The intervention models should also address cumulative protection for cumulative risk processes.

Beltman, et al. (2011) identified methodological challenges regarding teacher resilience. It is difficult to measure a construct that has multiple independent variables showing variations across time and context from individual to individual. Moreover, it can only be observed in the face of adversities. In this context, studies largely depend upon self-reports, in-depth interviews, surveys using instruments for measurement of related traits for example self-efficacy, burnout, etc. Therefore, demand for instrument development in teacher resilience is felt by researchers. At this early stage of research

in teacher resilience, investigators are suggested to benefit from longitudinal studies, mixed-method studies with larger samples.

2.8 Teachers' Resilience

A relatively new area of investigation of resilience is teachers' resilience. It not only provides the understanding of how teachers persist in a challenging educational setting but also highlights the complementary perspective of research on stress, burn out and undermining one's capabilities. As teaching is considered a stressful job particularly for new teachers, various methodologies are used for the study of resilience among teachers including the qualitative approach of in-depth case studies and quantitative studies with a broader scope. In short, the literature on teacher resilience has a varied theoretical scope.

Yost (2006) researched interrelationships between individual traits. For this purpose personal and professional qualities of ten teachers at their early career were investigated. They reported their stronger traits as perseverance, enthusiasm, positive attitude, being organized, knowing the students, creativity, and being personable. Teachers with these strengths can fulfil their students' needs, they manage a positive and creative climate of the classroom, use various instructional strategies based on analytical thinking and techniques of problem-solving while coping with issues.

Concluding various researches, Howard and Johnson (2004) admitted that characteristics of resilient teachers are not regarded as inherited attribution, rather these can be learned. According to Castro et al. (2010), resilience is not a set of individual characteristics but it is a process of positive adaptations in a challenging setting. Here individuals perform as agents and use various strategies to resolve current adversity in the environment. The literature on teachers' resilience suggests that teacher training

programs should focus upon developing individual traits and skills, an environment for resilience at institutions, and should follow up graduates in their early years of career.

2.9 Challenges and Adversities in Teaching Profession

The studies on teachers' resilience, stress, teacher retention, and attrition have identified various challenges in the teaching profession (Borman, & Dowling, 2008; Buchanan, 2010; Guarino, Santibañez, & Daley, 2006; Hong, 2010; Macdonald, 1999; Scheopner, 2010). It is important to understand individual and contextual risks and challenges in order to have an understanding of teachers' resilience.

2.9.1 Individual Challenges

The teaching profession requires important personal investment such as self-belief and confidence (Day, 2008; Fleet, Kitson, Cassady, & Hughes, 2007; Kitching, Morgan & O'Leary, 2009; McCormack & Gore, 2008). It is observed that teachers' failure to ask for help is also a risk factor (Fantilli & McDougall, 2009; Flores, 2006; Jenkins, Smith & Maxwell, 2009). Moreover, if an individual's own beliefs and practices are conflicting with each other, it also possesses a challenge to teachers (Flores, 2006; McCormack & Gore, 2008).

2.9.2 Contextual Challenges

The challenges related to teachers' lives and jobs have been examined extensively throughout the literature. These risks and challenges have been examined in the context of family, school, classroom, and professional responsibilities. The unsuitable course structure is also identified as a challenge associated with pre-service teachers' training programs (Fleet et al, 2007). At schools, issues related to academic workload (Kaldi, 2009) and timetable also pose difficulties (Sinclair, 2008). Challenges related to family context include pressure for learning to teach and adopting it as a

profession (Olsen & Anderson, 2007) lacking infrastructure at home, difficulty in keeping a balance between work, family responsibilities, and obligations (Fleet et al., 2007). In addition, several challenges associated with the work of a teacher are classified into two types of contexts. One is specific to individual, school, or classroom such as difficult pupils and the other is wider professional work setting such as assignments at school.

A study (Howard & Johnson, 2004) observed teachers in the most challenging situations, where they experienced violent behaviour among children including kicking, biting, punching throwing furniture, and verbal abuse from parents and students. It was concluded that behaviour management is one of the most frequent risks for teachers at school. Demetriou, Wilson, and Winterbottom (2009) also provided a clear picture of the difficulties faced by early career teachers. They have revealed that when disruptive behaviour of pupils is coupled with non-supportive management it results in confidence collapse of teachers, which is instrumental in leaving the teaching profession. Early career teaching issues were also identified by researchers where casual or substitute teachers had to face management issues. The behaviour strategies which are needed to construct rapport between students and teachers are lacking in young early career teachers. As they are often in a transitory position, therefore, their ability to follow through with the consequences is limited. At this stage in their struggle for a career, they do not ask for help from school executives or colleagues to avoid the question on their abilities as a teacher and to avoid limiting chances of their future career (Jenkins et al, 2009; McCormack & Thomas, 2005).

Castro et al. (2010) also identified frequent workplace challenges faced by teachers such as time management, heavy workload along non-teaching duties. In the VITAE project, it was concluded that unjustifiable workload, lack of support,

discouraging policies are the factors that negatively influence teachers' commitment during their career stages. These factors significantly influence teachers who were working in challenging circumstances (Day, 2008). Likewise, Fantilli and McDougall (2009) in a study revealed that nearly 50% of the new Canadian teachers have intentions for leaving teaching due to challenging situations of the educational settings.

The interesting fact discovered by researchers of teachers' resilience is that despite challenges, many teachers still manage to actively seek difficulties, especially as they gain more years of experience and confidence. Sometimes teachers at hard schools reported challenges as exciting and energizing (Brunetti, 2006). It is observed that graduates after an experience of 3 to 6 years sought new roles and obligations and liabilities. No doubt, identifying risks and adversities is significant, but to achieve a clear understanding of teachers' resilience, it is of parallel importance to find out what sustains teachers in hard educational settings. Thus, researchers have identified protective or support factors.

2.10 Protective Factors for Teachers' Resilience

Investigations have described various protective and support factors which help teachers sustain themselves in the face of adversity.

2.10.1 Individual Protective Factors

The altruistic motives and strong intrinsic motivation are the major individual protective factors among teachers. Students of the first year in teacher education in Australia were investigated which shows that they possessed a multidimensional and hierarchical motivation. The level of their intrinsic motivation was higher than that of their extrinsic motivation. Perceiving teaching as an easy job and the status of teachers

were not key motives (Sinclair, 2008). Other studies also confirmed that extrinsic motivation is missed among teachers (Chong & Low, 2009).

Self-efficacy, confidence, competence, and driving satisfaction from accomplishment of tasks are pointed to as individual support factors of resilient teachers. Day (2008) also opined that persistent and intense feelings of self-efficacy make teachers resilient and effective. The self-efficacy of teachers is not a tall idea but places a huge impact (Tschannen-Moran & Hoy, 2007). This impact is reiterated by Kitching, et al. (2009). According to Tait (2008), the impact of strong self-efficacy is most effective at the initial period of the teaching profession but once established it becomes difficult to be altered.

It is observed that resilient teachers possess certain characteristics which are interrelated. The intrinsic motivation of teachers is one of the most important assets of teachers. Notably, intrinsic motivation is interrelated with strong sense of purpose and professional goals, a sense of accomplishment, persistence, professional aspiration, and motivation. In this way, self-efficacy is considered a collaborative process and a major ingredient for teachers' resilience. It may be enhanced when teachers face challenging situations (Gu & Day, 2007).

2.10.2. Contextual Protective Factors

The differentiated support and response are important contextual protective factors of teachers' resilience. Support is needed for the personal and professional development of teachers, which improves their professional commitment (Gu & Day, 2007). Important contextual support factors are given as below.

2.10.2.1 Administration at School

According to Howard and Johnson (2004), the key protective factor among school administration is supportive leadership. A caring, encouraging, and well-organized leadership is always a source of support for teachers. Bobek (2002) states that freshly recruited teachers are influenced more from the support and trust of management that they are not required to perform out of the field, neither are they sent to hard classes (Hirschkorn, 2009), furthermore their contributions and accomplishments are well recognized (Sumsion, 2004). Goddard and Foster (2001) describe that sustained leadership and management regarding instruction and behaviours at educational institution plays a key protective role. Conversely, research work (Tschannen-Moran & Hoy, 2007) has discovered that schools usually do not provide meaningful feedback to shape teachers' efficacy judgements.

2.10.2.2 Relationships with Mentor

The support of a positive, pro-social and professional mentor especially at an early stage of teachers' career plays a significant role (Olsen & Anderson, 2007). A well-structured, well-funded mentor program particularly from the same teaching area which provides opportunities to graduates for inputs is more beneficial (Smith & Ingersoll, 2004). Such programs improve the retention rate of teachers, enhance their problem-solving abilities, self-reflection, self-esteem, confidence, and positive attitude. Additionally, it minimizes the feelings of isolation and makes it easy to ask for help when needed (Fantilli & McDougall, 2009).

2.10.2.3 The Pre-Service Peers

At the initial stages of a career, peers from pre-service training may become an informal source of support. It has been found that workplace colleagues provide hopes

and aspirations when they assist new teachers to handle hard tasks especially in very challenging situations (Anderson & Olsen, 2006; Freedman & Appleman, 2008). They are helped to sustain their commitment (Brunetti, 2006). Colleagues are a source for boosting morale (Howard & Johnson, 2004). Additionally, their positive outlook reinforces teachers to put more effort (Jarzabkowski, 2002).

2.10.2.4 Students

Students are usually not considered as a source of contextual support. But it is observed that students can play roles of support and challenge simultaneously. Kitching et al. (2009) believe that a positive relationship between students and teachers can help teacher retention, especially in a challenging situation. Brunetti (2006) observed that teachers displayed a recognition for students who could deal with and overcome hard situations. They felt a sense of commitment to them.

2.11 Approaches, Theories, and Models of Resilience

Resilience is investigated with different approaches and with various conceptual frameworks. However, previous researches showed consensus over the fact that there is a complex and dynamic relationship between the various individual and contextual factors that build resilience in a developmental cyclical manner. In the context of teachers' job, the investigations can be grouped into three categories based on their focus on the individual, his/her surroundings, and his/her perception and the way of responses to different contexts. As discussed earlier, individual factors majorly involve self-efficacy and motivation (Chan, 2008; Tschannen-Moran & Woolfolk Hoy, 2007; Tsouloupas, Carson, Matthews, Grawitch, & Barber, 2010; Hoy, & Spero, 2005). Various studies have mentioned the professional development, induction, retention, mentoring, administration, colleagues, and relationship with students as important

contextual factors (Fantilli & McDougall, 2009; Hirschkorn, 2009; Jarzabkowski, 2002; McCormack, & Gore, 2008; Schlichte, Yssel, & Merbler, 2005; Shank, 2005; Smith & Ingersoll, 2004). The third category includes teachers' perception of and their responses to various contexts which involves the time period from pre-services training to early teaching positions, teaching at hard settings, and working at casual positions (Chong & Low, 2009; Demetriou, et al., 2009; Flores, 2006; Freedman & Appleman, 2008; Goddard & Foster, 2001; Goddard & O'Brien, 2004; Jenkins et al., 2009; Kaldi, 2009; Manuel, 2003; McCormack & Thomas, 2005; Olsen & Anderson, 2007; Prosser, 2008).

Richardson (2002) has identified the beginning of a new wave of resilience research that combines individual and contextual components of resilience to investigate an interdisciplinary way. The newer research work has investigated resilience across all dimensions including psychological, biological, and social to involve major individual and environmental factors of resilience (Almedom & Glandon, 2007; Kim-Cohen, 2007; Smolka et al., 2007).

Resilience is addressed in a wider manner by social pedagogy. It appreciates the presence of people in an individual's environment who provide help and support along with the recognition of an individual's self-esteem and communication skills. One's feelings of empowerment and sense of control lead him/her towards decision making. The individual takes responsibility for his/her happiness and well-being and builds associations with others (Eichsteller & Holthoff, 2011; Petrie, 2011; Werner, 2006).

Various models are used by researchers to develop research instruments and intervention programs. Bronfenbrenner & Morris (2006) mentions that one such model is the ecological model, which studies individuals with reference to the context of their cultural backgrounds, communities, and families. Ungar (2004) identifies that this

model sets the basis for later models of resilience, as the contextual differences among individuals influence the interaction between protective and risk factors of the child in their varying developmental context.

Fergus and Zimmerman (2005) have described three kinds of models, which trace the developmental stages of youth in the face of challenges. These models are introduced as “Compensatory, Protective and Challenge models”. The prominent elements among these factors include the presence of risks and protective factors. Compensatory models explain the way a protective factor counteracts or works against the risk factor. Protective models tell that the resources and protective assets can moderate or minimize the impact of a threat or risk. The challenge models describe that if the risk factor is of moderate level it raises more positive and less negative outcomes. These three models explain the various pathways of resilience that result as an interaction between risk and protective factors, hence a model which can explain all three in a combination will be more effective.

Constantine and Benard (2001) presented a theoretical model of resilience which demonstrates that the external factors including home, school, community, and peers guide the development of internal factors like confidence, self-awareness, empathy, cooperation, solving problems, goal orientation, aspiration, etc. The individual’s improved health, social competence, and academic achievements are the outcomes of this theoretical developmental trajectory. Benard and Slade (2009) believe that this model is combining the compulsory and protective models.

Donnan and Hammond (2007) presented a youth resiliency framework. It is an ecological model based on strengths. It involved 19 external and 11 internal assets. The model suggests that the cumulative effect of all protective factors promotes resilience.

It also guides an individual to adapt accordingly in the face of risk. This framework has benefited from both compensatory and protective models.

Ungar, Brown, Liebenberg, Cheung, and Levine (2008) presented an ecological model of resilience, explaining that while negotiating with external assets a child's development and social ecology interact to raise resilience. The models indicated seven tensions including cultural adherence, relationships, and personal efficacy. At a given time these tensions put an impact on the balance between risk and resilience by using both protective and challenge models.

Worsley (2010) explained the construct of resilience and presented 'The Resilience Doughnut Model'. She combined assets for resilience development in a therapeutic setting. She has benefited from previous research work (Fergus & Zimmerman, 2005; Grotberg, 1995; Ungar, et al., 2008) and presented the following lines of thought.

First, resilience is the capacity of an individual or group which could be developed.

Second, resources, adversity, and an individual's capacity have an influence on his/her resilience, which makes it a dynamic process.

Third, resilience can be built and strengthened when individuals respond to adversity.

She defined resilience as a continued developmental process of individual or group competence by negotiating the resources available at the moment of adversity.

2.12 The Resilience Doughnut Model

Worsley (2010) has explained that for the development of resilience among vulnerable youth it is appropriate to trace the potential pathways of resilience development rather than measuring it at a given time. Her model known as the "resilience doughnut model" explains the trajectories towards successful management

of challenges while appreciating the available resources and the way they interact with the individual. The model displays potential for planning and designing future interventions to promote productive youth and mental health.

The doughnut model of resilience takes into account the internal resources of the individual, resources in the external environment, and theories that influence the model. It majorly focuses upon the internal capacities and the environmental contexts of the individual. The model guides through several pathways for developing resilience, it also shows potential for tool building, program designing, and remedial intervention in resilience studies. The model is also inspired by the international research project of Grotberg (1995) which identified 36 internal resources comprising three categories. These categories were named “I Am”, “I Have” and “I Can”. These take several forms in various combinations.

I Am is related to internal or personal capabilities.

I Can refers to individual’s social and interpersonal skills.

I Have is related to external sources of individual.

All these sources contribute to developing resilience among individuals. Grotberg (1995) explains that to acquire feelings of security and safety, the individual requires an external resource (I have) before he or she knows about himself or herself (I am) and what he/she is able to do (I can). A large bank of external resources helps the individual in making choices for appropriate responses in a tough situation, thus promotes resilience.

Benard (2004) focused on internal resources for the development of resilience. Four different categories of internal resources were identified for the promotion of resilience. These included “social competence, problem solving, autonomy and a sense of purpose”. These factors overdo the gender, geographical features, timeframe, culture

and ethnicity. These are taken as developmental possibilities which can be promoted in any individual by providing external support and opportunities.

Fuller (1998) designed a study where youth were asked to identify anything which helped to successfully face adversity. Their responses were grouped in four types of support elements that included society, educational institute, family and peer underpinned on a sense of connectedness, empathy, and belonging. Fuller (1998) described belonging as identifying a group that raises characteristics like honesty, altruism, and care. It was further described that protective factors in each level raise a particular combination of behaviour that lead to autonomy, sense of control and success.

According to Ungar (2008a), the ability of an individual to negotiate with resources to sustain and flourish is associated with “seven tensions” of both internal and external kind. These tensions included (1) physical resources (2) relationships with others (3) power and control (4) culture (5) cohesion (6) social justice and (7) identity. The resilience of an individual is determined by the balance among these tensions. Ungar (2008a) further described that young people try to apply solutions to challenges that are posed by these tensions. It is a fit among these tensions that individuals develop resilience. It is explained that four principles are applied to these tensions. First, the individual can only navigate through the available resources. Second, they can select from whatever they possess. They will choose resources that influence their mental and physical health positively and all other related outcomes. The third principle tells that one dimension of resilience is related to its other dimension which reflects homogeneity among behaviours of children across cultures. The fourth principle is based upon the diversity among different cultures which is expressed by the relationship between various aspects of resilience.

Rutter (2006) rejected resilience as being an abstract entity, instead, it involves processes based upon individual differences while responding to environmental threats. His approach was much nearer to Grotberg (1995), as he believes that every individual has got a personal coping mechanism and mindset to deal with stress. Hence, every individual develops a personal way of dealing with adversity. Furthermore, Rutter (2006) believes that research studies need to shift their focus from risks to how individuals deal with these risks. He invites attention towards the dynamic processes involved in the resilience mechanism, rather than addressing static factors in a summative manner. Thus, a resilience model was required to express dynamic processes acting among internal and external factors and appreciating individual differences.

2.13 Structure of Resilience Doughnut Model

While analysing major theories of resilience Worsley (2010) identified three major forces for resilience.

1. The internal factors based upon the personal traits of individuals enable them to recover from adverse situations (Benard, 2004; Grotberg, 1995).
2. The influence of the outer environment around the individual that develop competencies among them and develop their internal assets (Ungar, 2008a; Ungar, et al., 2008; Werner & Smith 2001).
3. Resilience is enhanced or held back when internal assets interact with external resources. This interaction defines the resilience of an individual.

Worsley (2010) has shifted towards the multifaceted concept of resilience, which highlighted resilience as being a dynamic process. This involves the continual development of personal assets as a result of interaction with available resources at any

hard event. She has developed a model having many factors allowing individual differences to play a role that is based on interrelationship. The model is defined by its two circles. The inner circle demonstrates the internal sources of the individual, whereas, the outer circle comprises environmental resources where the individual grows up. These contextual resources are composed of seven factors. Whereas, internal resources are occupying the center of the doughnut with three key components. The dynamic relationship between internal and external resources displays the interactional component of the model notably in the face of adversity.



Figure 2.1 The Resilience Doughnut Model

2.13.1 Resilience Doughnut: Internal Factors

The centre of the doughnut model consists of the personal characteristics of individuals based upon the concepts mentioned in previous literature. Worsley (2010) has cited research work (Benard, 2004; Frydenberg, 2007; Grotberg, 1995) for self-esteem, for self-efficacy (Benard, 2004; Martin & Marsh, 2006; Seligman, 1992) and

for awareness of resources (Cameron, Ungar, & Liebenberg, 2007; Masten, et al., 2004; Ungar, 2004). These internal resources produce a cumulative effect on an individual's resilience as categorized by Grotberg (1995). These categories of internal resources interact with the external resources of resilience doughnut, which is shown in Table 2.1.

Table 2.1

Internal Concepts of the Resilience Doughnut with Construct and Related External Contexts

Concept	Constructs as noted by Grotberg (1995)	Interacting external contexts
Awareness of resources (I Have)	I have people around me I trust.	Parent, Family,
	I have people who set limits for me, so I know when to stop before there is danger or trouble.	Parent, Family
	I have people who show me how to do things right by the way they do things.	Community,
	I have people who want me to learn to do things on my own.	Education Peer
	I have people who help me when I am sick.	Parent, Family
Self-concept/ Self-esteem (I am)	I am a person people can like and love.	Parent, Peers
	I am glad to do nice things for others and show my concern.	Family, Peer
	I am respectful of myself and others.	Community
	I am willing to be responsible for what I do.	Skill, Peer
	I am sure things will be all right.	Community
Self-efficacy (I can)	I can talk to others about things that frighten me or bother me.	Peer, Education, Family
	I can find ways to solve problems that I face.	Skill, Money
	I can control myself when I feel like doing something not right or dangerous.	Skill, Peer,
	I can figure out when it is a good time to talk to someone or take action.	Money Peer, Parent
	I can find someone to help me when I need it.	Education, Peer

Source: Worsley, L. (2010). The Resilience Doughnut Model
https://www.resiliencereport.com/var/file/research/The_resilience_doughnut_general_paper.pdf

2.13.2 Resilience Doughnut: External Factors

The outer circle of the doughnut consists of seven factors. It is based on the researches which addressed these contextual factors for resilience. These seven factors include “parent (for children) or partner (for adults), skill, family, education, peer, community and money” as external resources of individual. Each context is developed from several constructs having common features. As shown in Table. 2.1, each feature is interrelated with the personal factors of individuals which are “self-esteem (I am), self-efficacy (I can) and awareness of resources (I have)”. Each of these seven external sources is a separate subscale (Worsley, 2010).

The following section discusses each subscale separately.

2.13.2.1 Parent Factor

Numerous factors are underpinned in the relation between parents and children that are significant in building resilience among children and young people. Worsley (2010) cited Baumrind (1991) for disciplinary styles, Ungar (2009) was cited for parental monitoring and control. Similarly, Baumrind (1996) and Suchman, Rounsaville, DeCoste, and Luther, (2007) were cited for decision making of parents, Ungar (2009) for communication between child and parent. Studies have discussed love, warmth, and satisfaction from parents (Fuller, McGraw, & Goodyear, 1998; Suchman, et al., 2007). Walsh (2006) focused on parental cooperation, Duckworth and Seligman (2006) concentrated on self-control and values of freedom. Grant (2004) and Walsh (2009) discussed parent’s sense of purpose (Worsley, 2010).

2.13.2.2 Skill Factor

Worsley (2010) identified numerous aspects mentioned in the literature that affect the acquisition of a skill. She cited Dolbier, Smith, & Steinhardt (2007) for the element of hardiness in skill acquisition. Optimistic thinking was stressed in different

studies (Reivich & Gillham, 2003; Schueller & Seligman, 2008; Seligman, Schulman, & Tryon 2007). Caldwell and Boyd (2009) highlighted solving-problem ability to promote resilience. Some studies (Martin & Marsh 2008b; Masten & Coatsworth, 1998) were mentioned for feelings of achievement and success. Worsley (2010) cited Brown, D'Emidio-Caston, and Benard (2001) for recognition associated with skill acquisition. Ungar, Dumond, and McDonald (2005) mentioned the ability to make new experiences as cited by Worsley (2010). She cited few studies (Bernard, 2004; Masten & Coatsworth, 1998) for self-confidence. Busuttil (2010) described that having people who admire and encourage individuals for learning skills also place an impact on their resilience as cited by Worsley (2010). Griffin, Martinovich, Gawron, and Lyons (2009) discussed that individuals are exposed to challenging settings while acquiring a skill, it becomes significant in later life when they fail in their struggles and keep on trying.

2.13.2.3 Family and Identity Factor

Researchers such as Hetherington (2003) and Furstenberg and Teitler (1994) have highlighted the significance of family structure and family systems respectively for resilience development. Masten and Shaffer (2006) believe that belonging to a group of individuals who have relationships is significant for resilience development. Worsley (2010) pointed various aspects of family and identity factors. She has cited studies (Geggie, Weston, Hayes & Silberberg, 2007) for connectedness, and family traditions, going through hard times, having family holidays, and responsibility within the family. Research work by McGraw, Moore, Fuller, and Bates (2008) was cited for feelings of acceptance, respect, and sibling connectedness. Furstenberg (2005) has explained the importance of having an elder with whom interests are shared. Studies (Fuller, 2004; Oglesby-Pitts, 2000) mentioned the role of a wider family network. Worsley (2010) has cited Wiener (2000) for family identity. Dandy and Nettelbeck (2002) mentioned the

significance of having high-expectation adults. Jonker and Greeff (2009) stressed the high spiritual values and Whitten (2010) highlighted a positive view about the outer world.

Botou, Mylonakou-Keke, Kalouri, and Tsergas (2017) studied the teachers' resilience and found that teachers in Greece have a strong network of relationships with family and colleague. The strong family nexus effectively supports its people and develops a higher level of resilience among teachers.

Researches which have been initiated since the end of the previous century helped in identifying various elements and sources used by families for their strength. It led to the identification of key factors of family resilience. These factors included a belief system that a family shares, a flexible family structure, and an effective communication pattern. It was discovered that family resilience is mediated by the cultural values and beliefs of society. Families from different backgrounds adopt different coping strategies. Botou, et al. (2017) discussed that where Malay families involved themselves in religious practices, the Chinese families looked towards the pillar of the family for leadership in crisis. Communication was a key source of resilience for both Malay and Chinese families. However, in the West flexibility of family is a major element, where the distribution of power and labour is important. In Asian countries, the family acts as an agent and response unit in an adverse situation. (Cohen, Slonim, Finzi, & Leichtentritt, 2002; Masten & Obradovic, 2008; Patterson, 2002; Walsh, 1998a, 1998b, 2003).

Chang and Sivam (2004) studied that in a disaster situation in Singapore, people did not act as isolated individuals, instead, they cope with it as a family. Difficult situations may cause friction and fragmentation in the structure and process of a family, still family acts as a unit of retort. Hofstede (1980) mentions the collectiveness of Asian

families, whereas, Bentelspacher, Chitran, and Rahman (1994) identified their family-oriented cultures rooted in history. At the moment of traumas and crises, the family acts as a team, and functions to protect each family member. The particular characteristics and functions of the families in different societies led to the introduction of the construct of family resilience. Researchers discovered that connections within the family enable individuals to survive and recoil after facing challenging situations (Walsh, 1998a, 2003; Patterson, 2002).

Chang (2007) observed psychological resilience during calamities caused by natural phenomena. At such events, the nurses in Singapore used to express their feelings by directly quoting their families for their strength. They credited their families for being a reliable resource for coping and admitted that they acquired resilience to deal challenging situations by turning to their families for strength.

Chang, Neo, and Fung (2015) conducted a study on nurses to find out the family characteristics which protected them from the negative effects of depression and anxiety and improved their overall well-being. They classified various themes for family resilience into four categories. 1) process variables which include the communication skills of family members, their selfless immolation, love, and care to accommodate one another. 2) structural variables including an effective leadership that unites all and dependence on one another. 3) emotional management which helps in normalizing mood, controls negative feelings, and creates lighter moods through humour, etc. 4) making meanings by sharing common belief system which may be based on religion or universal opinions. They concluded that a reciprocal relationship between family and individual resilience existed, which improves the well-being of individuals. They introduced a set of family factors for resilience which included solidarity of family, faith in God/spirituality, ancestors, making meanings, emotional management.

Research on teachers' resilience is challenged due to its multiple contexts. Beltman and Wosnitza (2008) mentioned that although the significance of family and friends is well documented regarding different life events and aspects, the prior researches did not report the possible support of friends and family outside the teaching process. In a study on prospective teachers, Kaldi (2009) discovered that family members, friends, peers, and mentors of prospective teachers are not rated as a powerful source of intellectual and emotional support. On the contrary, Yates, Pelphey, and Smith (2008) found that family members were influencing the performance of graduate teachers. Similarly, Day (2008) discovered that among resilient teachers, two-third have reported personal support from their families as the strongest factor in their resilience. Similar findings were shared by Howard and Johnson (2004) who found that resilient teachers have strong support groups which include their families and friends outside their teaching profession.

2.13.2.4 Education Factor

Education is known for building various characteristics which are associated with resilience. Worsley (2010) has mentioned them by citing studies for belonging and acceptance (Battistich, Schaps, & Wilson, 2004; DePaul, 2009), for having strong relationships with at least one teacher (Jennings, 2003), for teachers having high expectation (Castro, et al., 2010), for having studied resilience promoting communication, participation in extracurricular activities and attribution (Stewart, Sun, Patterson, Lemerle, & Hardie, 2004), for engagement in literary activities (Martin, & Marsh, 2008a; Sharkey, You, & Schnoebelen, 2008), for having optimistic and positive world view (McCusker, 2009; Parker & Martin, 2009), for inclusive environment making learning enjoyable (Johnson & Lazarus, 2008).

Jackson and Martin (1998) also found education as a powerful factor for resilience building. They have described that young people can understand the significance of education in career. With the support of adults, education becomes an escape route for them which enhances motivation as well and can predict the future for them. Educational success can correctly predict adult lifestyle and social security; therefore, it can build confidence and motivation.

2.13.2.5 Peer Factor

During adolescence, the development and maintenance of friendship become one of the major social skills. Sense of belonging helps in the development of moral values among youth (Horn, 2005; Schonert-Reichl, 1999). Peer groups have various aspects in the context of which resilience can be developed (Masten & Coatsworth, 1998). Worsley (2010) has mentioned the research work of Schonert-Reichl (1999) regarding the feelings of belonging and acceptance among youth for resilience development. She has cited other researchers (Horn, 2005) for aspects such as conflict, Daddis (2008) for cooperation and sharing, Sanders and Munford (2008) for cohesion and support from peers and conformity, Schonert-Reichl (1999) for a close relationship, care, concern forgiveness and loyalty with a group, Noeker and Petermann (2008) for self-control and regulation and Pineda (2007) for social awareness.

Freedman and Appleman (2008) mentioned the informal support for early career teachers from their peers belonging to pre-service courses. Similarly, Anderson and Olsen (2006) have explained that colleagues at the workplace are a significant source of inspiration and hope which helps educators to handle difficult situations and remain committed. Howard and Johnson (2004) have mentioned colleagues for boosting morale whereas, Jarzabkowski (2002) is of the view that positive viewpoints of colleagues are passed on to one another which becomes the source of motivation.

Stanford (2001) has reported that work-life satisfaction and support from family, friends, and colleagues is a source of resilience among teachers. Williams (2003) has also concluded that satisfaction gained from teaching and professional development enhances self-improvement among teachers. Brunetti (2006) has also focused on the significance of job satisfaction which brings a commitment to a profession. Sammons et al. (2007) has claimed that for the dynamic process of resilience, peer relationship and mutually supportive colleague play a significant role. Greenfield (2015) concluded that resilience is deeply associated with the support of colleagues, family, friends, leadership, the positive teacher-student relationship, and with the sense of purpose and hope. Further added are the aspects such as self-efficacy, the competence of problem-solving, and professional development. Botou et al. (2017) reported a moderately high or high resilience among more than half of the primary teachers. Resilience among these teachers was affected at a moderate level during the economic crisis of Greece. Despite facing difficulties, teachers at Athens maintained their resilience level which they credited to family cohesion and positive work-life relationships with colleagues.

3.13.3.6 Community Factor

Dunst, Hamby, Trivette, Raab, and Bruder (2000) found that positive links with society and a supportive community are important contributors to resilience development. Worsley (2010) has highlighted various aspects and contributions of community factor for resilience building by citing researcher outlines such as Ungar et al. (2005) for association with sporting clubs or religious groups and belonging to a local area, Fergus and Zimmerman (2005) for positive relationships with an adult in the community, Sanders and Munford (2006) for family friendships, Beltman and MacCallum (2006) for the relationship with mentors, Crawford, Wright and Masten

(2006) for association with a system or faith group and Van Dyke and Elias (2007) for the society that values children and shares a common purpose.

3.13.3.7 Money Factor

Research studies (McLoyd, et al., 2009; Pittman, 1985) have pointed out the association of money factor with the economic stability and the income of the family. It shapes attitudes and behaviour towards the acquisition of property or material possessions. Various aspects related to the money factor contributed to the promotion of resilience. Worsley (2010) has cited McLoyd et al. (2009) for economic stability associated with basic needs, Peterson, Park, Hall, and Seligman (2009) for the sense of control over the acquisition of money and sense of care for property along with strong work ethics, Fuller, et al. (1998) for valuing money, Duckworth and Seligman (2006) for waiting and thinking about spending money, Munford and Sanders (2008) for contributing to daily spending. Masten and Coatsworth (1998) have mentioned that self-discipline and self-efficacy also help in improving resilience while spending money. Whereas, according to Peterson, Ruch, Beermann, Park, and Seligman (2007) budgeting and planning and a sense of gratefulness is also significant for the development of resilience as cited in Worsely (2010). Peterson et al. (2009) have focused on work ethics and a sense of care for material possessions (as cited in Worsely, 2010).

The doughnut model of resilience is different from all recent resilience models in the following ways. First, it stresses the power of external factors of the individuals. Second, it has identified seven factors that are external to individuals. Third, the presence or absence of external factors of individuals modifies the trajectories of individuals which help them to deal with difficulties (Worsley, 2010).

The studies of Dolbier et al. (2007), Fuller-Iglesias, Sellars, and Antonucci (2008) and Noeker and Petermann (2008) established that an individual requires a few among these seven contexts to be working well in his/her life for being resilient. In such a case the available external resources must be strong enough and interconnected to all internal sources of resilience to build the overall resilience of an individual. While considering the potential of each external factor to influence all internal factors, it seems realistic that only a few of these external factors become helpful in building resilience. The number and strength of the external factors required to build resilience are still not confirmed and need further investigation. But for primary studies, three external resources are considered essentially strong in an individual life at a given time.

Worsley (2010) has supported all three models of resilience suggested by Fergus and Zimmerman (2005). She combined all three models so that these influence the presence, absence, or interaction of the stronger external resources to affect the overall resilience of an individual. The resilience doughnut model seems compensatory when it focuses on strong contextual resources without associating the risk factors. It becomes protective when the presence of a few strong external resources neutralizes the influence of weak resources. It seems the challenge model when stronger external resources of individuals are mobilized in the face of adversity and prepares individuals for future challenges. Another side of the model reveals that within each external resource the individual is exposed to conflicts and tensions.

2.14 Measures of Resilience

Many research instruments were generated to measure resilience among adults and youth. Instruments for measuring resilience among youth are mostly modified from instruments developed for adults based on the research work regarding risk and

protective factors and establishing a net effect as a resilience score. These research instruments are majorly self-reporting questionnaires and have sub factors between 7 to 30 factors.

A study on 24 elderly women was conducted to develop “Resilience Scale” (RS). These women successfully adapted to the changes typical of old age. The initial version of RS consisted of 25 items and 02 factors i.e. “individual’s competence and acceptance of life and self”. Its short-form had 14 items (Wagnild & Young 1993). It was proved reliable when used with a sample of elders and was validated for adolescents (Hunter & Chandler 1999).

Ungar and Liebenberg (2009) developed a contextually and culturally relevant instrument for measuring resilience among young called child and youth resilience measure (CYRM). This instrument was developed for youth who are marginalized and belong to various cultural backgrounds. It consisted 28 items and presented all those common factors which are associated with resilience. It creates an understanding regarding different resources which are associated with different contexts (Ungar, 2008b).

Worsley (2006) combined all the concepts used by previous researchers in various contexts and developed the resilience doughnut quiz. It had seven sections each section had statements starting with ‘I can’, ‘I am’, and ‘I have’ while addressing the three internal contexts.

2.15 Demographic Factors and Teachers’ Resilience

Among various demographic characteristics, Estaji and Rahimi (2014) identified gender and teaching experience as leading factors that can influence the resilience of teachers. The VITAE (The variations in teachers’ work lives and

effectiveness) program has identified six important phases of teachers' professional life which is related to their work experience.

Day (2008) has outlined these six phases of teaching tenure as following:

1. 0-3 years: challenge, commitment and support.
2. 4-7 years: identity effectiveness in a classroom of students.
3. 8-15 years: the transitions in role and identity are managed in the face of increased tensions and variations.
4. 16-23 years: fulfillment of commitments and maintaining motivations, a work-life balance.
5. 24-30 years: a struggle for sustaining motivation.
6. 31st year: fluctuations in sustaining and declining motivation, handling changes, retirement planning.

While moving through these work-life phases, teachers perceive effectiveness, but at the same time, each phase is presented with its own challenges. The first phase is characterized by commitment in the face of challenges along with support. At this stage a supportive school leadership helps in developing the sense of self-efficacy in the classroom where students' difficult behaviours set challenges. The second phase is characterized by identity and efficacy. Teacher at this stage develops confidence, manage heavy workloads and builds a sense of effectiveness as a teacher. Anderson and Olsen (2006) have reported that early career teachers may suffer from the feeling of tiredness and seeks survival support from a mentor or a supportive leader. At this stage, classroom management becomes a major focus. Between the 3rd to 6th year of work-life, teachers begin to develop interest and look into a broader context outside their classroom, they seek innovative roles like leadership and accept challenges.

In the context of the economic crisis of Greece, Botou et al. (2017) reported in their study that older teachers with more years of experience were more resilient. Wagnild (2016) found increased resilience with age in a study with a sample of the general population. Carroll & Foster (2010) have also reported satisfaction and better performance with more years of work. Various research studies (Gibson & Demdo, 1984; Gu & Day, 2007; Rutter, 1990) have traced the link between resilience and self-efficacy. It is assumed that age and experience at the job help in building self-efficacy, hence, increases resilience. Bobek (2002) has portrayed the scenario that when a teacher gets the ability for the correct assessment of the adverse situation and can recognize coping options, he/she successfully arrive at a suitable solution. Therefore, it is assumed that older and experienced teachers may have strengthened their resilience as they have gone through difficult situations. Gu & Day (2013) presented their converse argument by reporting that teachers sustain their sense of resilience more in their early and middle stage of their career as compared to their later stages of career. They put a rationale for this argument that over the period, a decline in resilience is observed due to policy reviews of the government, classroom management, students' behaviour, management issues, the burden of responsibilities and poor health, etc.

Botou et al. (2017) reported gender differences in resilience in favour of their female teachers. This is explained in a reason that a typical Greek female has to perform various roles in her life and has to face numerous problems which increase her adequacy and ability to face the challenge. Whereas, Wagnild (2016) discovered that the resilience among the general population does not vary significantly on the resilience scale (RS) in relation to gender.

Odanga, Aloka, and Raburu (2015) investigated the effect of teachers' marital status on their self-efficacy in public schools of Kenya. They conducted a mixed-

method study and reported different results with different approaches of research. In their quantitative findings, they reported that the marital status of teachers does not affect their self-efficacy. But, a significant effect of marital status on self-efficacy is noticed in qualitative analysis. Studies (Protheroe, 2008; Klassen & Chiu, 2010) have established the role of self-efficacy in persistence and innovativeness among teachers. Self-efficient teachers are better planners, innovative, bring better academic outcomes among their students, and are more resilient. The studies by Adu, Tadu, and Aze (2012) and Protheroe (2008) found that married, male teachers put more effort, try to perform more tasks at schools, continue their efforts with assigned tasks for longer, and quickly recover in case of failure. Hence, it was concluded that teachers having higher self-efficacy are more resilient. Odanga et al. (2015) concluded that male and married teachers put more effort into the achievement of their targets due to high self-efficacy as compared to their unmarried female counterparts.

Botou et al. (2017) reported higher resilience levels among teachers in higher positions such as principals, headteachers, etc. It is assumed that this is because they have attended difficulties and challenges with an increased workload which improves their resilience. Many researchers (Beltman et al., 2011; Goddard & Foster, 2001; Howard & Johnson, 2004; Tschannen-Moran et al., 2007) had confirmed these findings. The literature has consistently suggested that supportive leadership and mentor at school along with positive feedback of parents and students influence may play a role in retaining teachers' motivation and resilience over time (Brunetti, 2006; Castro et al., 2010; Day, 2008; Day & Gu, 2010; Huberman, 1993; Leithwood, Day, Sammons, Harris, & Hopkins, 2006; Meister & Ahrens, 2011; Webb et al., 2004).

Education is considered an important contextual resource for resilience but research work by Botou et al. (2017) has concluded that no significant condition is

traced between resilience and the education level of the teacher. They explained the fact that the study sample majorly had graduate-level degrees whereas, 20% of the sample had a master or doctoral level of education. 94% of these teachers attended an additional training course. As the sample had little variation in academic qualifications, no significant difference in their resilience level was reported.

2.16 Structure of Education in Pakistan

Six levels of educational tiers are defined in Pakistan as following.

- i. **Preschool Stage:** It includes nursery and preparatory classes. It is for the age of 3 to 5 years.
- ii. **Primary Stage:** It includes Grade I-V. It is for the age group of 6-10 years
- iii. **Middle Stage:** It includes Grade VI-VIII. It is for the age group of 11-13 years.
- iv. **Secondary School Certificate/ SSC/Matriculation:** It includes Grade IX-X. It is for the age group of 14-15 years.
- v. **Higher Secondary School Certificate/ HSSC:** It includes Grade XI-XII. It is for the age group of 16-17 years.
- vi. **University Education:** It includes programs at undergraduate, graduate, and postgraduate levels for the age group of 18 and above.

There are 5130 educational institutions in Pakistan working at the HSSC level which makes 2% of all the educational institutions. Among these 1998 (39%) are part of the public sector whereas 3133 (61%) are working under the private sector (Government of Pakistan, 2018).

The enrolment at the HSSC level is 1.583 million. The public sector shares 88% of it by having an enrolment of 1.396 million whereas, the share of the private sector is 12% with the enrolment of 0.970 million students. The gender-based distribution of the

sample shows that 61% (0.970 million) are male whereas, 39% (0.612 million) are female students at the HSSC level (Government of Pakistan, 2018).

120,336 teachers serve at the HSSC level in Pakistan. 60,361 (50%) among these are serving in the public and 59,975 (50%) are serving in the private sector. The gender-based distribution of these teachers shows that 52,963 (47%) of them are male teachers and 59,747 (53%) are female teachers (Government of Pakistan, 2018).

2.17 Significance of Higher Secondary Education

In Pakistan, the “Higher Secondary School Certificate (HSSC)” is also named as Faculty of Arts (FA) / Faculty of Science (FSc) or intermediate level education. In everyday language, grade-XI is known as 1st year and grade-XII is known as 2nd year. The national education policy (2009) states that secondary and higher secondary education is important as these levels prepare students for life. It is significant in two ways first, it provides input for tertiary education, second, the students who enter the job market at this stage are the source of skill for the labour market. The policy recommended promotion of Life Skills-Based Education (LSBE) at this level. Sports activities and career counselling facilities were also recommended (Government of Pakistan, 2009).

It is the educational level where students enter their adolescence stage, therefore, this stage is considered crucial. Students struggle to adjust to their problems and try to shape their pattern of behaviour while working hard for academic achievements. It allows educationists to conceive and initiate programs for learners in relation to their psychological and academic circumstances.

Regarding physical and psychological changes, adolescence is an intense period of life span. It is a life stage when abilities of problem-solving, logical and abstract

thinking, reasoning, moral values, and social interaction are refined and become complex. Hence, it is critical that how a young person responds to such challenges and opportunities. Adolescents are expected to improve their skills through a supportive environment. They can dialogue and navigate towards future plans and can make sense of risks and difficulties. Adolescents who have limited support at home and community need better opportunities and skills at educational institutions (Unicef, 2012).

2.18 Resilience at an Educational Setting

Researchers believe that educational institutions are the places where challenges, tensions, pressure, and setback become a routine (Catterall, 1998; Martin & Marsh, 2006, 2009). Hence it is significant to disclose the academic challenges which students face and the ways they adopt to deal with risks. Academic resilience is the element that makes a student buoyant at a risk situation. In an educational setting, where Dauber, Alexander, and Entwisle (1996) have identified students who continuously perform poorly and fail to achieve their targets, Jimerson, Egeland, and Teo (1999) have pointed those who successfully meet challenges and overcome their issues and limitations.

Bernard (2004) has explained that many students are successful in developing their activities to combat challenges. Consequently, they not only continue to survive but also improve their social and academic circumstances. Bernard (2004) termed this ability as resilience where one may sustain energies to perform well when life presents a challenge. The resilience theory is an effort for an explanation of why some students show better performance and achieve their target despite negative contextual and individual factors (Reis, Colbert, & Hébert, 2004).

The research studies which investigated situations, where challenges could not produce harmful effects on a students' life are of greater significance for policymakers and other stakeholders of education. These researchers have helped in designing interaction and prevention programs to avoid school failure. Educational researchers at present, are more interested in the study of techniques and struggles that faster and inculcate resistance among students (Masten, 2012). These studies have led educationists to discover possibilities of success for those who remained consistently a failure, as it is established now that resilience can be learned. Once infixed, these abilities and skills can be further strengthened (Bernard, 2004).

Educational institutions can help youth in developing resilience when the adolescents are provided opportunities to develop friendships, personal skills, teacher-student relationships and to socialize at school. Resilience among young people is fostered when schools make arrangements to develop interaction with the community, families, and peer in a positive direction. In this way, the school environment can support and develop opportunities for enhancing resilience among young students. School as a contextual opportunity site can bring significant change with community, family, and peers. Bernard (2004) has suggested that teachers should be encouraged to be the turnaround persons" while schools to be "turnaround regions". Such teachers may set an empowering and nurturing atmosphere that engages pupils to develop their capacities through positive development and connectedness at school (Bernard & Slade, 2009).

At educational institutions, many programs can help students in development of their resilience. Some of these programs engage students in developing their skills and resilience in educational settings (Frydenberg, 2007; Martin & Marsh, 2008a). Some other programs have a focus on changing the net effect of challenge and support

elements to foster resilience (McGrath, 2003). Another program named Penn Resilience Program (PRP) is a program for building cognitive behaviour it inculcates optimism among youth (Gillham, et al., 2007). After a two years program, its effectiveness was analyzed regarding a decrease in symptoms of depression among youth. In three different schools, the results were inconsistent due to differences in the support provided by staff at each place. The success of such programs invites more research to recommend how it can be implemented for enhancing students' resilience at schools with available resources (Reivich, Gillham, Chaplin, & Seligman, 2005; Seligman, 2008; Seligman, et al., 2007). According to Gillham, et al. (2007), engaging the already available counsellors, teachers, and staff members was more effective as compare to using university students for implementation of these programs.

Masten, Herbers, Cutuli, and Lafavor (2008) have proposed three approaches for research, policy and practice in the field of resilience.

- a) Challenge-based approaches: These focus on reducing risk
- b) Assets-based approaches: Try to improve assets and support factors in students' life.
- c) Process-based approaches: These focus on mobilizing students towards adaptive capacities e.g. improving relationships with parents, teaching of social skills (Masten et al, 2008).

The appraisal of the resilience program has revealed that very few of the intervention programs were subjected to controlled trials or evaluation. Most of these programs focused on preventive measures and tried to equip people against adversities. Some of the programs were conducted with public health approach at school or in communities. Most of the research work was focused on identifying proactive factors, less work is done on the evaluation of interventions for changing negative outcomes (Windle & Salisbury, 2010).

Wong, et al. (2009) has reported the results of a comparative study for resilience at health-promoting schools under WHO and schools among a Chinese population. The health promotion school of WHO focused upon developing connections among the community, parents, and families with the help of trained teachers and staff. The study found improved resilience among teachers and students. It emphasizes the potential of the whole school program, which can work by strengthening relationships and can put effort to bring positive changes among teachers and students. It shows that the relationships among teachers, students, and supporting staff are significant for implementing a resilience-building program at educational institutions. Moreover, these programs should be evaluated for overall effectiveness.

Russo and Boman (2007) recognized the contributions of schools and teachers in developing support and protective factors. Educational institutions are the social contexts where students get cognitively mature over the years, they nurture and replete with the opportunities provided to them. In this scenario, teachers play a vital role, as they influence the psychological and social growth of children, who spend a longer part of their daytime under teachers' supervision. The daily experiences of students cast an impact on them in multiple ways. In this regard, Minnard (2002) has defined effective schools as those that set a basis for the development of protective factors and are the source of security and opportunities for pupils' success. Gilligan (2002) viewed that children who have been abused need encouragement for positive characteristics such as self-esteem so that these children can become resilient. Such an objective can be achieved by promoting a positive relationship between students and teachers.

Ungar (2009) has also confirmed the role of a teacher in building resilience. A teacher can give rise to several protective factors in the environment such as a caring educational setting, an environment for learning which is relevant, practical, and

positive along with high positive expectations. Similarly, teachers can enhance resilience by decreasing stress. For teachers, to successfully recognize and assist students' resilience, it is required that they could reflect the complex factors through their knowledge and awareness which are needed to build resilience.

Silyvier and Nyandusi, (2015) are of the view that as children face and handle different types of stress and adversities, they acquire knowledge about resilience. An interesting argument is that resilience is a common phenomenon which grows out from the ordinary adaptive process of an individual. It is not a rare phenomenon which needs special qualities, instead, it arises from everyday magic, which is ordinary and exists in normal human resources such as minds, brains, and bodies and their outer contexts such as teacher, parents, and communities. The study of resilience takes a broader view and addresses upon larger issues of adjustment while leaving a gap on teacher factors that can affect their capability of developing resilience among children at risk.

Krovetz (2007) established that role of school and teacher is critical in establishing resilience among students. It was described that the actual power of individual characteristics is derived from the extent to which a teacher influences the outer environment of a child by providing caring atmosphere, positive and high expectations, and purposeful participation. It further explains that resilience-building is not possible through a specific curriculum or a particular program. Instead, resilience is raised through long-term systematic changes which reflect the community in which children work and live. Krovetz found that in resilient schools and communities, classes were grouped and re-grouped heterogeneously or as appropriate. These schools use common instructional strategies and give rise to a "Safety net" for those students who are left behind in academics.

Howard and Johnson (1999) interviewed primary school teachers on the query of a resilient versus non-resilient student. In their study, teachers were asked to share their opinion about what makes children resilient or non-resilient? These teachers referred that the personal characteristics of children are significant in resilience building. In contrast to the findings of previous researches, teachers considered that resilience is innate quality it seems something that students have or do not have. They reported that teachers believed that students who had a tough life at home are more likely to lack resilience and being vulnerable. Alternatively, to the teachers who think that poor school achievement does not affect resilience level, students believe that learning difficulties cause them a tough life. Similarly, the success of teachers is not associated with school life.

Oswald et al. (2003) found that teachers seem to underestimate their real role in supporting children. They collected the views of teachers about the characteristics of resilience. There came two broad perspectives. Some teachers were of the view that their role is important in a child's life. They can contribute and can educate children. But others believe that their impact on children is limited when children are in their class. These teachers expressed that they lack control to introduce any change in a given situation.

Henderson and Milstein (2003) maintained that after family members, a teacher is the most significant person who holds the best position to be a resilience promotor. A teacher can provide supportive conditions through opportunities that are meaningful to students. Rutter (1979) has also mentioned school as a powerful place to capitalize on students' resilience. Researchers (Masten, Best & Garmezy, 1990; Padrón, Waxman, Brown, & Powers, 2000) have shown that at-risk students managed to demonstrate a success level even though hurdles and barriers existed. Krovetz (2007)

established that resiliency theory has a basis on the supportive factors around a child such as family, school, or community. These factors make a child resilient while the others who have missed these protective factors later receive interventions. Henderson and Milstein (2003) advocated that schools must be places where the resiliency of teachers and students is fostered. It is necessary because today schools are facing demands of ensuring the success of every child. The pressure is, “do more” with “less”. School has become the most frequently cited support factor for fostering resilience when it has a caring and support environment.

2.18.1 Care and Support at Educational Institutions

Throughout the resilience literature prevails the significance of a caring and supportive environment in an educational setting. Henderson and Milstein (2003) have described how to build resiliency in six-steps. The most important element for resilience building is to provide a caring and supportive environment, as it is difficult to overcome a hard situation without having such a system. The support system may exist in a biological family or sometimes a teacher, neighbour, the mentor might become a source of support and care. Higgins (1994) believes that even a pet or peer can become a source of care and support. But as a matter of fact, children spend a longer part of the daytime at school, hence, the influence of care and support at school cannot be denied. Such relationships establish a foundation for trust, on which healthy future development can be made. Werner (1989b) also emphasized a teachers’ role in establishing a caring environment at school to foster resilience.

Brooks (2006) cited Coburn and Nelson (1989) who discovered that the favourite educators were positive role models for the most resilient children. These educators showed deep interest in children, demonstrated extra care, and went out of the way to serve as positive role models. The relationship of a teacher and student is

established based on “trust” which teacher earn by keeping promises and confidentiality, “attention” by listening to them, “empathy” by building an understanding of them, “availability” by spending value-time along with them, “respect” by involving them in decision making and “virtue” by positive role modeling.

2.18.2 High Expectations

Henderson and Milstein (2003) mentioned that setting and communicating high expectations is also significant for resilience building, it serves as one of the support factors. They believed that children who have low expectations usually do not recognize their potential and abilities and remain unsuccessful. High and realistic expectations keep the child motivated. Barley, Apthrop, and Goodwin (2007) have established that the educational setting that creates a culture of high expectations earns a greater rate of academic success. Earlier, Rutter (1979) mentioned that the school environment plays a role of a protective factor when it buffers a child against the effects of negative events. It was further elaborated that schools that established clear rules, focus on academics, and manage students’ involvement, actually improved students’ regularity and academic outcomes with lesser behavioural issues and delinquency. It was revealed that schools that maintain a culture of positive and high expectations face fewer issues of behavioural disturbances. Rutter’s (1979) findings provided support to subsequent research work on resilience at schools. In one of the later studies, Barley, et al. (2007) confirmed that over 700 high schools whose performance remained higher were those who successfully cultivated a culture of high expectations. The survey declared that the distinction between high performing and low performing schools is sometimes more due to intangible factors such as mission, culture, teachers’ and students’ beliefs, attitudes and values, etc. Encouragement and high expectations keep the student motivated to achieve beyond their own belief. These findings disclose the facts that

each child can succeed. Schools that are successfully fostering resilience provide opportunities for the meaningful participation of children.

2.18.3 Opportunities for Meaningful Participation

Katz (1997) emphasized the provision of plenty of meaningful opportunities for fostering resilience among students. With the help of such opportunities, students are relieved from the harmful effects of a toxic and hostile educational setting. An environment that is safe and stable lets the students dream big and believe in themselves to achieve their dreams. Bernard (1995) explained the fact that schools which maintain high expectation from students set an environment for meaningful participation of students where they hold the responsibility of their actions. Scholars (Freire, 1970; Henderson & Milstein, 2003) remind us that children are not empty vessels that teachers fill with knowledge. Brooks (2006) emphasized that schools can foster resilience by using strategies of cooperative learning and by providing opportunities to participate in service-learning projects and school governance. They can be granted chances to take part in important decision-making, planning, and goal setting opportunities.

Condly (2006) has highlighted the significance of resilience research for school, as schools witness the achievement gaps of disadvantaged children of society. Schools are responsible to neutralize the effects of risk conditions by providing multiple protective factors such as care, relationship, high expectations, meaningful opportunities, etc.

2.19 Academic Resilience

According to Howard and Johnson (2000), resilience is generally conceived as a process or capability or a product of positive effective adaptation to some risk settings. In educational settings, resilience is perceived as enhancement of the chances of

achievement at school and related activities despite the hardships in the environment produced due to early traits, experiences, and conditions (Wang, Haertal, & Walberg, 1993). In other words, children who maintain a high level of achievement motivation and performance in the face of tough situation which may create a risk of poor performance and drop out the school are called academically resilient (Alva 1991).

Substantial resilience research studies (Lindstrom, 2001; Luthar & Cicchetti, 2000; Masten, 2001) have been conducted regarding the broader events of life such as poverty, poor parenting, disadvantaged background, separation, disease, etc. But comparatively less research has been done in educational context. Hence, very few researches are available in the educational context. The available research work majorly deals with ethnic groups and chronic underachievers (Finn & Rock, 1997). But academic resilience is relevant to every student as every student has to experience phases of difficulties and tension at some point and may struggle hard to avoid failure in maintaining academic standards.

Thriving under hard conditions and adversities is admirable but the conception about resilience as an extraordinary quality that discriminates few high achiever students from the rest is rejected by Masten (2001). He concluded that resilience is based upon ordinary, normal adaptive strategies or processes of individuals. Studies have shown that individuals display resilience when fewer systems are working well such as the relationship with supportive and caring adults, competency in intellectual abilities, effective utilization of self-regulatory skills, self-esteem, and intrinsic motivation.

Research on educational resilience has focused upon different ethnic groups which lived in adverse conditions. Such as, Overstreet and Braun (1999) studied academic resilience in relation to poverty, Catterall (1998) studied it in the context of

gang violence, Finn and Rock (1997) investigated chronic underachievers, whereas Gonzalez and Padilla (1997) contributed a study to investigate the relationship between ethnicity and underachievement. Some studies investigated academic resilience with the reference of learning disabilities (Meltzer, 2004; Miller, 2002). Hence, the old concept of resilience identifies that it is related to a specific group of students who have experienced some difficult situation. No doubt, these students need assistance, but they aren't the only students who face academic challenges.

Whereas the research work in the context of education has focused upon various themes of resilience, Martin and Marsh (2008a, 2008b, 2009) introduced another dimension of educational resilience called academic buoyancy. They have reintroduced resilience as a capability to defeat 'acute' and 'chronic' hazards that seem to violate the developmental process. Resilience research remained delimited to a particular underachiever group of students, so the majority of the students were ignored who face obstructions, challenge and pressure as part of everyday routine. This everyday challenge invited Martin and Marsh to reinvent the concept of resilience in educational settings as "academic buoyancy". This new concept was relevant to every student who faces stress challenge and adversity in routine life in an educational setting. It was elaborated that academic resilience and academic buoyancy are different in degree and kind. Academic resilience becomes relevant when dealing with chronic underachievers, on the other hand, academic buoyancy deals with patches of low performance and isolated poor grades. Academic resilience deals with the devitalization at the moment of failure and chronic anxiety, while academic buoyancy deals with the loss of self-confidence as a result of low performance. Academic resilience comes to deal with absenteeism and alienation with school and academic buoyancy deals with lack of motivation and engagement. Academic resilience deals with consistent disaffection and

obstruction to school while academic buoyancy deals with irregular negative feedback. In this context, academic buoyancy has been distinguished from academic resilience. It is conceived as the capability of students to positively handle typical educational setbacks and challenges such as low performance, deadlines, difficult assignments, the pressure to perform well, etc (Martin & Marsh, 2008a, 2008b, 2009).

To some extent the differentiation between academic resilience and academic buoyancy that Martin and Marsh (2008a, 2008b, 2009) has identified seems justified. But after exploring the related literature regarding their nature, one cannot find any clue for the difference between the two. This difference seems like having a “headache” and having “severe headache”. Although the intensity might be different and so could be the outcomes, still both are called a headache. The same is the case with the terms “academic buoyancy” and “academic resilience”. One cannot find difference in the nature and attributes of both. Therefore, the current research has used the term academic resilience. The research has subjected everyday academic resilience, as the sample of the study was not identified with any chronic symptoms for academic resilience.

2.20 5Cs for Academic Resilience

Finn and Rock (1997) discovered that academic resilience is linked with various factors such as family, friends, and peers, sociodemographic factors, and psychological factors. The resilience research has been conducted across various domains, but no single domain is paid detailed attention. For example, with the psychological domain, very few aspects such as locus of control, self-esteem, etc. have been investigated. However, there are multidimensional approaches that can be addressed by psychological and educational research to foster resilience. Martin and Marsh (2006) in

a study discovered the relations between a wider number of psychological and engagement domains regarding academic resilience.

Martin (2001, 2002, 2003a, 2003b) conducted various studies to develop an understanding of academic resilience. Martin developed a model called “student motivation and engagement wheel”, based on psychological and behavioural engagement. The model relates academic engagement at school with thoughts, feelings, and behaviours. It identified factors for enhancement of motivation and factors for decrease in motivation and named them as “adaptive and maladaptive dimensions” respectively. Self-confidence, valuing of school, persistence, planning mastery orientation and study management are the adaptive dimensions. Whereas, anxiety, uncertain control, failure avoidance and self-handicapping are maladaptive dimensions. The model brings together different psychological and engagement perspectives of academic resilience. The students proved that all the factors of motivation and engagement were significantly correlated with the academic resilience. Hence, the model is used to identify possible predictors of academic resilience.

The correlation of various factors with academic resilience helped in devising a focused profile, as five factors of motivation and engagement remained significantly correlated with academic resilience. The factors “self-efficacy, planning, persistence, anxiety (negatively) and uncertain control (negatively)” were correlated with academic resilience. These five factors are found to be significant predictors of academic resilience. Anxiety is the strongest negative factor of all the five factors. The model shows that academic resilience can predict students’ class participation, general self-esteem, and enjoyment at school (Martin & Marsh 2006).

2.21 Attributes of Academic Resilience

As discovered by Martin and Marsh (2006) five factors can predict academic resilience, based on these five factors, they proposed a 5Cs model of academic resilience. These five factors or 5Cs included confidence (self-efficacy), coordination (planning), control (less uncertain control), composure (low anxiety) and commitment (persistence). Academic resilience in turn, predicts three educational and psychological outcomes which are enjoyment at school, class participation, and general self-esteem. Findings of Martin & Marsh (2006) held numerous psychological and pedagogical implications. They identified specific dimensions of academic resilience. These findings have helped in designing the most targeted interventions and support programs that enable students to deal with setbacks, risks, and pressure in an academic setting.

Martin and Marsh (2006) have suggested targeted strategies for educationists to foster students' resilience by enhancing their self-efficacy, planning, persistence, and control while reducing anxiety among students. Their proposed directions for interventions are suggestive rather than prescriptive.

2.21.1 Confidence (High Self-efficacy)

Self-efficacy is one of the most important predictors for academic resilience. Self-efficacy can be built by restructuring learning experiences to provide more chances for success. One important strategy for the enhancement of self-efficacy is the individualization of tasks (Schunk & Miller, 2002). Bandura (1997) suggested that self-efficacy may be built by addressing students' (negative) views about themselves and about their academic capabilities. The development of skills by effectively setting goals is also helpful (Locke & Latham, 2002).

Exploring features of resilient people, it is disclosed that self-efficacy is one of the significant traits they hold (Beltman et al., 2011; Chan, 2008; Day, 2008; Kitching et al., 2009; Tschannen-Moran, et al., 2007; Tsouloupas et al., 2010; Hoy & Spero, 2005). Whereas, Wolin and Wolin (2010), discovered that resilient individuals hold characteristics such as independence, stability, initiative, humour, morality, creativity, etc. Castro et al. (2010) have pointed out confidence and coping tactics among those who successfully overcome the adverse situation and recurring challenges. Gu and Day (2007) have disclosed that self-efficacy interacts with the development of other resilient qualities in a dynamic developmental process.

Self-belief improves students' experience of success (Martin & Marsh 2003b). Breaking schoolwork into components is helpful, as in this way students experience pieces of success. Individualizing tasks also bring confidence and improves self-efficacy as by doing so, challenges are matched by the capacities of the individual which boosts their confidence (McInerney, 2000).

It is very important to challenge one's negative thinking. In this regard a few practices are proposed for learners (a) When you receive an assignment from school, observe your automatic thoughts (b) try to find the evidences that stop you from adverse thinking habits (c) Challenge these thoughts with these evidences (Beck, 1976; Meichenbaum, 1974).

2.21.2 Coordination (High Planning)

Coordination is the ability of an individual student to plan his/her assignment and other school tasks. Students who are good at coordination keep track of their progress. Coordination involves self-regulation and goal setting, which involves two other features of students' academic resilience, these are persistence and planning. The capacity for coordination is enhanced if self-regulatory skills are focused (Zimmerman,

2002). Planning capacity helps the students in managing their studies and to persist in the face of adverse situations. Coordination encompasses various other strategies and tasks such as time-management, clarity about objectives, prioritizing, clarity on what is needed to do homework, study plans or an assignment, evolving ways of checking schoolwork as it is done (Martin & Marsh 2006).

In the process of planning, goal setting is a fundamental factor hence, students should be taught and encouraged towards setting effective goals. Persistence is a key factor for coordination and it can be maintained by following strategies to work towards set goals (Locke & Latham, 2002).

2.21.3 Commitment (High Persistence)

Commitment or persistence means to keep trying for solutions to problems even if they seem hard and challenging. A teacher can help students to set realistic targets and work towards those goals especially when it is challenging and hard. Some research studies have shown that students' persistence can be enhanced by focusing mastery (Qin, Johnson, & Johnson, 1995) some others (Craven, Marsh & Debus 1991; Martin, Marsh, & Debus, 2001a, 2001b.) believe that effort and strategy can work in the direction of achieving goals. In this regard, students need encouragement and guidance for setting their goals and working towards these goals. Students can help themselves by breaking school tasks into components and by making a plan for each component independently. They need to keep a check on their progress and overcome hurdles that come their way (McInerney, 2000).

2.21.4 Composure (Low Anxiety)

Anxiety refers to the fear of failure (Covington, 1992; Martin & Marsh, 2003a). composure is the ability of a student to reduce nervousness, worries, and anxiousness

when challenged by academic difficulties. Students' fear of failure can be reduced by (1) promoting their belief in hard work that hard work improves performance. Effective strategies can compensate for lack of intelligence (Covington & Omelich, 1979) (2) reduce the fear of making mistakes. Tell the students that mistakes help in diagnosing loopholes and errors which lead to future success, hence mistakes are the important element of achievement and are not to reduce a student's worth (Covington, 1992), (3) teachers should emphasize competition in an atmosphere of cooperation in the classroom (Qin, et al., 1995), (4) Students concept of success needs to be reworked sometimes. They need to be given a concept of personal growth rather than outperforming others (Covington, 1992).

Improving composure helps students in reducing fear of the future in a competitive climate. An effort is made to break the link between achievement and their worth as a person. It helps a student to build a constructive view of failure or making mistakes. In these efforts, students' focus is shifted towards those elements which they can control from those elements which they believe are uncontrollable or threatening to their self-worth. Such strategies can help students reduce their anxiety (Martin & Marsh, 2003a).

Passer (1983) in a study investigated that how students who are high in anxiety assess a challenge or competition. It was revealed that students who were anticipated to achieve low in a forthcoming event, frequently got apprehensive about doing mistakes, made a negative evaluation of a failure after not playing well and losing.

Martin (1998) pointed out that anxiety can predict the ineffective strategies that students use to deal with issues and challenges such as defensive pessimism (Garcia et al., 1995; Norem & Illingworth, 1993) and self-handicapping (Berglas, 1987). At a classroom level, most of the time students' failure is caused by anxiety (Covington,

1992). Such failure may be avoided by promoting an atmosphere of cooperation, encouraging personal-bests, and promoting self-improvement (Qin et al., 1995). Students' test or examination anxiety can be reduced in certain ways such as by practicing tests, effective planning, promoting test-taking strategies, developing skills of checking and monitoring, and finally by practicing relaxation techniques on the day preceding a test or examination.

2.21.5 Control (Low Uncertain Control)

Control refers to students' ability to feel certain about how to perform well or how to avoid failure or bad performance in academic settings. Students' uncertain control can be addressed in many ways. When students become able to establish a connection between their efforts (against both controllable and uncontrollable elements) and their accomplishments, they get a stronger sense of control over their capabilities to achieve their targets. If students develop a belief that effort and strategies lead to success, it enhances their sense of control over situations (Martin & Marsh, 2003a; Martin et al., 2001a, 2001b; Martin, Marsh, Williamson, & Debus, 2003).

A teacher may use various strategies to enhance control among students, such as developing a connection between efforts and outcomes, guiding and reviewing skills for study in class, appreciating students' freedom over lesson objectives while remaining within suitable parameters, well-designed assessment tasks, marking criteria assignment deadlines (McInerney, 2000). Effective and consistent feedback may also help students building control over uncertainty. Task-based feedback guide students to bring improvement in their school tasks (Martin & Marsh, 2003a; Martin et al., 2001a, 2001b).

One of the strategies for enhancing control is to reward students directly contingent on what they have achieved, as students who receive reward contingencies

inconsistently remain confused and uncertain for what they had been rewarded (Thompson, 1994). Students who show chronically low control suffer from disengagement to a level where they even stop to put any effort to avoid failure. The control element of resilience addresses such cases (Peterson, Maier, & Seligman, 1993). Such students develop a belief that they can do little or even nothing to attain academic success. At that level, they become disengaged from their academic tasks and assignment and show helplessness while lacking any motivation (Covington, 1992).

Resilient individuals are those (a) who enjoy a sense of control, they feel that they can control any circumstances (b) they don't hang around their mistakes and failure happened in past in a bitter or grievous manner (c) they have got an ability to depersonalize bad experiences which lead to developing an understanding by fair analysis of the situation (d) they have competencies for adaptation (e) they have a strong support group of peers and colleagues along with a strong moral sense of purpose (Howard & Johnson, 2004).

2.22 Research on Academic Resilience

The resilience theory, in general, suggests that building relationships, promoting a society that holds high expectations, and creating occasions for effective involvement at school can foster resilience in educational settings (Henderson & Milstein, 2003).

But research studies that explored resilience at school continued to be inadequate. Based on these studies, most of the resilience researchers have built a comparison between students having a high and those having a low resilience level. In an investigation, characteristics of two groups of 48, 10th-grade students were investigated. They had similar socio-economic backgrounds and had similar parents' involvement. Using their 9th-grade attendance rate and academic achievement, they

were distinguished as a high-risk group and a low-risk group consisting of 24 students in each group. It was discovered that academically resilient groups of students had better satisfaction levels regarding the school site and main social circle that was free of gang members (Reyes & Jason 1993).

Gonzalez and Padilla (1997) conducted a study to compare 183 resilient high school students with their 81 non-residential counterparts. A significantly higher perception of family, positive peer relationship and support, satisfaction over teachers' feedback, school as a valuable place, and positive connection were reported with the school by resilient students. When academic grades were used as an indicator of academic resilience, it was revealed that students' sense of belonging in school most significantly indicated the academic resilience of students.

Alva (1991) conducted a study on 10th-grade students at Mexican American students. The study pointed out factors that contribute to the academic resilience of students having the same socioeconomic conditions. Alva also reported that academically resilient students had deeper connections with school, teachers, and peers. Additionally, these students possessed a positive view of their intellectual capabilities. They held a positive sense of responsibility regarding their academic future. Alva has specified that students who displayed a higher level of academic resilience seem (a) encouraged and motivated to attend the college (b) they participated and enjoyed classroom activities and coming to school. (c) they had a tendency to develop better relationships hence showed fewer conflicts with peers at school. (d) similarly, they had healthy positive relationships at home and experienced fewer conflicts and deficiencies with family members. Alva named such students who fit these criteria as academically invulnerable.

Waxman, Huang, and Padrón (1997) conducted a study to compare the motivational level of middle school students across five different middle schools. They compared the motivational level of students in two groups of 60 resilient and 60 non-resilient students. No significant difference was found in resilience of students who spoke English before starting school and those who spoke some other language. The retention rate between the two groups was significantly different, where 53% of students from the less resilient group were not promoted and retained in the same grade whereas it happened to 31% of resilient students. Furthermore, the resilient students remained engaged in additional reading, completion of mathematics home assignments by spending significantly more time. These students attended school more regularly and showed active participation at school than non-resilient students. The perception of resilient students regarding involvement, satisfaction with school, academic self-concept and achievement motivation was higher than that of less resilient counterparts.

In a later study Pardon, Waxman, Brown, and Power (2002) found that some “English Language Learners (ELIs)” performed better at school despite the presence of risks and hardships for learning. In this scenario, the researchers conducted a resilience study in an educational context focusing on predictors of academic success rather than focusing on academic failure. It helped in identifying those dynamic factors which discriminate between higher and lower achievers. This research challenged the deficit model perspectives for resilience and highlighted the need of focusing on alterable dynamic factors. They conducted experimental research to foster resilience among students of English Language Learners. It was found that under this program teachers allocated more time for an explanation of content to students, allowed students more time for response, and encouraged their success. In this way, students learned more in the positive environment of classrooms.

Kanevsky, Corke, and Frangkiser (2007) designed a study for resilience promotion among 3rd and 4th-grade students. The intervention they designed was named as museum-based intervention. In this longitudinal research, (spanning across 2 years) investigators compared the personal development and academic resilience of participants with those who did not participate in the program. In this unique study, the core content was entrenched in art, science, and cultural settings at Balboa Park. Hence, this 'School in the Park' program was supplemented with unique learning opportunities available at zoos and museums in Sans Diego Balboa Park. It was not a series of trips, but in fact, the students' learning environment was extended to an environment where students were engaged in the content taught by experts appropriate to their grade. This study reported a higher level of academic resilience among participants. But both non-participants and participants demonstrated the same level of character, self-efficacy, and attitudes towards school. These findings were of specific interest to researchers where literature shows that psychosocial aspects of resilience are interrelated to academic resilience. These two groups reported significant differences only in their academic self-concept (Kanevsky et al., 2007).

Esquivel et al. (2011) described that effective schools can reduce risk and adversity for their students as much as possible and maximize support or protective factors through all possible means. Furthermore, the school should take early bold steps to intervene through all possible means when a student displays signs of social or emotional disturbances. They further emphasized that the resilience perspective should not be overgeneralized to schools, as over the time resilience may increase or decrease, hence students' needs for support are seen as flexible on daily basis in response to changes that occur.

Doll, Jones, Osborn, Dooley, and Turner (2011) stated that resilience models at schools are significant due to the protective factors. They further asserted that schools that fail to provide educational opportunities of high quality to disadvantaged at-risk youth contribute to the adversities which these students experience. Most of the schools provide good quality opportunities to build a positive relationship with adults and peers. Such schools promote the capacities of students through school routines and practices and teach them to maintain positive healthy relationships so that they channelize their energies towards the achievement of their ambitions and goals. Students learn discipline, self-control, and behavior management.

In a study, Kutlu & Yavuz (2016) conveyed that the key risk factors faced by academically resilient participants were poverty and poor environmental conditions. Whereas, their internal support sources like self-esteem, decision-making, curiosity, and external support factors including family, teachers, and peers helped them to decrease the negative influence of risk factors.

Sarwar, Inamullah, Khan, and Anwer (2010) conducted a study in the local context. Their study was designed at secondary level to discover the relationship between academic achievement and resilience. They found that the academic achievement of 10th-grade students which was measured through marks is not significantly correlated to the resilience of these students.

Werner (1993) asserted that resilience research can help in designing youth development programs. It is emphasized that the deficit model has caused iatrogenic damage to youth, hence it is repaired to shift the focus of resilience research from a deficit model to support model. Nixon (1997) also highlighted the significance of strengths.

2.23 Demographic Factors and Academic Resilience

In a study by Erdogan, Ozdogan, and Erdogan (2015) the resilience level of university students was explored, and its relationship with some of the demographic factors including gender and faculty was investigated. The research sample consisted of university students from the faculty of education and theology. Resiliency Scale was used to collect responses. The effect of gender and faculty were investigated on overall resilience and subscales of resilience. The resilience score of these students exceeded the average score for resilience. The resilience level of male students was higher than that of their female counterparts. The score of university students varied significantly on the subscales of being powerful, being entrepreneur, foresighted, goal achievement, leadership, and being a good researcher in favour of male students. Resilience scores were significantly different in favour of faculty of education on the subscale leadership.

Many researchers investigated gender differences of resilience among students but reached no consensus. In a study by Önder and Gülay (2008), females students scored significantly higher than male students on resilience scale. Whereas, Bahadır (2006), reported a higher resilience level of male students. Similar results were reported by Sürücü and Bacanlı (2010). Whereas, some other studies found no significant relationship between gender and resilience (Aktay,2010; Ozcan, 2005; Sezgin, 2012). However, Erdogan, et al. (2015) discovered that the resilience scores of university students were statistically different in relation to their gender, where male students surpass their female counterparts.

Sarwar, et al. (2010) discovered that boys had a higher level of resilience as compared to girls at the secondary level in Pakistan. Lundman, Standberg, Eisemann, Gustafson, and Brulin (2007) investigated resilience levels across different age groups

of students and found that resilience improved with aging, as older students scored higher on the resilience scale.

2.24 Academic Resilience and Life Skills

Hurtes and Allen (2001) describe resilience as a meaningful framework consisting of key skills, capacities, and attitudes which are instrumental in facing challenge and risk successfully. Bernard (1997) identified four particular attributes held by resilient children including social skills, abilities for solving problems, independence, and sense of purpose for future. Resiliency theory suggests that if not all, some of these attributes are possessed by resilient people. But the effectiveness of these attributes is dependent upon the protective factors located in the external environment of the individual such as family, school, teachers, peers, and community. Studies have also found that only a few systems that are working well can maintain the required level of resilience, but a positive resilience may get serious hazards if these basic protective systems are at risk.

Garnezy and Rutter (1983) identified personal characteristics of individuals who were successful to overcome their disadvantaged circumstances. These characteristics included social skills, relationships with a peer, social responsiveness, intelligence, empathy, sense of humour, problem-solving skills, etc.

Oswald et al. (2003) believed that children who have good communication skills, hold a strong personal belief, self-responsibility, and connection with adults such as teacher, parent, or mentor display higher resiliency. Bernard (2004) asserted that every child is capable to learn resilience.

Various life skills programs are successfully equipping youth with necessary life skills around the world. One such program is “4-H study of positive Youth Development (PYD)”. It is established that youth participating in these programs:

1. Gets two times better grade at school.
2. Plans two times more to go to college.
3. Their chances to get engaged in risky behaviour are 41% lesser
4. 25% more likely to contribute positively to family and outer community (National 4-H Council 2013).

Therefore, it may be concluded that certain skills can enhance students’ academic resilience.

2.25 Concept of Life Skills

Life skills were initially described by Landman, Irvin, and Halpern (1980) as necessary capabilities that enable individuals to competently perform everyday tasks. Life skills may include the ability to handle all kinds of resources, to work with others effectively, to communicate appropriately, and to make the best choices. Later Powell (1985) identified the fact that various developmental tasks of human development are aligned with life skills according to the age and gender of individuals in specific areas such as psychosocial, psychological, vocational, emotional, cognitive, etc. According to Hendricks (1998) abilities learned to lead a successful, satisfying and productive life are called life skills. Scales (1986) displays another dimension of life skills according to which all life skills help people in making a thoughtful decision.

“Life skills” are different from ordinary “skills”. Skill is an ability that is acquired to do something. “Life skills” is the way learned information are applied to actual life circumstances. To negotiate with the adversities of life, these skills may

become an important source to equip youth with capabilities to become competent, and productive members of society and improve their quality of life (Unicef, 2012).

Programs for life skills development emerged as a movement that has grown out of all different disciplines including education and mental health. It is difficult to precisely locate the time period for the emergence of life skills educational programs. However, by the 1980s, the approach towards mental health has been shifted from disease model to competency and effective functions. The movement of life skills teaching expanded to various areas that had a potential risk for healthy development such as poverty, delinquency, risk factors at adolescence, assertiveness training, disabilities, etc (Gazda & Brooks, 1985).

Norman and Jordan (2006) described skill as an adopted ability. Life skills are learned capacities enabling people to deal effectively with their environment. Youth development professionals have the major objective of developing competencies among youth to prepare them for a transition from childhood to adolescence via the acquisition of life skills.

Life skills development programs are trying to assist young people in meeting fundamental requirements and developing the competencies required for their roles in the future. During the last two decades, life skills education has gained a special place in youth development programs. These life skills enable learners to successfully negotiate and intervene with difficulties that come their way and to participate productively in society. The concept of life skills is flexible and consists of a series of knowledge and skills.

WHO along with others has presented the concept of life skills, which is influenced by various dimensions including personal, interpersonal, and cognitive psychosocial. All these dimensions are important to develop individual's capabilities to

interact effectively, manage their emotional status and decision making for a productive life. Clarity on the definition is significant for any concept so that it could be understood clearly. To conceive life skills, it is significant to know how life skills are learned and how these can be measured. These skills are considered worth in the areas of health, social policy, and education. However, it could not get a widely accepted definition, its significance is not delimited. When social and individual skills are connected to the realities of routine life, the value of life skills is increased, yet the potential of life skills suffers if researchers fail to assert which life skills are relevant and to what extent. WHO (1997) has explained that innumerable skills could be enlisted under the heading of life skills. As the concept and nature of life skills is not concrete, it may vary across cultures. Therefore, its conception is elastic and wide open for the addition of new skills (Unicef, 2012).

According to WHO (1997) life skills are required for positive and adaptive behaviours of individuals which help them in dealing with challenges of daily life. These skills are constellation of interpersonal and psychosocial capabilities that assist individuals in making effective decisions, solving problems, thinking creatively and critically, building positive relationships by communicating effectively, coping, and constructively managing life.

Life skills are innumerable, still, researchers have developed a list of core life skills that sets the basis for the initiative of health promotion and wellbeing of children and adolescents. This list contains ten life skills, which are the most important psychosocial and interpersonal skills including skills for resolving problems, thinking critically, management of stress and emotions, empathy, self-awareness, and interpersonal skills. These skills reflect the knowledge, attitude, and capabilities possessed by individuals. They get knowledge of what to do and how to do it. The

acquisition and application of life skills put an impact on our feelings regarding ourselves and others. It also influences the way people perceive us. Learning life skills is significant as it contributes to the self-efficacy, self-esteem, and confidence of individuals. Hence, it promotes mental health and overall well-being. It prevents individuals from behaviour issues (WHO, 1997).

The personal actions of individuals towards themselves and others are directed by life skills. Furthermore, life skills direct individuals' actions towards the outer environment so that it becomes healthy, joyous, and conducive. Promotion of life skills lead towards effective utilization of available resources regarding health, education, and other services. These are the capacities possessed by people, yet everyone needs to enhance them to successfully meet the real-life challenges, as these skills promote positive behaviour (WHO, 1997).

Authors have defined life skills with the reference of demands for maintaining civic life of improved quality, purposive and successful personal life, and for positive socialization. Youth are the major focus of every life skills development program. WHO (1997) defines youth as the segment of people between the ages of 10 to 19 years. The term 'youth' combines two groups of individuals in one including people between the age of 10 to 24 years. Generally, it is expected from life skills programs that they help in promoting well-being, positive health outcomes, and development that is productive. The set of core life skills empower youth to take steps for the promotion of health, positive and effective socialization, and become positive contributors to society. Life skills equip youth with abilities that are required not only to cope with challenges but to shape the world around. Therefore, the conceptualization of life skills rises up the older concepts of coping and adaptation to odd circumstances. The new concepts of

life skills support an active, autonomous, and responsible position towards self in the broader world (Subramanian, 2016).

As described by WHO (1997) the capabilities of adaptation and constructive behaviour while facing the demands and challenges of life are called life skills. This definition is in line with the skill-based positive approach towards youth development as it emphasized adaptation and positive orientation. Life skills are defined under three categories by Pan-American Health Organization, which are

1. Social and interpersonal skills: addressing abilities of self-evaluation, making effective decisions, and critical thinking.
2. Cognitive skills: addressing skills for communication, assertiveness, and empathy.
3. Emotional management skills: addressing stress management, enhancing internal locus of control.

‘Organization for Cooperation and Development’ has also described life skills as ability that brings balance between behaviour, attitude, values, cognition, and emotions. All these definitions cognize the medley of skills needed for balanced development. WHO (1999) addresses life skills through a behaviour development approach which brings balance between knowledge, attitude, and skills. The capacity of individuals to coordinate interpersonal and intrapersonal skills is evident when an individual fails or succeeds to meet everyday challenges or risks. In addition to this, some definitions consider spirituality too as a significant dimension for life skills (Subramanian, 2016).

It is further asserted that besides intrapersonal and interpersonal skills, individuals need an education policy based on a set of specific aims along with a support system to navigate risks and to develop positively. To further add, all these definitions are for the general population, but if a researcher is interested in life skills regarding

youth, then adaptations and positive outcomes must be defined developmentally. It is required that the age of young students is considered while assessing their acquired life skills. Developmental needs to be further referred to as biological, emotional, and social. Thus, life skills are conceptualized as the capacities held by people to deal with the adversities and risks in a way that is appropriate to their age and allows positive healthy growth. In this regard, individuals will be considered as skilled if they master a task related to their age and developmental stage (Subramanian, 2016).

2.26 Origin and Dimensions of Life Skills

For better cognizance of life skills, it is important to find out its origin. In 1986, Ottawa Charter for Health Promotion used the rubric of “personal skill” for the promotion of health. This skill promotes personal and social development by imparting information regarding health and basic life skills. WHO (1986) initially mentioned five fundamental life skills which include the following skills:

1. Solving problems and making a decision
2. Critically and creatively thinking
3. Communication and interactive skills
4. Empathy and self-cognizance
5. Coping with stress and emotions

CASEL (2011) follows the objectives of promoting children’s success in life and at school, it mentions five core groups of life skills which are related to individual and society.

1. Self-awareness: knowing precisely one’s feelings, interests, liking and disliking, values and assets.

2. Self-management: ability to regulate handle and control emotions, impulses, and interests.
3. Social awareness: develop empathy for others and the ability to consider things from the perspective of other people.
4. Skills to develop relationships: ability to establish and maintain positive and satisfying relations, including the ability to resolve conflicts and social pressure.
5. Making decisions with responsibility: the ability for decision-making according to norms and standards of society. Making wise decisions regarding academics and social matters.

For early childhood development, a set of psychosocial skills was identified which are pre-academic such as expressing oneself through paintings and artistries, singing and dancing, verbal and non-verbal communication skills, tendencies for sharing and caring, empathy, sense of responsibility, self-confidence, and self-assessment skills (Pollitt,1998).

United Nations Children’s Fund (Unicef, 2010)prescribed a framework for life skills education. UNICEF drew it from different sets of life skills suggested by agencies of United Nations Organization. These life skills were broadly categorized as follows:

1. Cognitive life Skills: The skills for thinking critically, solving problems, and making responsible decisions.
2. Personal skills: skills for self-regulation and self-awareness.
3. Interpersonal skills: skills for communication and arbitration, teamwork, collaboration, empathy along advocacy (Unicef, 2010).

These skills are independent of cultural and social contexts and somehow relevant and applicable universally for enhancing an individual’s capacities for dealing with the odds and challenges for productive participation in society. Usually, these

areas of studies are missed informal educational settings, but these are recognized as significant aspects of education. Hence, intervention programs include these life skills such as programs for better citizenship, personal health, human rights and equality, etc (Unicef, 2012).

Briefly speaking life skills include competencies within the context of individual and communal resources including physical, academic, mental, emotional, and social progress, etc. Therefore, it is essential to find out how youth can develop and identify useful skills that lead to the healthy development of youth. All communities are required to provide opportunities and support for the development of personal and social assets among youth to be competent contributors to society. In order to thrive, individuals do not require to have all the skills but to have more skills than few is better.

Eccles and Gootman (2002) have established that if young people are continuously exposed to positive experiences, opportunities to acquire and improve life skills, they can become competent.

Lerner and his colleagues (Lerner, 2002; 2004; Lerner, Fisher, & Weinberg, 2000) have mentioned assets for youth as 5Cs. These assets comprised of the following:

1. Competence: competency acquired in different fields such as academic, social, emotional, and occupational.
2. Confidence: believing one's own individuality and identity.
3. Connection: connection with one's soul and with people around.
4. Character: evolved by promoting standards, honesty, and a sense of ethics.
5. Care and Compensation: showing empathy, helpfulness, kindness, love, and warmth to others.
6. Contribution: Participation of family, neighbourhood, communities that assist in making use of above mentioned five Cs. This 6th C is instrumental in guiding and

classifying approaches towards positive youth development frameworks as identified by Pittman, Irby, and Ferber (2001).

Hendricks (1998) has presented a 4Hs model of life skills which is known as the “Targeting Life Skills Development Model”. It was grounded on 4 clovers i.e. head, heart, hands, and health. Its essential elements and relevant life skills are mentioned in the following table.

Table 2.2

Life Skills Categories with the 4-H Clover

4-H Pledge	Essential elements	Life skills
Head	Independence	Thinking, Managing
Heart	Generosity	Relating, Caring
Hands	Mastery	Working, Giving
Health	Belonging	Being, Living

Note. Developing Youth Curriculum Using the Targeting Life Skills Model Incorporating Developmentally Appropriate Learning Opportunities to Assess Impact of Life Skill Development (Hendricks, 1998).

Brendtro, Brokenleg, and Van Bockern (1990) describe the following essential elements of the 4-H model for life skills development.

Belonging: Young people must have reliable, steady and long-term relationships with adults other than parents. Such relationships are pointed out as one of the most important ingredients in children’s lives for their positive development.

Independence: With growing age, especially in adolescence, children develop abilities of thinking, feeling, and making independent decisions. They must know that their actions and decisions may place an impact on other people and situations around them.

Mastery: When knowledge skills and attitudes are developed, one needs to demonstrate them effectively and positively. The educational settings where young children are encouraged to take risks and face challenges promote self-accuracy and self-efficacy.

Generosity: Giving back to others brings satisfaction, therefore it is significant that young students are provided with opportunities to connect to their outer environment which gives meaning and purpose to life.

2.27 Which Life Skills are Important for Youth?

In today's world of challenges, young people need various intra and interpersonal skills. However, it is more practical to follow a set of life skills that are relevant to particular contexts and times in an individual's life. Hence, for young people, only those life skills should be recommended which are helpful to them in an age-appropriate way. The concept of life skills establishes that life skills should be selected after carefully considering the individual's psychological prerequisite for a healthy and positive life. Previously established sets of core skills are helpful as a loosely coupled system of various dimensions of specific capacities. Their unanimity is expressed in the developmental changes which are structurally continuous. Every individual has a set of some well-developed and some poorly developed skills. Additionally, the contextual variables play their role in the development of these skills (Subramanian, 2016).

The query that which life skills are significant for young people cannot be answered without recognizing the coherent concept of what comprises the core skills. The framework for life skills should evolve as an integrated whole, where all necessary life skills should be bound together. Hence, it is required to harmonize cognitive,

emotional, and behavioural skills with creative abilities and psychological resources like attitude behaviours, motives, and values (Subramanian, 2016).

Subramanian (2016) mentions that young individuals are expected to integrate their life skills which depend upon their social experiences that are shaping their thoughts, emotions, relationships, and self-conception. It can happen only when they acquire a social maturity at a level where they maintain a distance from social pressures, build their perspectives, can make judgements independently, and take responsibility for their actions. This approach has led to the development of 10-20 intra and interpersonal life skills which are further classified as follows:

1. Cognitive skills and critical thinking
2. Coping skills and management of self
3. Moral and social skills
4. Skills for communication

While logically thinking, it seems possible to separate interpersonal and intrapersonal life skills but practically they remain in connection and exchange inside a person in everyday life. There is an asset-based school of thought for a positive development of youth, which employs the concepts such as risk and resilience assuming that adolescents have the strengths and potentials. The developmental assets model also integrates the internal assets of individuals. The value component of life skills and contribution of society is underemphasized in life skills literature. So, a life skills framework that focuses on the interaction between individuals and society is needed (Subramanian, 2016).

There are several requirements of life skills frameworks place for young individuals in various contexts. The key life skills should be of particular value, these should have multiple areas and should be universally needed so that the life skills are

applied to gain social benefits such as better health, a sense of wellbeing, and enhanced civic engagement. These life skills should have multiple areas of usefulness and should yield benefits and support in a variety of contexts such as personal, professional, and civic life. These core life skills should be significant for all (Subramanian, 2016).

Various descriptions of life skills do not include external systems of support. Instead, the internal competencies are focused on internal sources of attitudes and values. Still, some other opportunities, such as positive youth development conceptualized the external support system as significant assets (Benson, 1997).

Sing and Gera (2015) have identified following few life skills areas other than the key life skills mentioned by WHO, (1999).

2.27.1 Skills for Communication

It refers to the abilities of an individual to read, write and speak for organizing and communicating ideas and information in individual and group settings. This includes interpersonal as well as public communication.

2.27.2 Analytical Skills

It is the ability to use logical reasoning, numerical and mathematical concept, scientific and technological principles, ethical reasoning for effective decision making and problem-solving. Skills such as information seeking and analysis, professional and personal ethics are also of great significance.

2.27.3 Group Effectiveness Skills

These are the life skills that are used to develop positive relationships with the community, colleagues, and family. Such skills involve social responsibility, teamwork, conflict management, effective citizenship, etc (Sing & Gera, 2015).

2.28 Frameworks for Life Skills Development

Life skill frameworks guide the practitioners for the promotion of youth development and growth. They establish an understanding of social cognition, emotions, and motives of young people. The earlier theories of adolescent development were rooted in cognitive and psychological theories which described development in terms of progressing in maturity, differentiation, and complexity. These theories looked at development with a deficit model approach. Erikson's model describes mastery over conflict at each stage of development. Individual's strengths are enhanced when he/she remained successful in conflict resolution. Later, perspectives prescribed that the well-being, thriving, and social progress of each adolescent is possible if their capacities find appropriate social support (Subramanian, 2016).

Following are some frameworks for life skills development that lays conceptual foundations for both adolescent development and their prevention.

2.28.1 The Framework for Positive Development of Youth

The information provided by developmental science which studies the bio-psychological changes over time in a systematic way sets the concept of positive development. Through this approach, risk behaviour is investigated and prevented by promoting life skills, protective relationships, and positive social settings. The thriving behaviour of young people is enhanced by the integration of the social support systems around them. Research studies have also established a direct link between positive development and risk or thriving behaviour. In recent studies, this approach of enhancing positive outcomes and decreasing dysfunction outcomes is shifted towards the ways of improving contexts and environmental sources around the youth. One of the most encouraging facts is that every individual has the capacity for positive youth

development who can take benefit from his support system regardless of gender, age and ethnicity. It varies from context to context that how the youth development framework is applied. For example, various strategies can be applied for the promotion of leadership and empowerment among youth depending upon their social context (Benson, 2007; Benson & Scales, 2009).

One of the interesting facts is that young people can play the role of agent for their development. They are capable of building supportive relationships needed to grow and thrive. Therefore, the positive youth development approach is holistic, as it considers community in relation to the overall development of a child. The key skills that contribute to positive youth development and the personal identity of individuals also contribute to their affiliation to the community and their participation in society. The process of positive youth development may inherently occur when individual and supportive social environment interact in continual phases of development (Benson, 1997).

The individuals who participate in various programs, institutions, and multiple relationships may establish a developmental trajectory for the promotion of healthy development. According to various research studies positive developmental outcomes, behaviour issues, and life skills are interrelated in a complex pattern (Benson, Scales, Hamilton, & Sema, 2006; Damon, 2004).

2.28.2 The Developmental Risk and Resiliency Framework

The dynamic interplay between life skills social context and biological and neurological factors is well explained through developmental risk and resiliency perspective. The significance of this approach has been accepted for designing successful social policies. Here risk has been conceived as a developmental disorder that emerges from the developmental history of adolescents (Stanley, 2010).

It is a developmental capacity of human beings to adapt to a change or recover from difficulties or in other words develop resiliency. A developmentally differentiated approach is adopted to support this capacity. Risks can work in both ways, they can change into a problem as well as they can evolve into strengths, thriving, and resilience. This shows that resilience is not a stable capacity, but it continuously evolves when individuals interact with their social context. Young individuals can create meanings and invent their own world. They can attach new meanings to their previous traumas and in this self-reflecting process, they usually overcome adversities by exploring alternative ideas and actions (Stanley, 2008).

Santrock (2008) has identified that stability and change, nature and nurture, continuity and discontinuity are three major queries of human development which are addressed via developmental trajectories and models. Developmental scientists have acknowledged two major developmental outcomes which can be applied to various situations and domains. First is the acquisition of knowledge and skills to enhance one's resilience. The second is to increase the difficulty or risk so that the individual can integrate his actions in maintaining control (Zimmerman, 2013).

2.28.3 The Clover Model

The interrelationship of risk and resiliencies is conceptualized in a special model known as the clover model. Research has guided elaboration of this model for interactions, such as a negative relationship between empathy and aggressive behaviour existed in adolescents. The clover model prescribes that young people continuously seek balance at each developmental phase between risk and support factors. Clover model and other risk and resiliency frameworks suggest a holistic approach for the development of adolescents. What guides researchers to plan interventions based on developmental information (Subramanian, 2016).

2.28.4 Targeting Life Skills Model or 4-H Framework

Another framework for life skills development is underpinned by the 4-Hs pledge. It suggests that learning experiences that promote an individual's growth and development may be organized. The targeting life skills model has effectively used the logo of 4 Hs clover. The 4-Hs represents head, heart, hand, and health as four major elements for building life skills. Within these major elements, 35 life skills are identified. Hendrick (1998) named this framework as "Targeting life skills model".



Figure 2.2 Targeting Life Skills Model (Hendricks, 1998)

Hendricks (1998) presented a framework for youth development professional which guided them to plan opportunities for youth. She targeted life skills that are helpful in carrying youth towards adulthood in a positive and effective manner using the 4-H categories of Head, Heart, Hand, and Health. Important life skills are identified under each H category of 4-H clover. Norman and Jordan (2006) describe these life skills in four categories to promote development of youth.

The fundamental emphasis of 4-H proficiencies is as following:

- 1. Head:** This division discusses knowledge, the power of reasoning, and creativity. It is further bifurcated into two categories.

Thinking: Life skills that focus on the use of the mind for creating ideas and making decisions, power of imagination, to make keen observations, and consider multiple aspects.

Managing: Managing life skills include abilities to use resources in the best possible way to accomplish set targets.

- 2. Heart:** Under this category individual and social proficiencies are discussed which is again bifurcated in the following two areas.

Relating: Life skills for establishing mutual and reciprocal interrelationships between people that are meaningful and wholesome to everyone.

Caring: Life skills for showing love, warmth, kind-heartedness apprehension for others.

- 3. Hand:** Under this competency skills related to vocations and citizenship are addressed. It again discusses two subcategories of life skills.

Giving: It shows skills of social responsibilities including life skills of providing, supplying, or causing to happen.

Working: Life skills to accomplish some tasks, earn money through physical or mental effort.

- 4. Health:** This category further discusses health and physical competencies under two subcategories

Living: Acting or behaving in a standard pattern, manner, or daily lifestyle.

Being: life skills for individual progress, skills to live individual life and to pursue individual's basic nature (Norman & Jordan 2006).

Table 2.3

4-H Targeting Life Skills Model

Head	<i>Thinking</i>	<i>Managing</i>
	Learning to learn	Goal setting
	Decision Making	Planning/organizing
	Problem-solving	Wise use of resources
	Critical thinking	Keeping records
	Service-learning	resiliency
Heart	<i>Relating</i>	<i>Caring</i>
	Communication	Concern for others
	Cooperation	Empathy
	Social skills	Sharing
	Conflict resolution	Nurturing relationships
	Accepting differences	
Hands	<i>Giving</i>	<i>Working</i>
	Community Service/Volunteering	Marketable/useful skills
	Leadership	Teamwork
	Responsible citizenship	Self-motivation
	Contribution to group	
Health	<i>Living</i>	<i>Being</i>
	Healthy lifestyle choices	Self Esteem
	Stress management	Self-responsibility
	Disease prevention	Managing feelings
	Personal safety	Self-discipline

Source: Norman & Jordan (2006)

The table above has presented a list of particular skills that develop expertise in four broader areas bifurcated further in eight subsections related to targeting life skills model.

2.29 Significance, Importance, and Implications of Life Skills

The general capabilities or skills that are related to a variety of life experiences are called life skills. Life skills can be applied in typical risk situations, therefore, must be taught. Although the programs for fostering life skills may be started on a small scale for the targeted population, yet, the scope of life skills may be extended in relation to the capacity of the education system. The learned value of life skills continues throughout the school years and later life. Life skills education needs to be designed across the whole curriculum. This may be in the form of a separate subject, integrated into an existing subject, or a mix of both. The life skills development programs must involve children, their parents, and the community along with educational organizations because it is a dynamic process. All the stakeholders must be involved in the content selection of the program (WHO, 1999).

Children who are skilled and well informed are likely to make a good decision regarding their career, relationship, behaviours, physical and mental health. Such children are socially successful and become an asset to society. In the modern age, youth is required to acquire a better understanding of globalization and should be skilful in dealing with emerging issues. Furthermore, they must be aware of the latest choices in their career. They need to be well aware regarding global issues, in personal life they need better skills for dealing with anxiety, depression, peer pressure, violence, health and diseases, accidents, social and economic demands, etc.

A society that is dynamic and vibrant cannot just sit and see its youth as unskilled, unhappy, unutilized in the nation's development who are unsafe and feel unwanted and eventually become unhealthy. Therefore, societies make agreements for the promotion of education, skill development, and health of their youth. The education of appropriate knowledge, attitude, values, and skills is beneficial for youth in numerous ways. It can help in their academic performance, can lead them to develop healthy, positive relationships can guide them to deal with peer pressure, and can develop a behaviour in them that is instrumental to prevent disease and injury and to play leadership roles. A child at different developmental phases may be exposed to learning experiences that foster a positive attitude among them for making correct choices, listening and communicating effectively, building healthy, respectful, and productive relationships. These children can understand the significance of global issues as well (Sing & Gera, 2015).

Sing and Gera (2015) have focused upon the significance of life skills education in order to promote coping skills that children and adolescents require for their successful transition from childhood to adulthood. Life skills education is of special importance for those who are living in a disadvantaged environment and have fewer opportunities to develop their skills. Life skills education is important because:

1. Skills for social competence and solving problems may promote resilience, positive youth development, and abilities to cope with risks.
2. Emotional intelligence can lead to the management of interpersonal relationships.
3. Life skills education is more effective than conventional education which transfers only information.
4. Life skills education also influences mediators of deviant behaviour.

5. It can help in fulfilling the requirement for the health and development of adolescents.
6. Life skills education has a major focus on particular skills including critical thinking, making decisions, communication, skills related to health, employment, and workplace.
7. Life skills education helps promote social standards and norms which impact the whole environment around young people.
8. The participation of teachers, students, community, and the relevance of programs play for the effectiveness of life skills education.
9. Enthusiastic and eager participation of teachers and students make these programs worthwhile.
10. Life skills education may help in achieving the targets of education for all, numeracy, literacy, etc.

The Tufts study for the development of positive youth development sets a precedent regarding the impact of out-of-school youth development programs. In this longitudinal study, the findings revealed that a well-structured, high-quality out-of-school program under the supervision and interaction with adults and mentors prove to be beneficial for both youth and communities. The participants of programs display positive behaviour and decrease the probability for deviant behaviour like drugs, alcohol, bullying, etc (Haas, Mincemoyer & Perkins, 2015).

Life skills are central to major theories of psychology that are providing a basis for understanding the development of life skills. The practical side of promotion of life skills shows that these are the major source of promoting positive youth development. The theoretical side of life skills development shows that youth development frameworks and interventions must be age-appropriate to fulfil the requirements of

physical growth, mental health, relationships with peers and adults, and overall learning experiences. Furthermore, the life skills frameworks set conceptual background for both theory and practice in research, hence, a deeper collaboration between researchers and practitioners is developed. It helps in designing well-informed intervention programs. A life skill program that is rational, coherent, and based on principles of experiential learning incorporates risk and resilience and has the potential for effective interventions (Subramanian, 2016).

The world today is composed of diversified societies that have demographic, political, social, and ethical differences, hence, our youth today is exposed to multifaceted challenges and risks. The societies place greater demands for maintaining the quality of civic life and cohesion. In this regard, education has to play a wider role in developing key skills among youth so that they become healthy, productive, and autonomous adults. Along with youth development interventions, assessment strategies to measure the success of these programs are also significant. If skills are comprehensively defined and described, the assessment may become easier and more effective. (Subramanian, 2016).

McCollum (2014) has presented two major categories of life skills one is called basic life skills and the other is applied life skills. Basic life skills are taught at schools such as reading, writing, numeracy, language, etc. whereas applied life skills include skills of communication, conflict resolution, leadership, motivation, problem-solving, decision making, etc. The applied life skills are not directly addressed through the curriculum.

The partnership for 21st century skills (2003) suggests that four components must be accompanied along with core subject mastery which includes (1) skills of thinking and learning (2) literacy in the field of information technology and

communication, (3) life skills (4) content based on 21st century context. These skills should be adequately addressed by the education system. A successful well-prepared youth for 21st century needs to take part in activities that take place inside or outside the schools. Leffert, Saito, Blyth, and Kroenke (1996) have admitted that early experiences put a deep impact on the development of the overall personalities of young people.

2.30 Status of Life Skills in Education System of Pakistan

At the international level, life skills education is addressed through various youth development programs. These programs are logically designed in a thoughtful and systematic manner for youth. Which life skills must be selected? and which strategies are required to be effective interventions? are the crucial questions to be answered for any successful youth development program. Here the context and relevance are the rule of thumb. At present, there is no such program working in Pakistan. However, the national education policy (2009) has recommended life skills-based education at secondary and higher secondary level. These recommendations are still awaited to be implemented. Our formal schools have more focus on academic outcomes and lesser on personal growth and development. Life skills development is a supplementary objective of our education. Hence, no life skills development programs are seen in formal education settings until yet. The life skills of our students are developed through informal resources depending upon their context, personal interest, motivation and available opportunities to them. But it is not sufficient to fulfil the needs of a student. The government of Pakistan at the federal and provincial levels is required to make arrangements for the promotion of youth development through well-planned and well-designed programs. Unicef (2012) suggests that education regarding life skills

can be introduced in formal education settings in many ways. Such as a separate subject, as integrated content to other subjects or degrees. It might be inducted as an extra or co-curricular provision.

To meet the psychosocial aim of life skills training, it is necessary to conceptualize a scheme of studies that includes behaviour, attitude, and values along with knowledge. So, life skills education requires interactive teaching and learning methodology. In the traditional education system of Pakistan, these changes are still awaited. Pakistan is a politically and demographically diverse country, its youth faces multidimensional challenges. The introduction of detailed programs of life skills development at all levels of formal education invites policy formulation at the national and provincial levels.

2.31 Demographic Differences and Life skills

The teaching of life skills is undertaken according to the developmental stage and age of students. Therefore, understanding about developmental tasks and common characteristics of a particular age group become relevant (Norman & Jordan 2006).

Bartoszuk and Randall (2011) investigated the effect of age and gender on 4-H participants. They discovered that age and gender of participants significantly affect their life skills. Older youth and females scored higher on life skills such as decision making, communication and solving problems.

Haas, et al. (2015) also found that age and gender influenced the acquisition of life skills. The females were better as compared to male students on life skills such as critical thinking, decision making, solving problems, communication and setting realistic goals. Geldhof, Bowers and Lerner, (2013) reported the findings of a positive youth development program which established a general trend for better life skills

among female participants. The increased decision-making power inculcated better and healthy habits among female students.

Subramanian (2016) opined that various issues and contexts need various life skills. Thus, while designing and implementing life skills development programs, it is fundamental to consider the gender and age of the participants. Therefore, the effective implementation of life skills programs is possible if its context is adequately addressed.

2.32 Measurement of Life Skills Development

There are many evaluation systems and instruments for assessing life skills under various programs. The present study selected the instrument developed by Bailey and Deen (2002). It was a web-based evaluation system developed for the evaluation of life skills acquisition. The instrument was focused to achieve three major objectives regarding youth development programs. First, it aimed to find out if the program teaches life skills. Therefore, a valid and reliable system of evaluation was needed. Second, it produced outcome data for further improvement of the program. Third, it was developed as an evaluation system that could be used by all stakeholders, including teachers, volunteers, and staff. The instrument was based upon “Targeting Life Skills Development Model of Hendricks (1998)”. This model has used 4-H clover and included four dimensions of skill development. In these four areas, 35 life skills are identified by the author. But Bailey and Deen (2002) have used only eight out of these 35 life skills which are described in Table 2.4.

Table 2.4

Selected Life Skills and their Definitions

Life skills	Definition
Decision making	Selecting the best option from various alternatives.
Wise use of resources	Making sound decisions, show responsibility, set priorities, and not being wasteful.
Communication	Use of speech, text, gestures, artistic expression for exchange of ideas, information, and messages. Hendricks model does not include public speaking as a life skill as it is not general for all.
Accepting differences	The characteristics that distinguish one person from the other are recognized and accepted wholeheartedly.
Leadership	To guide, assist and direct a group in achieving its goals by personally influencing its members.
Useful/marketable life skills	To possess skills and capabilities that are required to get and hold a job.
Healthy lifestyle choices	choosing a way of living that promotes a sound condition of body and mind, prevent disease and injury. Getting information, knowledge, behaviours, and developing an attitude that ensures good health and future well-being e.g. exercise, nutrition, disease prevention, personal safety, and stress management.
Self-responsibility	Being accountable for one's behaviour, take care of one's self and making the right choices.

Sources: (a)-Pat Hendricks, 1998 4-H Life Skill Inventory (b)-Bailey, S. J., & Deen, M. Y. (2002). Development of a Web-Based Evaluation System: A Tool for Measuring Life Skills in Youth and Family Programs. *Family Relations*, 51(2), 138-147.

For the measure used in current research, the life skill of 'accepting differences' was replaced by the life skill of 'empathy' (to identify with situations, feelings, and motives of other people and to be sensitive to them) so that all the eight subsections of

the Hendricks' (1998) model could have been represented. Numerous other measures are used for the evaluation of life skills development, but the instrument developed by Bailey and Deen (2002) addresses life skills that are of particular significance in the context of resilience among students. The literature on resilience as discussed earlier has mentioned several life skills that are instrumental in enhancing resilience among youth which are addressed by Bailey and Deen (2002).

2.33 Summary

The available literature on resilience showed little agreement on the conceptualization of the concept of resilience (Eshel, Kimhi, & Goroshit, 2014). To add further, conclusions do not reach agreements even within a single context. For example, there are two major but different definitions of the construct. Resilience is the ability that enables the individual to return quickly to a normal state from the psychological effects of an adverse situation (Bonanno, Brewin, Kaniasty, & La Greca, 2010). The individual can remain calm and stable while facing a challenging situation, which displays his/her psychological health (Bonanno, 2004). The competing and contrasting definitions of resilience placed hurdles in resilience research. But concurrently, the interest of researchers in resilience research is revived by discovering the fact that traumatic stress is not inevitable. The debate around the concept of resilience has remained central in resilience research. It is because some theorists conceived resilience as a personality trait whereas others believed that it is a process. Another challenge emerged by treating resilience in the light of personality characteristics, whereas, personality is treated as a stable attribute (Terracciano, McCrae, & Costa, 2010). According to this rule, resilience could not be learned taught, or implemented, therefore efforts to enhance psychological resilience proves redundant (Mancini & Bonanno,

2010). Conversely, viewing resilience as a dynamic process makes it learnable. The empirical studies described psychological resilience as a characteristic that is not fixed and can be taught and learned (McAllister et al., 2013; Robertson & Cooper, 2013). Such conception of resilience encouraged the development of intervention programs to enhance the resilience of the at-risk population. Nevertheless, a sound well-experimented conceptualization of resilience is essential before introducing any program for resilience development (Agaibi & Wilson, 2005). In the recent past, it has been recognized that resilience is an everyday construct as every individual faces challenges and struggles to remain content while negotiating with available resources. Therefore, the disease model for resilience needs to be abandoned for future research. This new direction in resilience research was strongly supported by the emergence of positive psychology in late 90s. The significance of related life skills for developing resilience is evident in previous literature. It is found that modelling behaviour of the teacher in classroom supports the development of certain skills as communication, social, interpersonal, and literacy skills. Similarly, co-curricular and extracurricular activities develop social skills among students and help them develop positive behaviour (Downey, 2008).

Research regarding academic resilience has focused on individual-level academic resilience and personal psychological characteristics. Further investigations are required to situate previous findings in the context of school, teacher, peer, and home-related factors. Masten and Coatsworth (1998) found these contextual factors relevant to general resilience and to academic resilience as found by Finn and Rock (1997). Factors like school environment that may enhance the aggregate level of academic resilience also demonstrate scope. The relevance of class and school-related factors have been established (Urduan, Midgley, & Anderman, 1998). But further

research is required to find out the relationship of factors like teachers' resilience with students' academic resilience. The statistical software enabled researchers to accurately analyse these relationships at individual, class, and school levels (Bryk & Raudenbush, 1992; Goldstein, 2003). The school, class, and individual-level variations are relevant to students' academic resilience. The role of the teacher is crucial, as Arif and Mirza (2017) discovered in our local scenario that at-risk students develop their protective factors when teachers provide a supportive environment to them which in turn improves their resiliency.

Research in resilience requires some adaptive strategies to effectively explore resilience. It is unrealistic to confine the construct of resilience to chronic and acute adversities under a disease model of clinical psychology. In today's world resilience may be generally taken as implementable to everyone in everyday situations. Modern life which is advancing at a high speed has presented individuals with multifaceted challenges, making resilience an everyday subject. Hence, it should not be tagged with the disease model anymore. Similar is the case with life skills. The literature on life skills exposed the fact that the international efforts by WHO, UNICEF, etc. majorly focused on health-related issues such as HIV under the definition of life skills. Though the literature produced has addressed and produced lists of various life skills, yet the material efforts were not made in the wider prospects of development of life skills. Therefore, the concept of life skills has been misinterpreted by confining it to particular areas of life. Researchers need to take the construct of resilience as a life skill, essential for all individuals. Research is necessary to investigate the potential of the resilience construct and to widen its implications. Resilience is as simple as an appreciation of resources that one possesses. The contextual framework of academic resilience can highlight the significance of the overall environment around the students and the life

skills possessed by them. Hence, the current research was planned to discover the role of teachers' resilience in enhancing students' life skills development and academic resilience at the HSSC level. The moderating effects of categorical variations among teachers such as gender, age, teaching experience, academic qualifications, professional qualifications, designation held, marital status were also investigated. Whereas, gender, age, and subject groups of students were also taken under investigation to understand their role in students' academic resilience and their life skills development.

CHAPTER 3

METHODS AND PROCEDURES

The detailed review of available literature on resilience and life skills development highlighted the need for further investigation on these constructs in local scenario. The review of related literature showed that the personal factors of teachers affecting teachers' resilience, its relationship with students' academic resilience, and life skills development are not well investigated in local scenario. Hence, an investigation was planned to explore the relationship of teachers' resilience with students' academic resilience and their life skills development at higher secondary level. This chapter describes the methodology of the study in detail. It highlights the design of the study, population, sampling design, research instrumentation, validation process, pilot study, and reliability procedure. It further explains the data collection procedure, organization of data and statistical techniques used for the analysis of data.

3.1 Research Design

The significance of what one finds depends upon the way it is found. The present study used a quantitative approach for research. According to Ary, Jacobs, Sorensen, and Razavieh (2010), research problems focusing on relationship and investigation of the existing situation are dealt with a quantitative approach in which the researcher collects and statistically analyzes the numeric data. Gay and Airasian

(2000) have mentioned three advantages of using a quantitative approach for research studies. They have proposed that: (1) the quantitative method provides an opportunity to involve a large number of participants in a study (2) it makes the data comparatively stable; moreover (3) the findings of the quantitative data analysis can help in effective generalization. Given these advantages, the researcher adopted a quantitative approach to the study. The research design undertaken was descriptive and correlational in nature. As in educational research, descriptive research can be used to describe, record, analyze and interpret the current situation. It tries to find relationships between variables that are not manipulated by the researcher. The results are reported based on a statistical analysis of the gathered data (Best & Kahn, 2016).

According to Cohen, Manion and Morrison (2002), null hypotheses are used when the researcher assumes two things: a) no difference or relationship exists between variables, b) the difference or relationship that exists is not a product of chance. The null hypotheses provide a framework for employing the statistical procedure to draw inferences regarding the significance of the results and generalizing the findings. So, the researcher can statistically analyse, find significance of results and draw conclusions without any biases or errors. Therefore, the researchers framed null hypotheses to achieve No.4,5,6,7 and 8.

The study involved testing of null hypotheses devised to find out the relationship of teachers' resilience with students' academic resilience and their life skills development at the higher secondary level. Furthermore, it intended to investigate differences in teachers' resilience, students' academic resilience, and life skills development in relation to demographic variations. Therefore, data were collected from respondents in an independent and confidential manner. Three research instruments were used for the collection of responses from respondents. The research instruments

were questionnaires and used a 5-point Likert scale. Responses on students' academic resilience and life skills development were collected from students of HSSC-II level, whereas data from teachers were collected on the doughnut resilience quiz. Data were assembled, organized, and compiled for analysis through SPSS.21. The data were analyzed with the help of percentages, means, Pearson product-moment correlation, t-test, and ANOVA to extract findings and conclusions.

3.2 Population

The study was conducted in public sector colleges administered by FDE Islamabad. Following were the components of the population for the study.

1. The first component of the research population consisted of all college teachers who were teaching at the Intermediate Part II level in public colleges of Islamabad. According to the record available at the FDE database, 620 teachers were teaching at the Intermediate Part II level. These 620 college teachers constituted the teachers' population for the study. It consisted of 301 male (48.6%) and 319 female teachers (51.4%).
2. The second component of the population consisted of all college students studying at intermediate Part II level in public colleges of Islamabad city. A total of 5783 students were studying at intermediate Part II level in colleges under FDE. The female students were 2996 (51.8% of the population) and male students were 2787 (48.2% of the population).
3. The population existed into two strata of the researcher's interest, these were male and female strata. The male stratum consisted of 301(48.6% of the population) male teachers and 2787 (48.2% of the population) male students. Whereas the female

stratum consisted of 319 (51.4% of the population) female teachers and 2996 (51.8% of the population) female students.

3.3 Sample and Sampling Design

Sampling provides a basis for approximating and forecasting unknown information by observing current circumstances and consequences that are prevalent in the whole population (Kumar, 2011). Usually, it is an inevitable segment of research, due to constraints of time, money, effort, and other material resources. The most important characteristic of a sample is its representativeness so that it could be possible to generalize the findings with confidence (Ary et al., 2010). To achieve the objectives of the current study, a multi-phase stratified sampling technique was used as described by Babbie (2007); Cohen, Manion and Morrison (2002). The population consisted of two gender-based strata. Hence, to represent the true proportion of each gender, a stratified proportionate sampling procedure was adopted in the first stage of sampling. The study intended to find out the relationship between teachers' and students' resilience. Therefore, it was made sure that the selected sample of teachers and students are intact in a group (class) for teaching and learning. So, cluster sampling was conducted in the second stage of the sampling procedure.

1. In the first phase, 14 boys and 15 girls colleges were selected from male and female strata making a total of 29 colleges.
2. In the second phase, one class-section of intermediate-II was randomly selected from each sampled college. Each class was taught by 6 teachers, whereas the number of students was different in each class. Each class was assigned a separate code number for identification in the data.

3. The sample represented a proportionate ratio of male and female respondents as they existed in the population. It consisted of 174 teachers including 84 (48.3%) male and 90 (51.7%) female teachers selected from male and female strata of the population. Moreover, it consisted of 588 students including 288 (48.9%) boys and 300 (51.9%) girls chosen from male and female strata of the students' population.
4. The sample size of teachers was 28% and the sample size of students was 10.1% of the population.

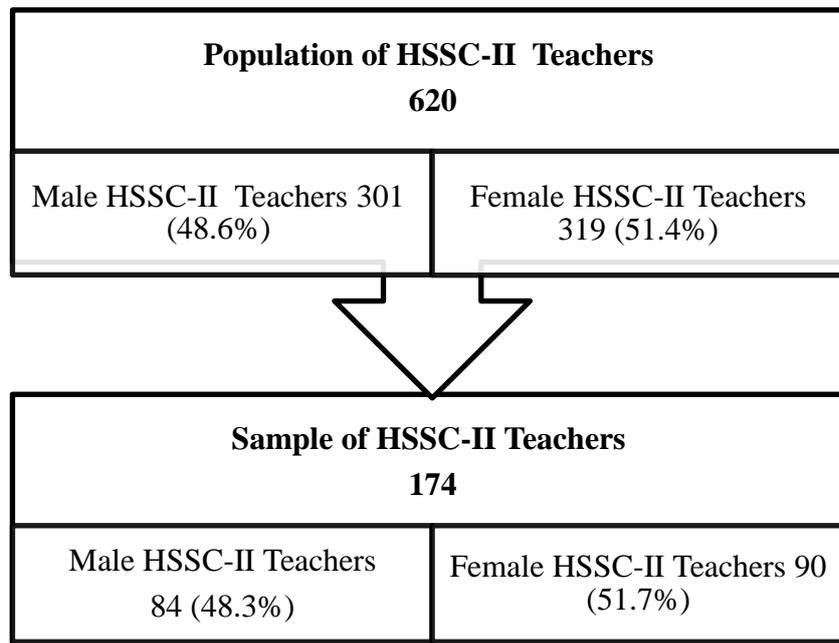


Figure 3.1 Population and Sample of Teachers for the Study

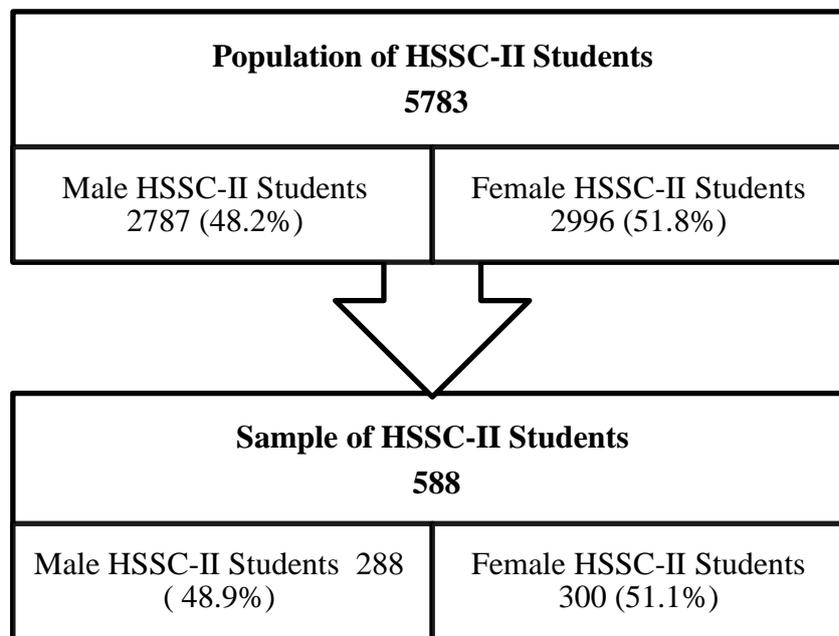


Figure 3.2 Population and Sample of Students for the Study

Table 3.1

Sample of Male Respondents

S.No.	Class code	Number of male	Number of male
		teachers	students
1.	M-01	06	27
2.	M-02	06	22
3.	M-03	06	19
4.	M-04	06	20
5.	M-05	06	21
6.	M-06	06	24
7.	M-07	06	23
8.	M-08	06	14
9.	M-09	06	17
10.	M-10	06	18
11.	M-11	06	19
12.	M-12	06	19
13.	M-13	06	17
14.	M-14	06	28
Total	14	84	288

Table 3.1 depicts details of the sample for the study consisting of male respondent teachers and students.

Table 3.2

Sample of Female Respondents

S.No.	Class code	Number of female teachers	Number of female students
1.	F-01	06	24
2.	F-02	06	28
3.	F-03	06	20
4.	F-04	06	22
5.	F-05	06	16
6.	F-06	06	21
7.	F-07	06	19
8.	F-08	06	19
9.	F-09	06	18
10.	F-10	06	20
11.	F-11	06	16
12.	F-12	06	20
13.	F-13	06	22
14.	F-14	06	20
15.	F-15	06	15
Total	15	90	300

Table 3.2 depicts details of the sample for the study consisting of female respondent teachers and students.

Table 3.3

Gender - Wise Sample of Teachers and Students

Gender	Teachers	Student
Male	84	288
Female	90	300
Total	174	588

Table 3.3 shows the distribution of sample for the study based on gender

3.4 Research Instrumentation

Three research instruments were used to record the responses of the respondents on three variables of the study. Birmingham and Wilkinson (2003) have suggested that a questionnaire is an instant source of collecting information from a large and diverse sample. It is usually less expensive and requires little training for developing, administering, and analyzing. While considering the design of the current study, questionnaires were considered the most appropriate research instruments. These were self-reporting questionnaires on 5-point Likert scale from always agree-5 to never agree-1. Detailed characteristics of the research instruments are described as follows.

3.5 Instrument No 1: The Resilience Doughnut Quiz (Worsley, 2006)

The Resilience Doughnut Quiz (Worsley, 2006) was used to collect data on the variable of teachers' resilience. It is an online tool used for the measurement of resilience. For the present study, its questionnaire format was requested from the author, which the author provided. The instrument originally contained seven external factors

and three internal factors. The current research was delimited to the study of six external factors and three internal factors. One external factor (the Partner Factor) was excluded from the study after the pilot study due to cultural differences and the reluctance of respondents while responding to it.

The 'Resilience Doughnut Model' contains two tiers of factors that help in developing resilience. The Resilience Doughnut shows that resilience is developed when forces of two tiers interplay. The outer tier of the Resilience Doughnut has external factors, whereas the centre of the doughnut is occupied by the internal factors for resilience.

3.5.1 External Factors

The outer ring of the Doughnut Model comprises seven segments. Each section is represented by one external factor which exists in the outer environment of the individual and plays a role in his or her resilience. The current study was delimited to the following six external factors of the Resilience Doughnut.

3.5.1.1 Skill Factor

It is the extent to which any of the individual's acquired skills contributes to the overall resilience of the individual. Various aspects of the skill factor are related to resilience development. While acquiring a skill one has to face difficulties and challenges connected to failure and persistence. It enhances optimistic thinking, problem-solving, feelings of achievement and success, recognition for having skills, it provides opportunities for experimentations, self-confidence, encouragement, and admiration from people (Worsley, 2010).

3.5.1.2 Family and Identity Factor

It is the extent to which family and identity factor contributes to the overall resilience of an individual. Family is important for identity formation. When one belongs to a group of related people, it provides feelings of connectedness, responsibility, a positive view of the outer world, deep spiritual values and traditions, high expectations of adults, close association with siblings, etc. Family shows respect to an individual and accepts his/her feelings. It provides a wider family network. One may have elderly figures in the family to guide in difficult times (Worsley, 2010).

3.5.1.3 Education Factor

It designates the contribution of education to the overall resilience of an individual. Education is associated with resilience and academic resilience. It develops a sense of belongingness and acceptance. It provides opportunities to participate in extra activities. The optimistic teachers provide a positive world view. The relationship with a teacher having high expectations promotes resilience. Education provides an opportunity to enjoy an inclusive environment and to participate in learning (Worsley, 2010).

3.5.1.4 Peer Factor

It is the extent to which peers contribute to the overall resilience of an individual. Developing and maintaining friendships is an important aspect of life. The sense of belonging helps in the development of morality. Peer groups have diverse rudiments for the development of morality such as forgiveness, care, support, conflicts, cooperation, sharing, closeness, identity, cohesion, conformity, deeper friendships, concern, loyalty, self-awareness, and social awareness (Worsley, 2010).

3.5.1.5 Community Factor

It is the extent to which community plays a role in enhancing resilience. Resilience is built when individuals grow links with the local community which provides supportive social services. People who are active as members of sporting clubs, religious groups develop resilience. The community provides connectedness to a local area, positive relationships with adults, connection with family friends. It is a source of having a mentor and to be associated with a faith group. A community shares a purpose and values children and youth. It shares a common belief system to help its members in identifying. The community is an informal channel of building traits and capacities in individuals (Worsley, 2010).

3.5.1.6 Money Factor

It represents the extent to which money is important to build an individual's resilience. The money factor refers not only to the economic stability of an individual and his family but to the attitude towards the acquisition of material possessions. Various aspects connected to money are related to the resilience of an individual. Money makes the individual able to get basic needs of life, therefore, a sense of control over earning money is very important. Understanding the value of money, being able to think and wait for spending enhances the self-efficacy and self-discipline of an individual. While contributing to daily tasks one needs to do budgeting and planning and be grateful. It makes one take care of material possessions and creates strong work ethics (Worsley, 2010).

3.5.2 Internal Factors

The central part of the Doughnut is occupied by the vital beliefs that individuals develop about their competencies to survive and face the world. Three categories of

internal factors are there that underwrite an individual's level of resilience. Resilient people have strong positive beliefs in each of these areas.

3.5.2.1 Self-efficacy (I can)

It represents the extent to which one believes in his competencies.

3.5.2.2 Awareness of Resources (I have)

It represents the extent to which one is aware of the support and social ecologies available, sustainable, and useful to him or her in any adverse situation.

3.5.2.3 Self-esteem / Self-concept (I am)

It represents the view one has for one's self. It is based upon the strengths and characteristics that an individual possesses.

The factors mentioned in the Resilience Doughnut are sources for developing the resilience of the individuals. Worsley (2006) mentions the fact that only three of the external factors are needed by an individual to work well as a resilient person. When the three strongest factors are combined in an individual it is said that the 'Doughnut Moment' has occurred. The combination of three 'Doughnut Moment Factors' shows variations from individual to individual.

Table 3.4

Structure of External Factors of Doughnut Resilience Quiz

S.No	External factors	Item numbers	Total number of items
1	The skill factor	1,2,3,4,5,6,7,8	08
2	The family and identity factor	9,10,11,12,13,14,15,16,17,18	10
3	The education factor	19,20,21,22,23,24,25,26,27	9
4	The peer factor	28,29,30,31,32,33	6
5	The community factor	34,35,36,37,38,39,40,41,42	9
6	The money factor	43,44,45,46,47,48,49,50,51	9
	Resilience doughnut quiz	1-51	51

Table 3.4 describes the structure of external factors of the doughnut resilience quiz.

Table 3.5

Structure of the Internal Factors of Doughnut Resilience Quiz

S.No	External factors	Item numbers	Total number of items
1	Self-efficacy (I can)	1, 3, 4, 13, 29, 42, 45, 47, 49, 51	10
2	Awareness of resources (I have)	5, 10, 11, 15, 18, 21, 22, 23, 24, 26, 27, 28, 30, 34, 36, 40, 41, 43, 50	19
3	Self-esteem/Self-concept (I am)	2, 6, 7, 8, 9, 12, 14, 16, 17, 19, 20, 25, 31, 32, 33, 35, 37, 38, 39, 44, 46, 48	22
	Resilience doughnut quiz	1-51	51

Table 3.5 explains the structure of internal factors of the doughnut resilience quiz (Appendix A).

3.6 Instrument No 2: Scale for Academic Resilience

The objective of the study was to investigate the students' academic resilience at the higher secondary level. An appropriate scale for the measurement of students' academic resilience was not available therefore, a scale was developed and pilot tested by the researcher. At the first step of instrument development, the researcher reviewed the related literature and found that Martin and Marsh (2006) have mentioned five factors that can determine academic resilience. These factors are called 5Cs and present 5Cs Model for Academic Resilience. The Model identifies five attributes including confidence, coordination, commitment, composure, and control. An understanding was

acquired on 5Cs with the help of available literature and through discussions with the experts and supervisor. The literature helped in defining the 5Cs, which were used as subscales of the instrument. The research supervisor provided a substantial guideline for the construction of items. Hence, an item bank was created in each subscale with the help of experts' opinions, supervisor's guidance, and available scales on these constructs. According to the literature, the presence of adversity is critical to demonstrate resilience. Every student at some point in academic life experiences challenge, stress and perform lower than standard, therefore, academic resilience applies to every student (Martin & Marsh, 2006). Keeping in view this prospect, an imaginary situation was hypothesized. The instrument began with a brief description of that imaginary situation. The situation portrays an adverse condition, the students were required to imagine themselves facing such condition. The students were briefed on it before responding to actual items. Being in that situation a student is demanded to put a significant scuffle and contest in an academic setup. They had to provide their responses accordingly. The initial form of the instrument contained 30 items on five dimensions (5Cs) around academic resilience. All the items were relevant to the described situation. Likert scale was used to collect responses on items at five points. After acquiring validation from experts, the instrument was piloted (detail of which is included in section 3.13). Two items were excluded for showing poor reliability, hence, the final version of the instrument had 28 items on five subscales (5Cs). The subscales (5Cs) of the questionnaire are described as following.

3.6.1 Confidence (Self-efficacy)

The extent to which a student believes in his/her abilities to do well at learning is called confidence.

3.6.2 Coordination (*Planning*)

Coordination or planning is the extent to which a student plans his assignments, college work and keeps a track of his/her progress.

3.6.3 Commitment (*Persistence*)

Commitment is the extent to which a student intends to continue his/her efforts for solutions to problems which he/she faces. Even when the problems seem challenging.

3.6.4 Composure (*Low Anxiety*)

Composure is the extent to which a student can reduce his or her nervousness, worries, or anxiousness when faced with a challenge in his or her academic work.

3.6.5 Control (*Low-Uncertain Control*)

The extent to which a student feels certain about how to do well or how to avoid doing poorly in his or her academic tasks.

Table 3.6

Structure of the Academic Resilience Scale

S.No	Subscales	Item numbers	Total number of items
1	Confidence	20, 22, 25, 27	4
2	Coordination	16, 18, 19, 23, 24	5
3	Commitment	1, 2, 7, 10, 14, 15, 28	7
4	Composure	5, 6, 11, 13, 17,21,26	7
5	Control	3, 4, 8 ,9, 12	5
	Academic resilience scale	1-28	28

Table 3.6 displays the structure of the academic resilience scale (Appendix B).

3.7 Instrument No 3: Tool for Measurement of Life Skills Development (Bailey & Deen 2002)

Tool for Measurement of Life Skills Development (Bailey & Deen 2002) was used for the data collection on the variable of life skills development. It was a web-based tool, whereas a questionnaire format for the present study was adopted from the literature provided by the author after acquiring permission. The original tool consisted of eight life skills based upon the seven subcategories of the “Targeting Life Skills Model” by Hendricks (1998). The model mentions 35 life skills under 4 Hs (Head, Heart, Hands, and Health). Each H category is bifurcated into two which makes eight subcategories. Tool for Measurement of Life Skills Development developed by Bailey and Deen (2002) included eight life skills from seven subcategories of Hendricks’

model. It did not include any life skill for the subcategory of ‘caring’, whereas two life skills (communication and accepting differences) were included from one subcategory of ‘relating’. To address all eight subcategories of the 4H targeting life skills model, the subscale on life skill called “accepting differences” was excluded, whereas the subscale ‘empathy’ was developed and added to the tool. The items on the subscale ‘empathy’ were validated and added to the scale after pilot testing. In this regard, the researcher reviewed the related literature to define the construct of empathy. The guidelines of the supervisor helped in developing an item bank. Experts were also consulted for an opinion on the subscale. A bank of items was developed with the help of available literature, the supervisor’s guidance, and experts’ opinions. The researcher refined the item bank by excluding items in the light of expert views and confined them to five items on the empathy subscale. The respondents had to respond on a five-point Likert scale from always agree = 5 to never agree = 1 so that the subscale empathy could well merge to already existing items of the instrument. The whole scale including the empathy subscale was presented to a panel of experts for the validation process and was later piloted. The detail of the pilot study is included in section 3.13.

The final instrument consisted of eight subscales including decision-making, wise use of resources, communication, empathy, leadership, useful/marketable life skills, healthy lifestyle choices, self-responsibility. It contained 33 items.

Table 3.7

Description of the Subscales in Tool for Measurement of Life Skills Development

Hs	Subcategories	Subscales
HEAD	Thinking	<i>Decision-Making:</i> Ability to choose among various alternatives.
	Managing	<i>Wise Use of Resources:</i> The extent to which one makes sound judgments, is not wasteful, shows responsibility, and sets priorities.
HEART	Relating	<i>Communications:</i> The extent to which one has the capability of exchanging thoughts, sharing information, and messaging through speech, gestures, written and artistic expression.
	Caring	<i>Empathy:</i> To be sensitive and to be capable of identifying with someone's situation, feelings, and motives.
HANDS	Giving	<i>Leadership:</i> The extent to which one uses his/her influence to assist and guide a group in achieving its goals.
	Working	<i>Marketable/Useful Skills:</i> The extent to which an individual possesses the capabilities required by employers to perform a job.
HEALTH	Living	<i>Healthy Life-Style Choices:</i> The extent to which one knows about those attitudes and behaviours that ensure good physical health and future wellbeing. For example, personal safety, exercise, healthy diet, vaccination, prevention from disease and injury, etc.
	Being	<i>Self-Responsibility:</i> The extent to which an individual takes care of himself, presents his behaviour for accountability, and makes correct choices between right and wrong.

Description of the subscales of Tool for Measurement of Life Skills Development is presented in Table 3.7.

Table 3.8

Structure of the Tool for Measurement of Life Skills Development

S.No	Subscales	Item numbers	Total number of items
1	Decision making	1,2,3	3
2	Wise use of Resources	4,5,6,7	4
3	Communication	8,9,10,11	4
4	Empathy	12,13,14,15,16	5
5	Leadership	17,18,19	3
6	Useful/marketable life skills	20,21,22,23,24,25	6
7	Healthy lifestyle choices	26, 27,28,29	4
8	Self-responsibility	30, 31, 32, 33	4
	Life skill development	1-33	33

The structure of the tool for the measurement of life skills development is displayed in Table 3.8 (Appendix C).

3.8 Demographic Information Sheets

The demographic variations reflect the diversity within a carefully selected sample. Sometimes the findings of the study are affected by these variations if ignored by the researcher. Therefore, the researcher decided to discover and report the demographic variability among the respondent teachers and students. In this regard, a demographic assessment sheet was also attached along with the questionnaires. The demographic sheet for teachers sought information regarding gender, age, teaching

experience, designation held, academic qualifications, professional qualifications, and marital status. Whereas the demographic sheet for students asked for information about their gender.

3.9 Validation of the Instruments

The three research instruments were presented to a panel of experts for their opinions regarding the content validity, face validity and cultural validity. The validation process was qualitative in nature.

1. The resilience doughnut quiz was presented to a panel of experts for a validation process. With specific reference to research objectives, the experts were requested to determine the content and cultural validity of the instruments. The partner factor did not seem culturally valid according to the opinion of the panel. Therefore, the partner factor was excluded from the final instrument. The experts showed overall satisfaction with the structure and content of the instrument (Appendix D).
2. Scale for the measurement of academic resilience among students was also presented to a panel of experts. They determined the content and face validity of the instrument. They assessed the appropriateness, usefulness, and meaningfulness of the research instrument and suggested minor changes in the language and organization of the instrument. Their suggestions were incorporated (Appendix E).
3. Scale for the measurement of students' life skills development was presented to the panel of experts to determine its validity. They expressed overall satisfaction with the structure, language, and organization of the instrument. They suggested replacing the numeric values (1-5) of the Likert Scale with their descriptions on the scale such as always agree, never agree. The suggestion was incorporated (Appendix F).

3.10 Permissions of Using Research Instruments

Permission to use the Resilience Doughnut Quiz (Worsley, 2006) for the current study was obtained from the author through email. Permission to use the Tool for Measurement of Life Skills Development (Bailey & Deen 2002) was also obtained from the author through email. The copies of emails are included in Appendix-G and H respectively.

3.11 Pilot Testing of the Research Instruments

The research instruments were piloted before the collection of large-scale data. It was conducted to find out the feasibility of the major research work and to acquire the reliability of the research instruments.

3.11.1 Sample of Pilot Study

For pilot testing, a sample was selected which was relevant and similar in characteristics to the major sample chosen for the main study, but it was not part of the major sample. The sample was selected in two stages. At the first stage, four Islamabad Model Colleges were randomly selected from the list of institutions provided by FDE, including two boys' and two girls' colleges. The researcher randomly selected one section (class) of HSSC-II students from each college. Each section consisted of six teachers, whereas the number of students varied from section to section. A multistage stratified random sampling technique was used which included two strata of male and female respondents. The male stratum consisted of 12 male college teachers and 38 male students. The female stratum consisted of 12 female college teachers and 37 female students. The sample was selected at the HSSC-II level. Three research instruments were administered to the sample. The respondents were briefed about the objectives of the study and after acquiring their consent, they were requested to report

their responses on self-reporting questionnaires along with demographic sheets. All the questionnaires used a 5-points Likert Scale.

The teachers recorded their responses on the teacher resilience quiz along with a brief demographic description regarding their gender, age, designation, academic and professional qualifications, professional experience, and marital status. Whereas the students were administered two instruments in a single session. They responded on the academic resilience scale and tool for measurement of life skills development. They were requested demographic information regarding gender.

3.11.2 Data Analysis and Results of Pilot Testing

All the questionnaires were collected and organized. Each questionnaire was given a specific identity number. All the data were entered into SPSS.21 for analysis. Cronbach Alpha was applied to determine the overall validity of each instrument. The reliability of the subscales was also determined with the help of Cronbach Alpha. The Cronbach Alpha value for the doughnut resilience quiz was 0.819, whereas the academic resilience scale showed a value of 0.713. Two items (Item No.3 and 15) were excluded from the academic resilience scale for showing a poor reliability coefficient. Hence, the finalized instrument for the measurement of academic resilience comprised 28 items. The Cronbach's Alpha value was 0.887 for the life skills development tool. The following tables depict the reliability of instruments and their subscales.

The Cronbach alpha coefficient correlation between .63 and .87 was reported by the author of the doughnut resilience quiz (Worsley & Hjemdal, 2016). Similarly, the alpha values between .75 and .91 were reported by the author of scale for life skills development (Bailey & Deen, 2002).

Table 3.9

Reliability Statistics of Subfactors of Teachers' Resilience

External factors determining teachers' resilience	Cronbach's alpha	Number of items
The skill factor	0.743	8
The family and identity factor	0.801	10
The education factor	0.824	9
The peer factor	0.723	6
The community factor	0.672	9
The money factor	0.609	9

Table 3.9 demonstrates the Cronbach's Alpha for external subfactors of the resilience doughnut quiz. Cronbach's Alpha value for all the six subscales ranged between 0.824(the education factor) and 0.609 (the money factor) whereas, the overall reliability was (0.819) in the local scenario.

Table 3.10

Reliability Statistics of Students' Academic Resilience Subscales

Factors determining students' academic resilience	Cronbach's alpha	Number of items
Confidence	0.704	4
Coordination	0.611	5
Commitment	0.702	7
Composure	0.601	7
Control	0.603	5

Table 3.10 shows Cronbach's Alpha reliability for all five subscales of the academic resilience scale. The alpha value ranges between 0.601 (control) and 0.704 (coordination). Cronbach's Alpha for the overall academic resilience scale was 0.713 showing acceptable reliability for the scale.

Table 3.11

Reliability Statistics of Subscales of Students' Life Skills Development

Subscales of Students' Life Skills Development	Cronbach's alpha	Number of items
Decision making	0.618	3
Wise use of resources	0.718	4
Communication	0.611	4
Empathy	0.645	5
Leadership	0.634	3
Useful/Marketable life skills	0.705	6
Healthhoices	0.639	4
Self-responsibility	0.651	4

According to Table 3.11, Cronbach's Alpha for subscales of life skills development instrument ranges between 0.611 (communication) and 0.718 (Wise Use of Resources). All these values lie in the acceptable range of alpha value. The alpha value for overall life skills development was 0.887 which displays high reliability of the scale.

3.12 Organization of the Research Instruments

The pilot study depicts that all three instruments had acceptable reliability values and are suitable for the current study. The instruments were given final shape as discussed earlier in section 3.6 research instruments.

3.12.1 Coding Procedure of the Scales for Statistical Analysis

The responses were recorded on all three questionnaires by using a 5-point Likert scale, having a scale between 1-5. It obtains a range of agreement or disagreement on various items of instruments. A numeric value is given to each level on the scale. Scoring values of positively scored items are as following:

Description	Range of scores
Always agree	5
Often agree	4
Sometimes agree	3
Rarely agree	2
Never agree	1

3.13 Delimitations of the Study

A few delimitations were meant due to limited time, financial and human resources.

1. The current research work was delimited to teachers and students of public sector colleges of Islamabad working under FDE.
2. It was delimited to college teachers teaching at Intermediate Part-II (HSSC-II) level. Similarly, it was delimited to students of Intermediate Part-II (HSSC-II) enrolled at public sector colleges of Islamabad, operating under FDE.
3. Variable of life skills development was delimited to eight life skills.
4. The variable of teachers' resilience was delimited to six external factors and three internal factors of resilience defined by Worsley, (2006), in "The Resilience Doughnut Quiz". The external factors included skill factor, family and identity factor, education factor, peer factor, community factor and money factor, whereas

internal factors were ‘self-efficacy (I can)’, ‘awareness of resources (I have)’ and ‘self-concept/ self-esteem (I am)’.

3.14 Data Collection Procedure

According to academic calendars in Pakistan, the academic year at the higher secondary level covers the period between August to April of an academic session. The data were collected during November, December, and January 2017-18. The data were collected in 35 working days. To get access to the population of the study, official letters for cooperation (Appendix-I) were obtained from FDE. The researcher personally visited all colleges for the collection of data. The heads of the institutions cooperated well and allowed access to their students and teachers. Three research instruments were administered to a total of 198 teachers and 645 students. The respondents were familiarized with research instruments during a short introductory session. The researcher briefed them about the objectives of the current research and acquired their consent to participate in the study. They were told that their responses will be used only for research purpose and the data on questionnaires will be kept secret. They were not required to show their identities by writing their names on the questionnaires so that to ensure honesty in answering. There was no time limitation for completing the questionnaires. But it was observed that the questionnaires of students took 20-35 minutes to be completed, whereas the questionnaire of teachers took 20-30 minutes at an average to be filled. Out of the total distributed questionnaires, 174 teachers and 588 students returned questionnaires filled in all respects, which were included in the final study. The total number of colleges included in the large-scale study was 29. The response rate remained 90.4%. Each class included students studying the same group of subjects and teachers teaching them.

3.15 Ethical Consideration

It is always expected from the researcher to follow basic research ethics. In this regard, the researcher made all efforts. First of all, the consent of the participants to participate in the current study was acquired. Their willingness and unwillingness to participate were both equally respected. The respondents who participated were granted confidence that the data provided by them will only be used for research purposes. To value their privacy, no respondent was asked to reveal his/her identity, as no one was asked to mention the name on the questionnaire. It helped in getting more honest responses from the participants. A specific identity code was allotted to each questionnaire so that it could be traced back if the researcher required it for the current study. The researcher recorded all responses on instruments with the help of these codes in the SPSS.21.

3.16 Data Organization and Scoring Procedure

All the questionnaires were arranged and assigned identity numbers. Teachers' questionnaires and students' questionnaires were arranged according to their relevant colleges. Each class was assigned a number. There were 29 classes of the main study sample, including 14 of male respondent teachers and students, and 15 of female respondent teachers and students. The questionnaires of male respondents were allocated the identity number from M-01 to M-14, while the questionnaires of female respondents were allocated numbers from F-01 to F-15. The responses were recorded on a Likert scale consisting of 5 points from strongly agree to strongly disagree.

3.17 Analysis of Data

The data were tabulated to SPSS (21.0) software program for further analysis. Total scores were determined. Mean scores, frequencies and percentages were

computed to explore the teachers' resilience, students' academic resilience, and life skills development. To seek a relationship among research variables and their subscales, Pearson product-moment correlation was applied. The gender-based differences and differences in relation to marital status were determined using an independent sample t-test. Whereas, analysis of variance (ANOVA) was applied to demographic data including the age of teachers, teachers' teaching experience, designation, academic qualification, and professional qualification. Graphs were plotted to provide the simplest picture of the data. Null hypotheses were accepted and rejected at significance level of at least 0.05.

Table.3.12

Alignment of Research Objectives and Hypotheses with Data Analysis

Objectives	Research hypotheses	Statistical treatment
Objectives 1		
To examine teachers' resilience at higher secondary level.		Mean, percentages
Objectives 2		
To examine students' academic resilience at higher secondary level.		Mean, percentages
Objectives 3		
To examine students' life skills development at higher secondary level.		Mean, percentages
Objectives 4		
To find out the relationship of teachers' resilience with students' academic resilience and students' life skill development at higher secondary level.	H_01 There is no significant relationship between teachers' resilience and students' academic resilience at higher secondary level.	Pearson Correlation
	H_02 There is no significant relationship between teachers' resilience and students' life skills development at higher secondary level.	Pearson Correlation

<p>Objectives 5</p> <p>To find out relationship of students' academic resilience with students' life skills development at higher secondary level.</p>	<p><i>H_o 3</i> There is no significant relationship between students' academic resilience and students' life skills development factors at higher secondary level.</p>	<p>Pearson Correlation</p>
<p>Objectives 6</p> <p>To investigate teachers' resilience in relation to demographic variations (gender, age, teaching experience, designation, academic qualifications, professional qualifications and marital status) at higher secondary level.</p>	<p><i>H_o 4</i> There is no demographic-based (gender, age, teaching experience, designation, academic qualifications, professional qualifications and marital status) significant difference in teachers' resilience at higher secondary level.</p> <p><i>H_o 4(a)</i> There is no gender-based significant difference in teachers' resilience at higher secondary level.</p> <p><i>H_o 4(b)</i> There is no significant difference in teachers' resilience in relation to age at higher secondary level.</p> <p><i>H_o 4(c)</i> There is no significant difference in teachers' resilience in relation to teaching experience at higher secondary level.</p> <p><i>H_o 4(d)</i> There is no significant difference in teachers' resilience in</p>	<p>t-test</p> <p>ANOVA</p> <p>ANOVA</p>

relation to designation at higher secondary level. ANOVA

H_o 4(e) There is no significant difference in teachers' resilience in relation to academic qualifications at higher secondary level. ANOVA

H_o 4(f) There is no significant difference in teachers' resilience in relation to professional qualifications at higher secondary level. ANOVA

H_o 4(g) There is no significant difference in teachers' resilience in relation to marital status at higher secondary level. t-test

Objectives 7 H_o 5 There is no gender-based significant difference in students' academic resilience at higher secondary level. t-test

To investigate gender-based difference in students' academic resilience at higher secondary level.

Objectives 8 H_o 6 There is no gender-based significant difference in students' life skills development at higher secondary level. t-test

To investigate gender-based difference in students' life skills development at higher secondary level.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

The chapter contains an analysis of data and its interpretation. In the light of the findings of the pilot study, research instruments were finalized after making minor changes. Three research instruments were used to collect data from 174 teachers and 588 students at the HSSC level. “The Resilience Doughnut Quiz” was used to measure teachers’ resilience which consisted of 51 items on 6 subscales. Students responded on academic resilience scale which comprised 5 subscales and 28 items. Life skills development questionnaire was used to measure the life skills development of students. It contained 8 subscales and 33 items. Data were organized and entered into SPSS for analysis. Statistical treatments were applied to data for testing the hypotheses, such as means, standard deviation, percentages, Pearson correlation, t-test, and ANOVA. The results were demonstrated in form of tables and graphs. The significant differences between scores were reported at the significance level of 0.05. Results are presented in the following sections for further elaboration.

Section I: Demographic Attributes of Students and Teachers

Section II: Interscale Correlation of Research Instruments

Section III: Descriptive Statistics on Research Data

Section IV: Descriptive Statistics

Section V: Testing the Null Hypotheses

SECTION – I

Demographic Attributes of Teachers and Students

Table 4.1

Gender-based Distribution of Teachers (N=174)

Gender of teachers	n	Percent
Male	84	48.3
Female	90	51.7
Total	174	100.0

Table 4.1 presents the gender-wise distribution of teachers in the sample. It is shown that the sample consisted of a total of 174 respondent college teachers. It contained 84 male teachers and 90 female teachers.

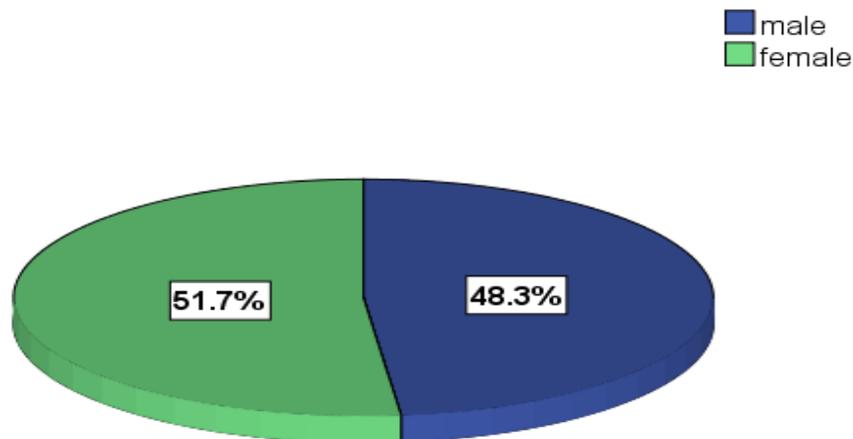


Figure 4.1 Gender-based Percentages of Teachers

Figure 4.1 depicts the percentage distribution of teachers in the sample regarding their gender. It shows that the male teachers, constituted 48.3% of the sample, whereas, female respondent teachers constituted 51.7% of the sample for the study.

Table 4.2

*Age Wise Distribution of Teachers**(N=174)*

Age of teachers	n	Percent
20 - 30 years	17	9.8
30 ⁺ - 40 years	102	58.6
40 ⁺ - 50 years	39	22.4
50 ⁺ - 60 years	16	9.2
Total	174	100.0

Table 4.2 describes the distribution of the sample regarding age. It can be observed that the ages of teachers ranged between 20 years to 60 years. 174 college teachers mentioned themselves falling into four age groups. The youngest group contained 17 teachers, whereas, the oldest group held 16 respondents. The most populated age group of sampled teachers was that of 30⁺- 40 years. Respondent teachers between 40⁺- 50 years of age were 39.

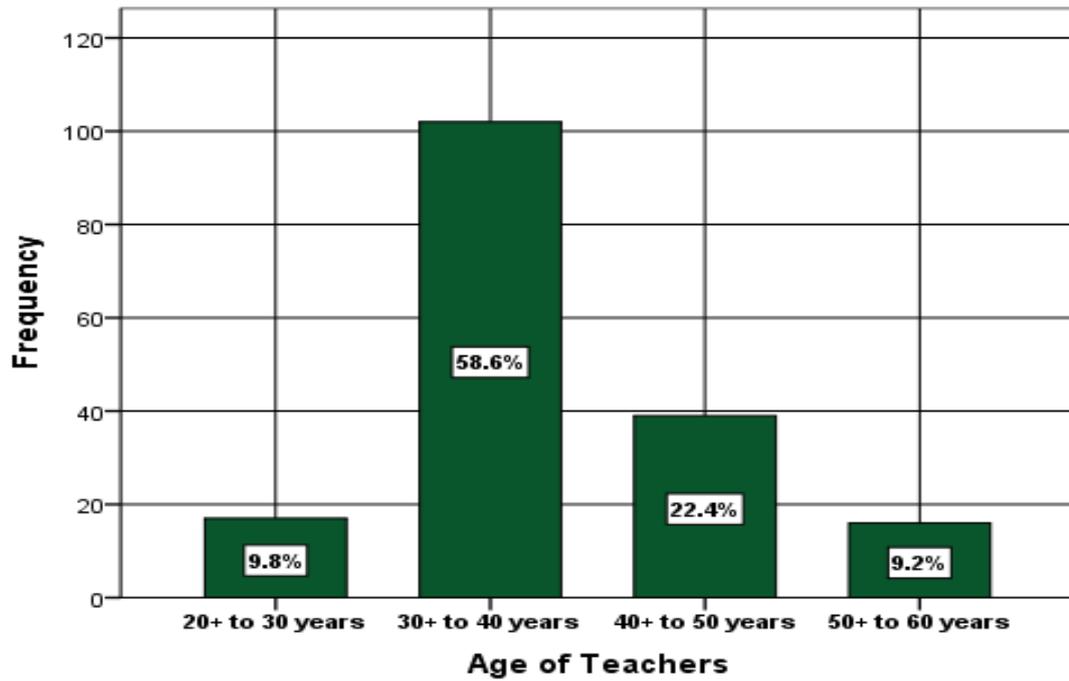


Figure 4.2 Age wise Percentages of Teachers

Figure 4.2 illustrates the percentage distribution of sampled teachers among four age groups. The age group between 50⁺- 60 years held a minimum percentage of 9.2% of the total respondents. The age group between 30⁺- 40 years contained 58.6% of the total respondent teachers which was the highest percentage. The youngest group (20⁺- 30 years) consisted of 9.8% of the respondents, whereas, 22.4% of the respondents were of the ages between 40⁺-50 years.

Table 4.3

*Distribution of Teachers by Teaching Experience**(N=174)*

Teaching experience of teachers	n	Percent
less than 05 yrs	12	6.9
05 ⁺ - 10 yrs	37	21.3
10 ⁺ - 15 yrs	67	38.5
15 ⁺ - 20 yrs	32	18.4
20 ⁺ - 25 yrs	11	6.3
25 ⁺ - 30 yrs	11	6.3
30 ⁺ yrs	4	2.3
Total	174	100.0

Table 4.3 depicts the frequency distribution of sampled teachers by their teaching experience. The participants responded to seven categories of work experience. The majority (n=67) of respondent teachers fall between 10⁺-15 years, whereas, only 4 teachers had an experience of more than 30 years, showing the least frequency. There were 37 teachers in the category of 5⁺- 10 years and 32 teachers in the category of 15⁺- 20 years. The rest of the two categories (15⁺- 20 years and 25⁺- 30 years) had 11 teachers each.

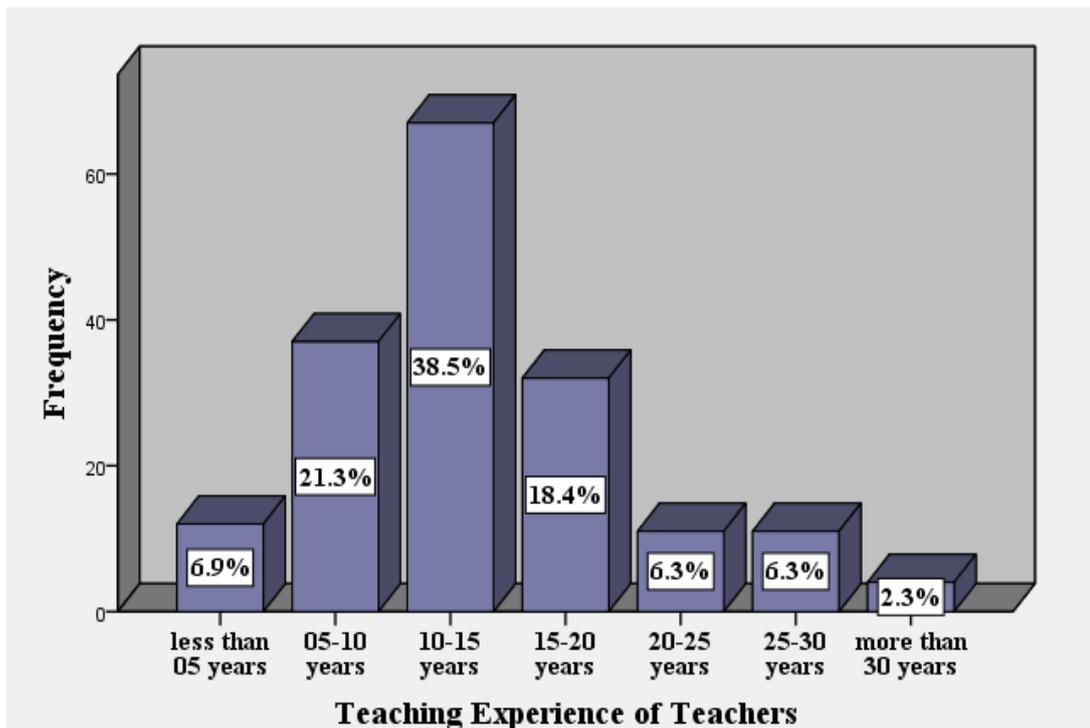


Figure 4.3 Experience wise Percentages of Teachers

Figure 4.3 depicted that 6.9% of the sampled teachers had teaching experience of fewer than 05 years, 21.3% had 05⁺- 10 years, 38.5% teachers had 10⁺- 15 years and 18.4% had 15⁺- 20 years. The categories of 20⁺- 25 years and 25⁺- 30 years of experience held 6.3% of respondent teachers in each category. Among participant teachers, only 2.3% possessed an experience of > 30 years.

Table 4.4

*Distribution of Teachers by Designation**(N=174)*

Designation held by teachers	n	Percent
Lecturer	108	62.1
Assistant Professor	54	31.0
Associate Professor	09	5.2
Professor	03	1.7
Total	174	100.0

Table 4.4 describes the distribution of the sample by designation. It shows that the sample consisted of 108 lecturers, 54 assistant professors, 09 associate professors, and 03 professors while the sample size was 174.

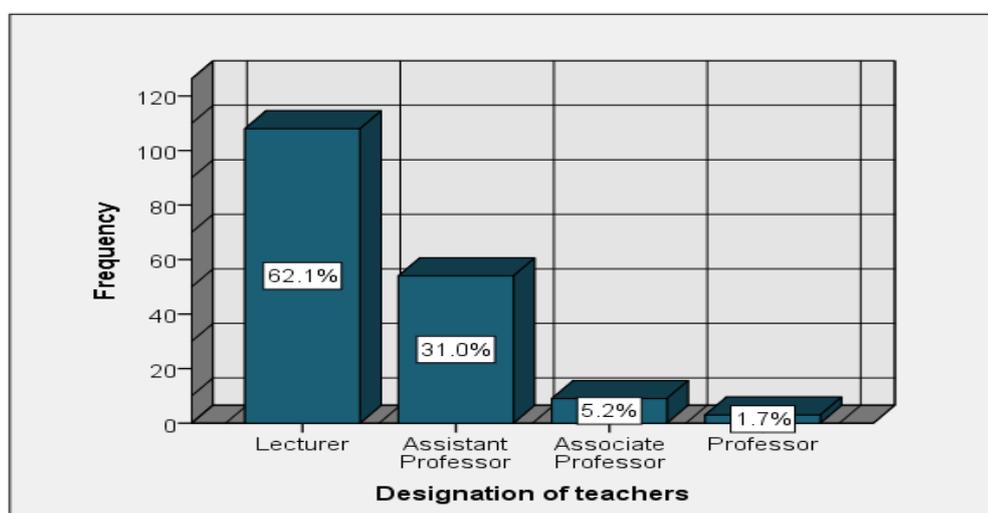


Figure 4.4 Percentages of Teachers according to their Designations

Figure 4.4 illustrates the percentage distribution of the sample by designation. It is revealed that lecturers constituted the highest percentage of the sample (62.1%), whereas 31.0% of the participants were assistant professors, 5.2% were associate professors and only 1.7% of the total participants were professors.

Table 4.5

Distribution of Teachers by Academic Qualifications (N=174)

Academic qualifications	n	Percent
Masters	127	73.0
M.Phil.	37	21.3
Ph.D.	10	5.7
Total	174	100.0

Table 4.5 reveals the academic qualifications of the participant teachers. It can be observed that the majority (n=127) of the teachers hold a Master's degree. There were 37 participants holding M.Phil. degree whereas only 10 of the respondent teachers were holding a Ph.D. degree.

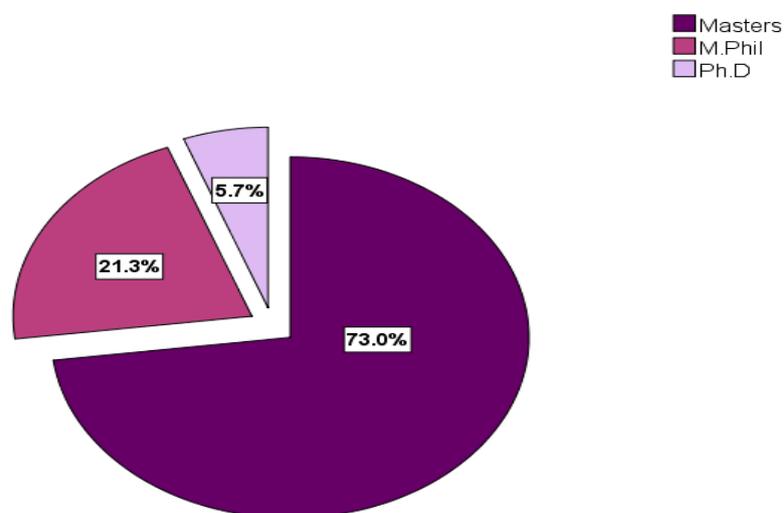


Figure 4.5 Percentages of Teachers according to Academic Qualifications

Figure 4.5 describes percentages of academic qualifications held by the teachers in the sample. It is depicted that 73.0% of participants were holding Masters degree which occupies the largest area in the pie. 21.3% of the respondents held an M.Phil. degree and 5.7% held a Ph.D. degree.

Table 4.6

Distribution of Teachers by Professional Qualifications (N=174)

Professional qualifications	n	Percent
B.Ed.	98	56.3
M.Ed	33	19.0
Nil	43	24.7
Total	174	100.0

Table 4.6 demonstrates the professional qualifications of the respondent teachers. It shows that 98 teachers had a professional qualification of B.Ed. 33 participants were holding an M.Ed. degree, whereas, 43 teachers had no degree for professional qualifications.

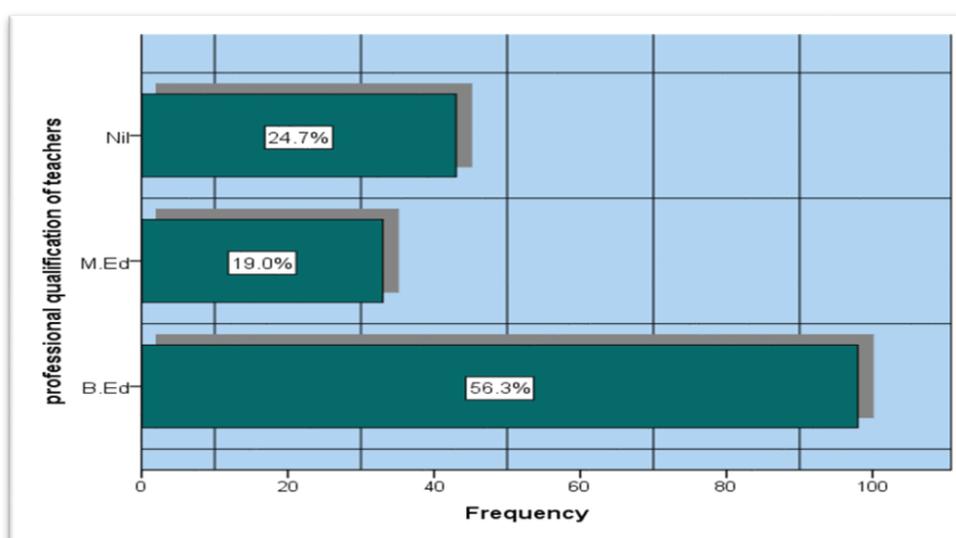


Figure 4.6 Percentages of Teachers according to Professional Qualifications

Figure 4.6 depicts the percentage distribution of sampled teachers by their professional qualifications. It can be observed that 56.3% of the participants held a B.Ed. degree, 19.0% had an M.Ed. degree, while 24.7% of teachers had no professional qualification.

Table 4.7

*Distribution of Teachers by Marital Status**(N=174)*

Marital status	n	Percent
Married	157	90.2
Single	17	9.8
Total	174	100.0

Table 4.7 indicates the distribution of the participant teachers in relation to their marital status. Out of the total 174 respondents, 157 were married, whereas only 17 participants were single.

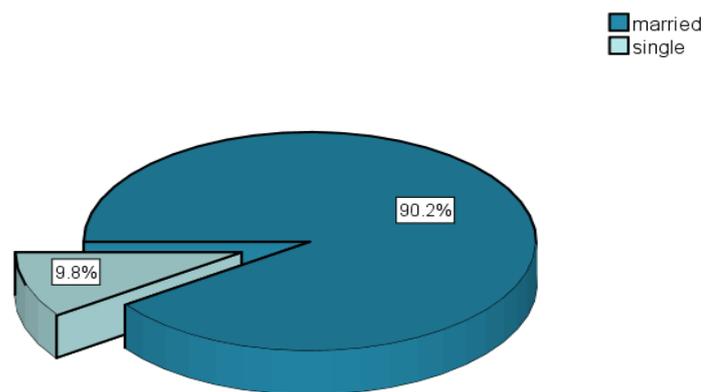


Figure 4.7 Percentages of Teachers according to their Marital Status

Figure 4.7 reveals the marital status of the participant teachers. It is shown that 90.2% of the participants were married, whereas only 9.8% were single.

Table 4.8

<i>Gender Wise Distribution of Students</i> (N=588)		
Gender	n	Percent
Male	288	49.0
Female	300	51.0
Total	588	100.0

Table 4.8 describes the gender-based distribution of the sampled students. There were a total of 588 respondents. The sample contained 288 male students and 300 female students.

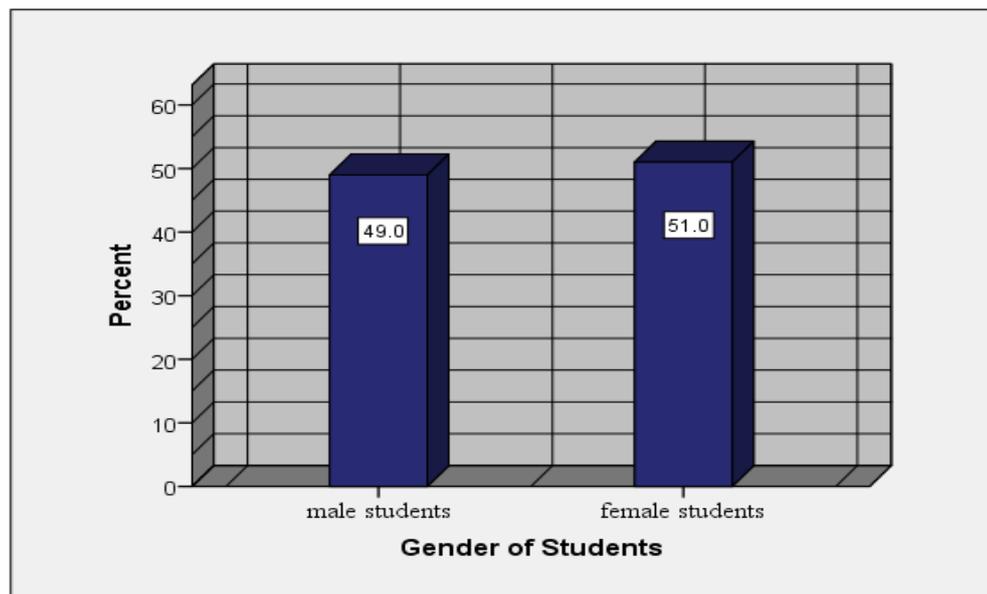


Figure 4.8 Percentages of Respondent Students by Gender

Figure 4.8 presents a gender-based graphic illustration of students' sample for the study. It shows that 49% of the sample consisted of male participants, whereas 51% of the respondent students were females.

SECTION – II

Interscale Correlation Statistics of Research Instruments

Table 4.9

Intercorrelation among External and Internal Subfactors of Teachers' Resilience (N=174)

Subfactors	TR total	SF	FIF	EF	PF	CF	MF	TSE	TAR	TSET	
TR total	1										
	SF	.578**	1								
	FIF	.617**	.294**	1							
External	EF	.831**	.501**	.402**	1						
factors	PF	.629**	.313**	.320**	.560**	1					
	CF	.704**	.176*	.271**	.510**	.274**	1				
	MF	.624**	.213**	.247**	.355**	.205**	.360**	1			
Internal	TSE	.701**	.562**	.373**	.437**	.307**	.393**	.730**	1		
factors	TAR	.925**	.467**	.556**	.864**	.632**	.654**	.505**	.501**	1	
	TSET	.943**	.542**	.623**	.755**	.603**	.705**	.528**	.579**	.795**	1

Note. ** $p < .01$, * $p < .05$

TR total= Overall Teachers' Resilience, SF=Skill Factor, FIF=Family and Identity Factor, EF=Education Factor, PF=Peer Factor, CF=Community Factor, MF=Money Factor, TSE =Teachers' Self-Efficacy, TAR=Teachers' Awareness of Resources, TSET=Teachers' Self-Esteem

Table 4.9 shows the intercorrelation among subfactors of teachers' resilience scale. It is revealed that the relationship between overall teachers' resilience and its six external subfactors and three internal subfactors is statistically significant. All the external and internal subfactors of teachers' resilience are significantly correlated ($p < .01$) with each other and with the teachers' resilience total. Whereas, the correlation between skill factor and community factor shows a significance level of .05.

Table 4.10

Intercorrelation among Subscales of Students' Academic Resilience (N=588)

Subscales	SAR total	CD	CR	CM	CP	CT
SAR total	1					
CD	.643**	1				
CR	.613**	.388**	1			
CM	.650**	.310**	.460**	1		
CP	.267**	-.026	-.277**	-.232**	1	
CT	.585**	.263**	.314**	.342**	-.135**	1

Note. ** $p < .01$

SAR total=Overall Students' Academic Resilience, CD = Confidence, CR = Coordination, CM = Commitment, CP = Composure, CT = Control

Table 4.10 presents the correlation among subscales of students' academic resilience scale. There is a statistically significant relationship ($p < .01$) between overall students' academic resilience and its five subscales. All the subscales of students' academic resilience showed statistically significant intercorrelation except the relationship between composure and coordination which is statistically not significant. The subscale composure is negatively correlated with confidence, coordination, commitment, and control subscales.

Table 4.11

Intercorrelation among Subscales of Students' Life Skills Development (N=588)

	SLSD	DM	WUR	CN	EP	LD	UMLS	HLS	SR
Total									
SLSD Total	1								
DM	.580**	1							
WUR	.559**	.395**	1						
CN	.592**	.243**	.145**	1					
EP	.498**	.176**	.100*	.123**	1				
LD	.527**	.178**	.064	.409**	.170**	1			
UMLS	.701**	.366**	.392**	.255**	.240**	.210**	1		
HLS	.538**	.162**	.172**	.411**	.099*	.315**	.175**	1	
SR	.600**	.267**	.323**	.245**	.233**	.166**	.387**	.209**	1

Note. ** $p < .01$, * $p < .05$

SLSD total=Overall Students' Life Skills Development, DM=Decision Making, WUR=Wise use of resources, CN=Communication, EP=Empathy, LD=Leadership, UMLS=Useful/marketable life skills, HLS=Healthy lifestyle choices, SR=Self-responsibility.

Table 4.11 explains the intercorrelation among subscales of students' life skills development scale. It is discovered that a statistically significant relationship existed ($p < .01$) between students' overall life skills development and its eight subscales. The relationship between all subscales of students' life skills development is statistically significant except the relationship between leadership and wise use of resources which is statistically not significant. The intercorrelations between subscales are significant at .01 level except the relationship of empathy with wise use of resources and with healthy lifestyle choices which are significant at .05 level of significance.

SECTION – III

Descriptive Statistics on Research Data

This section includes a brief but comprehensive analysis of the parametric properties of all the variables and sub-variables of the research study. The analysis was conducted for a better understanding of the data. It included mean, standard deviation, theoretical and actual scoring range of scales, skewness, and kurtosis for each factor. Best and Kahn (2016) are of the view that a normal curve is needed to calculate frequency distribution and to test the significance of recorded observations. They have identified that the presence of outliers may counterfeit correlation scores. Skewness and kurtosis were examined to reflect the normality of data.

Table 4.12

*Parametric Properties of Teachers' Resilience Subfactors**(N=174)*

Subfactors	N	Mean	SD	Range		Skewness	Kurtosis
				Theoretical	Actual		
TR total	174	200.98	19.534	51-255	141-246	-.289	.248
SF	174	34.78	3.893	8-40	22-40	-.714	.325
FIF	174	41.39	4.571	10-50	29-50	-.217	-.497
EF	174	36.21	5.218	9-45	20-45	-.631	.256
PF	174	23.49	3.891	6-30	12-30	-.382	-.117
CF	174	29.68	6.172	9-45	13-43	.080	-.406
MF	174	35.43	5.347	9-45	17-45	-.357	-.072
TSE	174	41.79	4.017	10-50	27-50	-.510	1.043
TAR	174	73.81	8.859	19-95	38-92	-.612	1.057
TSET	174	85.38	9.043	22-110	62-107	-.020	-.428

Note. TR total= Overall Teachers' Resilience, SF=Skill Factor, FIF=Family and Identity Factor, EF=Education Factor, PF=Peer Factor, CF=Community Factor, MF=Money Factor, TSE =Teachers' Self-Efficacy, TAR=Teachers' Awareness of Resources, TSET=Teachers' Self-Esteem

Table 4.12 describes, mean, standard deviation, theoretical and actual scoring range, skewness, and kurtosis for overall teachers' resilience and its subfactors. The analysis shows that the data met assumptions of normality as all the skew values fell within the range of -1 to +1.

Table 4.13

Parametric Properties of Students' Academic Resilience Subscales (N=588)

Subscales	N	Mean	SD	Range		Skewness	Kurtosis
				Theoretical	Actual		
SAR total	588	102.93	8.643	28-140	59-124	-.374	.625
CD	588	15.26	2.694	4-20	7-20	-.473	-.068
CR	588	21.49	3.001	5-25	7-25	-1.006	1.354
CM	588	27.60	3.458	7-35	9-35	-.739	1.350
CP	588	19.12	4.392	7-35	9-33	.402	.143
CT	588	19.45	2.820	5-25	9-25	-.462	.214

Note. SAR total= Overall Students' Academic Resilience, CD=Confidence, CR=Coordination, CM=Commitment, CP=Composure, CT=Control

Table 4.13 describes, mean, standard deviation, theoretical and actual scoring range, skewness, and kurtosis for overall students' academic resilience and its subfactors. The data analysis explains that assumptions of normality are fulfilled as all the skew values fell within the range of -1 to +1.

Table 4.14

Parametric Properties of Students' Life Skills Development Subscales (N=588)

Subscales	N	Mean	SD	Range		Skewness	Kurtosis
				Theoretical	Actual		
SLSD total	588	129.18	13.748	33-165	78-165	-.425	.371
DM	588	11.83	2.444	3-15	3-15	-.702	.095
WUR	588	15.72	2.909	4-20	5-20	-.684	.259
CN	588	15.79	2.720	4-20	7-20	-.470	-.382
EP	588	19.18	3.479	5-25	5-25	-.664	.449
LD	588	10.56	2.728	3-15	3-15	-.442	-.308
UMLS	588	24.28	3.999	6-30	8-30	-.983	1.226
HLS	588	15.24	2.936	4-20	6-20	-.369	-.457
SR	588	16.58	2.557	4-20	6-20	-.704	.549

Note. SLSD total=Overall Students' Life Skills Development, DM=Decision -making, WUR=Wise use of resources, CN=Communication, EP=Empathy, LD=Leadership, UMLS=Useful/ marketable life skills, HLS=Healthy lifestyle choices, SR=Self-responsibility.

Table 4.14 describes mean, standard deviation, theoretical and actual scoring range, skewness, and kurtosis for overall students' life skills development and its subfactors. It was disclosed that the data met assumptions of normality as all the skew values fell within the range of -1 to +1.

SECTION – IV

Descriptive Analysis for the Research Objectives

Research Objective No. 01. To examine teachers' resilience at higher secondary level.

Table 4.15

*Mean Teachers' Resilience Scores**(N=174)*

Subfactors of teachers' resilience		Mean	Remarks
External factors	The skill factor	4.4	Often agree
	The family and identity factor	4.1	Often agree
	The education factor	4.0	Often agree
	The peer factor	3.9	Often agree
	The community factor	3.3	Sometimes agree
	The money factor	3.9	Often agree
Internal Factors	Self-efficacy	4.2	Often agree
	Awareness of resources	3.9	Often agree
	Self-esteem	3.9	Often agree
The resilience doughnut		3.9	Often agree

Table 4.15 indicates the mean score of participant teachers on external factors (The Skill Factor 4.4, The Family and Identity Factor 4.1, The Education Factor 4.0, The Peer Factor 3.9, The Community Factor 3.3, The Money Factor 3.9) and internal factors (Self-efficacy 4.2, Awareness of resources 3.9, and Self-esteem/Self-concept 3.9) of teachers' resilience at the higher secondary level. Most of the respondents often agreed upon all internal and external factors of teachers resilience except on the

community factor. They sometimes agreed on the community factor subscale of teachers' resilience. The table depicts that the skill factor has the highest mean score (4.4) while the community factor has the lowest mean score (3.3). Among internal factors, the mean score on self-efficacy was relatively higher than awareness of resources and self-esteem. Furthermore, it indicates that most of the teachers often agreed on the overall resilience doughnut scale (3.9).

Table 4.16

Levels of Overall Teachers' Resilience (N=174)

Overall teachers' resilience level	Range of score	Frequency	Percentage
Low level of teachers' resilience	51-119	0	0%
Moderate level of teachers' resilience	120-187	37	21.3%
High level of teachers' resilience	188-255	137	78.7%

Table 4.16 describes the overall teachers' resilience level of participant teachers on The Resilience Doughnut Quiz. The descriptive analysis shows that 78.7% (n=137) teachers had a high level of resilience, 21.3% (n=37) teachers had a moderate level of resilience and none of the respondent teachers possessed a low level of resilience. The levels were structured by breaking down the range of scores on the resilience doughnut quiz in three equal intervals of scores.

Research Objective No.02. To examine students' academic resilience at higher secondary level.

Table 4.17

Mean scores of Students on Academic Resilience Subscales (N=588)

Academic resilience subscales	Mean	Remarks
Confidence	3.8	Often agree
Coordination	4.3	Often agree
Commitment	3.9	Often agree
Composure	2.7	Sometimes agree
Control	3.9	Often agree
Overall students' academic resilience	3.7	Often agree

Table 4.17 depicts mean scores of academic resilience among students at higher secondary level. The students responded on 5-point Likert scale which ranged from always agree=5 to never agree=1. The mean scores on subscales of academic resilience were recorded (Confidence 3.8, Coordination 4.3, Commitment 3.9, Composure 2.7, Control 3.9). The table depicts that the overall mean academic resilience score is 3.7. It is observed that the subscale composure displayed the lowest mean score (2.7) whereas, the coordination showed the highest mean score (4.3). It shows that most of the respondents often agreed on the subscales of confidence, coordination, commitment and control whereas they sometimes agreed on the subscales of composure. Overall, they often agreed upon the academic resilience scale at higher secondary level.

Table 4.18

Levels of Students' Overall Academic Resilience (N=588)

Overall students' academic resilience level	Range of score	Frequency	Percentage
Low level of students' academic resilience	28-65	1	0.2%
Moderate level of students' academic resilience	66-102	268	45.6%
High level of students' academic resilience	103-140	319	54.2%

Table 4.18 describes the overall academic resilience level among higher secondary level students. The table shows scores of students on the academic resilience scale. The descriptive analysis of data reveals that 0.2% (n=1) of the respondent students had a low level of academic resilience, 45.6% (n=268) students held a moderate level of academic resilience and 54.2% (n=319) had a high level of academic resilience. The levels were developed by breaking down the range of scores on students' academic resilience in three equal intervals of scores.

Research Objective No. 03. To examine students' life skills development at higher secondary level

Table 4.19

Mean Scores of Students on Life Skills Development Subscales (N=588)

Subscales of students' life skills development	Mean	Remarks
Decision making	3.9	Often agree
Wise use of resources	3.9	Often agree
Communication	4.0	Often agree
Empathy	3.8	Often agree
Leadership	3.5	Sometimes agree
Useful/Marketable life skills	4.1	Often agree
Healthy lifestyle choices	3.8	Often agree
Self-responsibility	4.1	Often agree
Overall life skills development	3.9	Often agree

Table 4.19 depicts mean scores of respondent students on subscales of life skills development at higher secondary level (Decision Making 3.9, Wise Use of Resources 3.9, Communication 4.0, Empathy 3.8, Leadership 3.5, Useful/Marketable Life Skills 4.1, Healthy Lifestyle Choices 3.8, Self-responsibility 4.1). The table indicates that the leadership subscale has the lowest (3.5) mean score whereas, the self-responsibility and useful/marketable life skills have the highest mean scores (4.1,4.1). Moreover, the respondents often agreed upon the subscales of life skills development (decision making, wise use of resources, communication, empathy, useful/marketable life skills, healthy lifestyle choices, self-responsibility) whereas they sometimes agreed on the leadership subscale. It is further illustrated that at higher secondary level, students often agreed upon the overall life skills development scale.

Table 4.20

*Levels of Students' Overall Life Skills Development**(N=588)*

Overall students' life skills development level	Range of score	Frequency	Percentage
Students' life skills development at low level	33-77	0	0%
Students' life skills development at moderate level	78-121	169	28.7%
Students' life skills development at high level	122-165	419	71.3%

Table 4.20 explains the status of overall students' life skills development through descriptive analysis. It shows that no student had a low level of life skills development. The moderate level life skills development was possessed by 28.7% (n=169) of the participant students, whereas 71.3% (n=419) students had developed their life skills at a high level. The levels were established by breaking down the range of scores on students' life skills development scale in three equal intervals of scores.

SECTION – V

Testing the Null Hypotheses

Research Objective No. 04. To find out relationship of teachers' resilience with students' academic resilience and students' life skills development at higher secondary level.

***H₀ 1* There is no significant relationship between teachers' resilience and students' academic resilience at higher secondary level.**

Table 4.21

Pearson Correlation between Teachers' Resilience and Students' Academic Resilience

Variables	SAR Total	CD	CR	CM	CP	CT	
	SF	.085*	.121**	.104*	.068	.052	.033
	FIF	.135**	.055**	.108*	.043	.034	.142**
Internal factors	EF	.203**	.190**	.168**	.074	.039	.112**
	PF	.177**	.188**	.140**	.018	.096*	.043
	CF	.126**	.083*	.030	.065	.043	.127**
	MF	.166**	.102*	.108**	.130**	.016	.112**
	TSE	.151**	.126**	.111**	.134**	-.026	.102*
External factors	TAR	.227**	.164**	.153**	.075	.093*	.138**
	TSET	.218**	.202**	.153**	.106*	.018	.155**
TR Total		.244**	.199**	.169**	.111**	.052	.160**

** . Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

Note. SAR total = Student Overall Academic Resilience, CD=Confidence, CR=Coordination, CM=Commitment, CP=Composure, CT=Control, SF=Skill Factor, FIF=Family and Identity Factor, EF=Education Factor, PF=Peer Factor, CF=Community Factor, MF=Money Factor, TSE=Teachers' Self-Efficacy, TAR=Teachers' Awareness of Resources, TSET=Teachers' Self-Esteem, TR total= Overall Teachers' Resilience

Table 4.21 shows the Pearson correlation coefficient between teachers' resilience and students' academic resilience. The relationship is statistically significant ($r = .244^{**}, p < .01$) between overall teachers' resilience and students' overall academic resilience. The subscales of students' academic resilience including confidence ($r = .199^{**}, p < .01$), coordination ($r = .169^{**}, p < .01$), commitment ($r = .111^{**}, p < .01$) and control ($r = .160^{**}, p < .01$) are statistically significantly correlated with the overall teachers' resilience. Whereas the subscale composure of students' academic resilience is not significantly correlated ($r = .052, p > .05$) with the overall teacher resilience. All the external factors of teachers' resilience including skill factor ($r = .085^*, p < .05$), family and identity factor ($r = .135^{**}, p < .01$), education factor ($r = .203^{**}, p < .01$), peer factor ($r = .177^{**}, p < .01$), community factor ($r = .126^{**}, p < .01$), money factor ($r = .166^{**}, p < .01$) and all the internal factors of teachers' resilience such as self-efficacy ($r = .151^{**}, p < .01$), awareness of resources ($r = .227^{**}, p < .01$) and teachers' self-esteem ($r = .218^{**}, p < .01$) are positively and significantly correlated with students' overall academic resilience. H_0 1 is rejected and it is established that teachers' resilience is significantly associated with students' academic resilience in a positive direction at the HSSC level.

Furthermore, it is indicated that the subscales confidence ($r = .121^{**}, p < .01$) and coordination ($r = .104^*, p < .05$) are statistically significantly correlated with skill factor of teachers' resilience, whereas the correlation of subscales commitment ($r = .068, p > .05$), composure ($r = .052, p > .05$) and control ($r = .033, p > .05$) with skill factor is statistically insignificant.

The subscales confidence ($r = .055^{**}, p < .01$), coordination ($r = .108^*, p < .05$) and control ($r = .142^{**}, p < .01$) are statistically significantly correlated with family and identity factor of teachers' resilience. The family and identity factor of teachers'

resilience is not significantly correlated with subscales commitment ($r = .043, p > .05$) and composure ($r = .034, p > .05$).

The correlation between education factor of teachers' resilience and the subscales including confidence ($r = .190^{**}, p < .01$), coordination ($r = .168^{**}, p < .01$) and control ($r = .112^{**}, p < .01$) are statistically significant. Whereas the relationship of education factor with commitment ($r = .074, p > .05$) and composure ($r = .039, p > .05$) subscales is statistically insignificant.

The peer factor of teachers' resilience is positively correlated with the subscales confidence ($r = .188^{**}, p < .01$) coordination ($r = .140^{**}, p < .01$) and composure ($r = .096^*, p < .05$) of students' academic resilience, while its relationship with rest of the subscales (commitment $r = .018, p > .05$, control $r = .043, p > .05$) is not statistically significant..

The community factor of teachers' resilience is positively correlated with the subscales confidence ($r = .083^*, p < .05$) and control ($r = .127^{**}, p < .01$) of students' academic resilience, while its relationship with rest of the subscales including coordination ($r = .030, p > .05$), commitment ($r = .065, p > .05$) and composure ($r = .043, p > .05$) is not statistically significant.

The relationship between money factor of teachers' resilience and students' academic resilience subscales including confidence ($r = .102^*, p < .05$), coordination ($r = .108^{**}, p < .01$), commitment ($r = .130^{**}, p < .01$) and control ($r = .112^{**}, p < .01$). Whereas the relationship between money factor and subscale composure ($r = .016, p > .05$) is statistically not significant.

Teachers' self-efficacy factor is positively and significantly correlated with subscales of students' academic resilience including confidence ($r = .126^{**}, p < .01$),

coordination ($r = .111^{**}$, $p < .01$), commitment ($r = .134^{**}$, $p < .01$) and control ($r = .102^*$, $p < .05$). Whereas the relationship between teachers' self-efficacy factor and composure subscale of students' academic resilience ($r = -.026$, $p > .05$) is negative and statistically not significant.

The teachers' awareness of resources factor is positively correlated with the subscale confidence ($r = .164^{**}$, $p < .01$), coordination ($r = .153^{**}$, $p < .01$), composure ($r = .093^*$, $p < .05$), and control ($r = .138^{**}$, $p < .01$) of students' academic resilience, while its relationship with commitment ($r = .075$, $p > .05$) is not statistically significant.

The teachers' self-esteem factor is positively correlated with the subscale confidence ($r = .202^{**}$, $p < .01$), coordination ($r = .153^{**}$, $p < .01$), commitment ($r = .106^*$, $p < .05$) and control ($r = .155^{**}$, $p < .01$) of students' academic resilience, while its relationship with the subscale composure ($r = .018$, $p > .05$) is statistically not significant.

H₀ 2 **There is no significant relationship between teachers' resilience and students' life skills development at higher secondary level.**

Table 4.22

Pearson Correlation between Teachers' Resilience and Students' Life Skills Development

Variables	SLSD									
	Total	DM	WUR	CN	EP	LD	UMLS	HLS	SR	
	SF	.142**	.086**	.036	.179**	.064	.065	.101*	.021	.112**
	FIF	.232**	.147**	.116**	.257**	.130**	.248**	.041	.107**	.069
Internal factors	EF	.246**	.136**	.063	.221**	.165**	.284**	.104*	.087*	.092*
	PF	.181**	.115**	.110**	.120**	.156**	.165**	.057	.040	.085*
	CF	.113**	.047	.023	.177**	.032	.119**	.006	.131**	.017
	MF	.194**	.082*	.072	.205**	.041	.271**	.031	.185*	.056
External factors	TSE	.230**	.076	.059	.283**	.095*	.259**	.055	.200**	.074
	TAR	.285**	.138**	.100*	.276**	.151**	.310**	.094*	.184**	.099**
	TSET	.222**	.157**	.094*	.251**	.120**	.228**	.057	.070	.091*
TR Total		.291**	.157**	.105*	.309**	.150**	.313**	.085*	.165**	.107**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Note. SLSD total=Overall Students' Life Skills Development, DM=Decision-making, WUR=Wise use of resources, CN=Communication, EP=Empathy, LD=Leadership, UMLS=Useful/ marketable life skills, HLS=Healthy lifestyle choices, SR=Self-responsibility.SF=Skill Factor, FIF=Family and Identity Factor, EF=Education Factor, PF=Peer Factor, CF=Community Factor, MF=Money Factor, TSE =Teachers' Self-Efficacy, TAR=Teachers' Awareness of Resources, TSET=Teachers' Self-Esteem, TR total= Overall Teachers' Resilience

The Table 4.22 demonstrates the correlation coefficient statistics between teachers' resilience and students' life skills development. All subscales of students' life skills development including decision making ($r = .157^{**}$, $p < .01$), wise use of resources ($r = .105^*$, $p < .05$), communication ($r = .309^{**}$, $p < .01$), empathy ($r = .150^{**}$, $p < .01$),

leadership ($r = .313^{**}$, $p < .01$), useful/marketable life skills ($r = .085^*$, $p < .05$), healthy life style choices ($r = .165^{**}$, $p < .01$) and self-responsibility ($r = .107^{**}$, $p < .01$) are positively and significantly correlated with overall teachers' resilience. There is a positive and significant correlation ($r = .291^{**}$, $p < .01$) between overall teachers' resilience and students' overall life skills development. Therefore, the null hypothesis ($H_0 2$) is rejected concluding that there is a significant relationship between teachers' resilience and students' life skills development.

There is a statistically significant and positive correlation ($r = .142^{**}$, $p < .01$) between skill factor of teachers' resilience and students' overall life skills development. The subscales of students' life skills development including decision making ($r = .086^*$, $p < .05$), communication ($r = .179^{**}$, $p < .01$), useful/ marketable life skills ($r = .101^*$, $p < .05$) and self-responsibility ($r = .112^{**}$, $p < .01$) are positively and statistically significantly correlated with skill factor of teachers' resilience. Whereas, the wise use of resources ($r = .036$, $p > .05$), empathy ($r = .064$, $p > .05$), leadership ($r = .065$, $p > .05$), and healthy lifestyle choices ($r = .021$, $p > .05$) are not statistically significantly correlated with skill factor of teachers' resilience.

The family and identity factor of teachers' resilience and students' overall life skills development are significantly correlated ($r = .232^{**}$, $p < .01$) in a positive direction. The subscales of students' life skills development including decision making ($r = .147^{**}$, $p < .01$), wise use of resources ($r = .116^{**}$, $p < .01$), communication ($r = .257^{**}$, $p < .01$), empathy ($r = .130^{**}$, $p < .01$), leadership ($r = .248^{**}$, $p < .01$) and healthy lifestyle choices ($r = .107^{**}$, $p < .01$) are positively and statistically significantly correlated with family and identity factor of teachers' resilience. The useful/ marketable life skills ($r = .041$, $p > .05$) and self-responsibility ($r = .069$, $p > .05$) are not statistically significantly correlated with family and identity factor of teachers' resilience.

The relationship between education factor of teachers' resilience and all the subscales of students' life skills development including decision making ($r = .136^{**}$, $p < .01$), communication ($r = .221^{**}$, $p < .01$), empathy ($r = .165^{**}$, $p < .01$), leadership ($r = .248^{**}$, $p < .01$), useful/ marketable life skills ($r = .104^*$, $p < .05$), healthy lifestyle choices ($r = .087^*$, $p < .05$) and self-responsibility ($r = .092^*$, $p < .05$) except wise use of resources ($r = .063$, $p > .05$) is positive and statistically significant. The education factor of teachers' resilience and students' overall life skills development at higher secondary level are positively and statistically significantly correlated ($r = .246^{**}$, $p < .01$).

The relationship between peer factor of teachers' resilience and all the subscales of students' life skills development including decision making ($r = .115^{**}$, $p < .01$), wise use of resources, ($r = .110^{**}$, $p < .01$) communication ($r = .120^{**}$, $p < .01$), empathy ($r = .156^{**}$, $p < .01$), leadership ($r = .165^{**}$, $p < .01$) and self-responsibility ($r = .085^*$, $p < .05$) is positive and statistically significant. But peer factor is not significantly correlated with useful/ marketable life skills ($r = .057$, $p > .05$) and healthy lifestyle choices ($r = .040$, $p > .05$). The peer factor of teachers' resilience and students' overall life skills development at higher secondary level are positively and statistically significantly correlated ($r = .181^{**}$, $p < .01$).

The subscales including communication ($r = .177^{**}$, $p < .01$), leadership ($r = .119^{**}$, $p < .01$) and healthy lifestyle choices ($r = .131^{**}$, $p < .01$) subscales of students' life skills development are positively and statistically significantly correlated with community factor of teachers' resilience. The subscales decision making ($r = .047$, $p > .05$), wise use of resources ($r = .023$, $p > .05$), empathy ($r = .032$, $p > .05$), useful/ marketable life skills ($r = .006$, $p > .05$) and self-responsibility ($r = .017$, $p > .05$) are not statistically significantly correlated with the community factor of teachers' resilience.

The community factor of teachers' resilience shows a positive and statistically significant correlation ($r = .113^{**}$, $p < .01$) with students' overall life skills development.

The correlation coefficient illustrates that decision making ($r = .082^*$, $p < .05$), communication ($r = .205^{**}$, $p < .01$), leadership ($r = .271^{**}$, $p < .01$) and healthy lifestyle choices ($r = .185^*$, $p < .05$) subscales of students' life skills development are statistically significantly correlated with money factor of teachers' resilience in a positive direction, whereas the subscales wise use of resources ($r = .072$, $p > .05$), empathy ($r = .041$, $p > .05$), useful/ marketable life skills ($r = .031$, $p > .05$) and self-responsibility ($r = .056$, $p > .05$) hold a relationship with money factor which is statistically not significant. The money factor of teachers' resilience has a positive and statistically significant correlation ($r = .194^{**}$, $p < .01$), with students' overall life skills development.

The subscales communication ($r = .283^{**}$, $p < .01$), empathy ($r = .095^*$, $p < .05$), leadership ($r = .259^{**}$, $p < .01$) and healthy lifestyle choices ($r = .200^{**}$, $p < .01$) of students' life skills development are positively and significantly correlated with self-efficacy factor of teachers' resilience. Whereas the subscales decision making ($r = .076$, $p > .05$), wise use of resources ($r = .059$, $p > .05$), useful/ marketable life skills ($r = .055$, $p > .05$) and self-responsibility ($r = .074$, $p > .05$) are not statistically significantly correlated with self-efficacy factor of teachers' resilience. The relationship of self-efficacy factor of teachers' resilience with students' overall life skills development is positive and statistically significant ($r = .230^{**}$, $p < .01$).

The subscales including decision making ($r = .138^{**}$, $p < .01$), wise use of resources ($r = .100^*$, $p < .05$), communication ($r = .276^{**}$, $p < .01$), empathy ($r = .151^{**}$, $p < .01$), leadership ($r = .310^{**}$, $p < .01$), useful/ marketable life skills ($r = .094^*$, $p < .05$), healthy lifestyle choices ($r = .184^{**}$, $p < .01$) and self-responsibility ($r = .099^{**}$, $p < .01$)

are positively and statistically significantly correlated with awareness of resources factor of teachers' resilience. Moreover, the awareness of resources factor and students' overall life skills development are statistically significant ($r = .285^{**}$, $p < .01$) associated in a positive direction.

The decision making ($r = .157^{**}$, $p < .01$), wise use of resources ($r = .094^*$, $p < .05$), communication ($r = .251^{**}$, $p < .01$), empathy ($r = .120^{**}$, $p < .01$), leadership ($r = .228^{**}$, $p < .01$) and self-responsibility ($r = .091^*$, $p < .05$) subscales of students' life skills development have positive and statistically significant relationship with teachers' self-esteem/self-concept factor, whereas useful/ marketable life skills ($r = .057$, $p > .05$), and healthy lifestyle choices ($r = .070$, $p > .05$) possess a relationship with teachers' self-esteem factor, which is statistically not significant. It is revealed that the teachers' self-esteem factor holds a statistically significant correlation ($r = .222^{**}$, $p < .01$) with students' overall life skills development in a positive direction.

Research Objective No. 05. To find out relationship of students' academic resilience with students' life skills development at higher secondary level.

***H₀ 3* There is no significant relationship between students' academic resilience and students' life skills development at higher secondary level.**

Table 4.23

Pearson Correlation between Students' Academic Resilience and Students' Life Skill Development

Variables	SAR Total	CD	CR	CM	CP	CT
DM	.383**	.277**	.358**	.305**	-.090*	.294**
WUR	.338**	.276**	.330**	.319**	-.159**	.278**
CN	.236**	.147**	.207**	.137**	.029	.149**
EP	.253**	.146**	.229**	.122**	.084*	.112**
LD	.178**	.109**	.144**	.079	.032	.141**
UMLS	.394**	.288**	.384**	.330**	-.134**	.328**
HLS	.176**	.026	.183**	.138**	.023	.116**
SR	.281**	.180**	.355**	.301**	-.178**	.218**
SLSD Total	.490**	.318**	.478**	.377**	-.084*	.358**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Note. SLSD total=Overall Students' Life Skills Development, DM=Decision -making, WUR=Wise use of resources, CN=Communication, EP=Empathy, LD=Leadership, UMLS=Useful/ marketable life skills, HLS=Healthy lifestyle choices, SR=Self-responsibility. SAR total = Student Overall Academic Resilience, CD=Confidence, CR=Coordination, CM=Commitment, CP=Composure, CT=Control,

Table 4.23 illustrates a correlation matrix between students' academic resilience and students' life skills development. A positive and statistically significant correlation existed ($r = .490^{**}$, $p < .01$) between students' overall life skills development and

students' overall academic resilience at higher secondary level. Furthermore, all its subscales including confidence ($r = .318^{**}$, $p < .01$) coordination ($r = .478^{**}$, $p < .01$) commitment ($r = .377^{**}$, $p < .01$) composure ($r = -.084^*$, $p < .05$) and control ($r = .358^{**}$, $p < .01$) also possess statistically significant correlation with students' overall life skills development. All these subscales are correlated in a positive direction except the subscale composure which is significantly correlated in a negative direction.

The correlation between students' overall academic resilience and decision-making subscale of students' life skills development is statistically significant ($r = .383^{**}$, $p < .01$). Furthermore, it was observed that all subscales of students' academic resilience including confidence ($r = .277^{**}$, $p < .01$), coordination ($r = .358^{**}$, $p < .01$), commitment ($r = .305^{**}$, $p < .01$), composure ($r = -.090^*$, $p < .05$) and control ($r = .294^{**}$, $p < .01$) are statistically significantly correlated with decision making subscale of students' overall life skills development. All these subscales show relationship in positive direction except composure ($r = -.090^*$, $p < .05$) which is negatively correlated.

The wise use of resources subscale is statistically significantly correlated with students' overall academic resilience ($r = .338^{**}$, $p < .01$) and its subscales including confidence ($r = .276^{**}$, $p < .01$), coordination ($r = .330^{**}$, $p < .01$), commitment ($r = .319^{**}$, $p < .01$), composure ($r = -.159^{**}$, $p < .01$) and control ($r = .278^{**}$, $p < .01$) in a positive direction. The correlation between wise use of resources and subscale composure is significant ($r = -.159^{**}$, $p < .01$) in a negative direction.

A statistically significant correlation ($r = .236^{**}$, $p < .01$) exists between students' overall academic resilience and students' communication life skill at the higher secondary level. Furthermore, all its subscales confidence ($r = .147^{**}$, $p < .01$) coordination ($r = .207^{**}$, $p < .01$) commitment ($r = .137^{**}$, $p < .01$) and control ($r = .149^{**}$, $p < .01$) also possess positive and statistically significant correlation with students'

communication life skill except the subscale composure. The correlation coefficient between subscale composure and students' communication life skill ($r = .029, p > .05$) is statistically not significant.

It is observed that the correlation between students' overall academic resilience and empathy subscale of students' life skills development is statistically significant ($r = .253^{**}, p < .01$). Furthermore, the subscales of students' academic resilience including confidence ($r = .146^{**}, p < .01$), coordination ($r = .229^{**}, p < .01$), commitment ($r = .122^{**}, p < .01$), composure ($r = .084^*, p < .05$) and control ($r = .112^{**}, p < .01$) are statistically significantly correlated with empathy subscale of students' overall life skills development in positive direction.

It is observed that leadership subscale has a statistically significant correlation with students' overall academic resilience ($r = .178^{**}, p < .01$) and with its subscales confidence ($r = .109^{**}, p < .01$), coordination ($r = .144^{**}, p < .01$) and control ($r = .141^{**}, p < .01$) in a positive direction. Whereas, the subscales commitment ($r = .079, p > .05$) and composure ($r = .032, p > .05$) are not significantly correlated with leadership life skill.

The useful/marketable life skills subscale is statistically significantly correlated with students' overall academic resilience ($r = .394^{**}, p < .01$) and its subscales including confidence ($r = .288^{**}, p < .01$), coordination ($r = .384^{**}, p < .01$), commitment ($r = .330^{**}, p < .01$), composure ($r = -.134^{**}, p < .01$) and control ($r = .328^{**}, p < .01$) in a positive direction except composure which shows significant correlation ($r = -.134^{**}, p < .01$) in a negative direction.

It is revealed that the relationship between students' overall academic resilience and healthy lifestyle choices subscale of students' life skills development is statistically

significant ($r = .176^{**}$, $p < .01$). Furthermore, it is noticed that the subscales coordination ($r = .183^{**}$, $p < .01$), commitment ($r = .138^{**}$, $p < .01$) and control ($r = .116^{**}$, $p < .01$) of students' academic resilience are statistically significantly correlated with healthy lifestyle choices subscale of students' life skills development. Whereas the subscales confidence ($r = .026$, $p > .05$) and composure ($r = .023$, $p > .05$) of students' academic resilience show an insignificant correlation with healthy lifestyle choices.

The analysis revealed that the association between students' overall academic resilience and students' self-responsibility life skill is statistically significant ($r = .281^{**}$, $p < .01$) at higher secondary level. Furthermore, the subscales of students' academic resilience including confidence ($r = .180^{**}$, $p < .01$), coordination ($r = .355^{**}$, $p < .01$), commitment ($r = .301^{**}$, $p < .01$), composure ($r = -.178^{**}$, $p < .01$) and control ($r = .218^{**}$, $p < .01$) possess statistically significant correlation with students' self-responsibility life skill. All the relationships are in positive direction except the relationship between subscale composure and self-responsibility which is in negative direction.

Research Objective No. 06. To explore teachers' resilience in relation to demographic variations (gender, age, teaching experience, designation, academic qualification, professional qualification and marital status) at higher secondary level.

***H₀ 4* There is no demographic-based (gender, age, teaching experience, designation, academic qualifications, professional qualifications and marital status) significant difference in teachers' resilience at higher secondary level.**

H₀4 (a) **There is no gender-based significant difference in teachers' resilience at higher secondary level.**

Table 4.24

Mean, SD and t-value between Male and Female Teachers on Teachers' Resilience (N=174)

Variable	Gender	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>																																																																																																								
Overall teachers' resilience	Male	84	200.17	20.58	172	- 0.528	.598																																																																																																								
	Female	90	201.73	18.59				Skill factor	Male	84	34.20	3.87	172	-1.891	.060	Female	90	35.31	3.86	Family and Identity factor	Male	84	41.06	4.43	172	-0.907	.366	Female	90	41.69	4.70	Education factor	Male	84	35.92	5.75	172	-0.722	.471	Female	90	36.49	4.68	Peer factor	Male	84	22.89	3.96	172	-1.967	.050	Female	90	24.04	3.76	Community factor	Male	84	31.01	6.06	172	2.796	.006	Female	90	28.44	6.05	Money factor	Male	84	35.08	5.54	172	-0.828	.409	Female	90	35.76	5.18	Self-efficacy	Male	84	41.33	3.70	172	-1.445	.150	Female	90	42.21	4.27	Awareness of resources	Male	84	73.39	9.54	172	-0.599	.550	Female	90	74.20	8.21	Self-esteem	Male	84	85.44	9.73	172	0.086	.932
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The t-test statistics were applied to data for testing of hypothesis that the difference in teachers' resilience of male and female teachers is not significant. Table

4.24 demonstrates that the difference between average level of resilience among male respondent teachers ($M = 200.17$, $SD = 20.58$) and that of female respondent teachers ($M = 201.73$, $SD = 18.59$) is statistically not significant ($t(172) = -0.528$, $p = .598$). Therefore, $H_0 4(a)$ could not be rejected, concluding that male and female teachers possess similar level of resilience at HSSC level.

Furthermore, the gender-based difference between mean scores of teachers on skill factor of teachers' resilience shows that mean score of male teachers ($M = 34.20$, $SD = 3.78$) and that of female teachers ($M = 35.31$, $SD = 3.86$) is statistically not significant ($t(172) = -1.891$, $p = .060$).

The average scores of male teachers ($M = 41.06$, $SD = 4.43$) is not significantly different from the average score of female teachers ($M = 41.69$, $SD = 4.70$) on family and identity factor ($t(172) = -0.907$, $p = .366$) showing that family and identity factor plays a similar role in building teachers' resilience among male and female teachers.

The mean scores of male teachers ($M = 35.92$, $SD = 5.75$) and female teachers ($M = 36.49$, $SD = 4.68$) do not vary significantly on education factor ($t(172) = -0.722$, $p = .471$) of teachers' resilience at higher secondary level establishing that the education factor is a similar source of resilience for teachers irrespective to their gender.

The difference between average scores of male teachers ($M = 22.89$, $SD = 3.96$) and that of female teachers ($M = 24.04$, $SD = 3.76$) on peer factor of teachers' resilience is statistically significant ($t(172) = -1.967$, $p = .050$) showing that peer factor is a better source of resilience among female teachers as compared to their male counterparts at HSSC level.

The mean score of male teachers ($M = 31.01$, $SD = 6.06$) on community factor varies significantly ($t(172) = 2.796$, $p = .006$) from the mean score of female teachers ($M = 28.44$, $SD = 6.05$). Therefore, it is concluding that the gender-based difference in teachers' resilience on community factor is statistically significant.

The comparison of mean scores of male teachers ($M = 35.08$, $SD = 5.54$) and that of female teachers ($M = 35.76$, $SD = 5.18$) discloses that the difference in mean scores on money factor ($t(172) = -0.828$, $p = .409$) is statistically not significant.

The gender-based analysis of the self-efficacy factor revealed that male teachers ($M = 41.33$, $SD = 3.70$) acquired an average score which is significantly not different ($t(172) = -1.445$, $p = .150$) from the average score acquired by female teachers ($M = 42.21$, $SD = 4.27$). Thus, the self-efficacy factor plays a similar role in building teachers' resilience regardless of gender.

The average score of male teachers ($M = 73.39$, $SD = 9.54$) is not significantly different from the average score of their female counterparts ($M = 74.20$, $SD = 8.21$) on awareness of resources factor ($t(172) = -0.599$, $p = .550$) of teachers' resilience at higher secondary level.

The mean self-esteem score of male teachers ($M = 85.44$, $SD = 9.73$) is almost the same as that of female teachers ($M = 85.32$, $SD = 8.41$) so that their difference is statistically not significant ($t(172) = 0.086$, $p = .932$) establishing that male and female teachers possess similar self-esteem as a factor of teachers' resilience at the HSSC level.

H₀ 4 (b) **There is no significant difference in overall teachers' resilience in relation to age at higher secondary level.**

Table 4.25

Comparison of Mean and SD of Overall Teachers' Resilience in Different Age Groups
(N=174)

	Age Groups	<i>n</i>	<i>Mean</i>	<i>SD</i>
Overall	20 ⁺ - 30 years	17	203.29	24.366
Teachers'	30 ⁺ - 40 years	102	200.75	19.393
Resilience	40 ⁺ - 50 years	39	199.08	19.172
	50 ⁺ - 60 years	16	204.56	16.565
	Total	174	200.98	19.534

Table 4.26

One-Way Analysis of Variance among Different Age Groups of Teachers on Overall Teachers' Resilience
(N=174)

		<i>Sum of</i>	<i>df</i>	<i>Mean</i>	<i>F</i>	<i>Sig.</i>
		<i>Squares</i>		<i>Square</i>		
Overall	Between Groups	442.799	3	147.600	0.383	.766
Teachers'	Within rroups	65569.109	170	385.701		
Resilience	Total	66011.908	173			

$p > .05$

The data were tested with the help of ANOVA statistics to seek out difference in teachers' resilience in relation to teachers' age at the HSSC level. Table 4.25 presents the average overall teachers' resilience scores. It is noticed that the age group of 50⁺-

60 years scored the highest mean ($M = 204.56$, $SD = 16.565$), whereas the age group of 40+ - 50 years possesses the lowest mean score ($M = 199.08$, $SD = 19.172$). The ANOVA analysis shows that this difference does not reach to a statistically significant level ($F(3,170) = 0.383$, $p = .766$). Therefore, the null hypothesis H_0 4 (b) could not be rejected concluding that the overall teachers' resilience and age of teachers have no significant association.

H₀ 4 (c) **There is no significant difference in overall teachers' resilience in relation to teaching experience at higher secondary level.**

Table 4.27

Comparison of Mean and SD of Overall Teachers' Resilience in relation to Teaching Experience (N=174)

	Teaching Experience	<i>n</i>	<i>Mean</i>	<i>SD</i>
Overall Teachers' Resilience	less than 05 years	12	198.17	26.690
	05 ⁺ - 10 years	37	197.92	21.364
	10 ⁺ - 15 years	67	202.57	17.883
	15 ⁺ - 20 years	32	201.91	19.744
	20 ⁺ - 25 years	11	200.27	17.709
	25 ⁺ - 30 years	11	200.09	20.408
	more than 30 years	4	208.00	11.605
	Total	174	200.98	19.534

Table 4.28

One-Way Analysis of Variance on Overall Teachers' Resilience in relation to Teaching Experience (N=174)

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Overall	Between Groups	849.227	6	141.538	0.363	.902
Teachers' Resilience	Within Groups	65162.681	167	390.196		
	Total	66011.908	173			

$p > .05$

The data were treated by ANOVA statistics for testing the hypothesis that the difference in overall teachers' resilience in relation to their teaching experience is not significant. Table 4.28 depicts the mean overall teachers' resilience scores in relation to teaching experience at higher secondary level in seven age groups of teachers. The highest mean score ($M = 208.00$, $SD = 11.605$) was possessed by the group having teaching experience of more than 30 years, whereas, the teaching experience group of 05+ - 10 years possessed the lowest mean score ($M = 197.92$, $SD = 21.364$). The ANOVA analysis illustrates that this difference is statistically not significant ($F(6,167) = 0.363$, $p = .902$). Therefore, the null hypothesis H_0 4 (c) could not be rejected concluding that overall teachers' resilience and their teaching experience are not significantly associated at HSSC level.

H₀ 4 (d) **There is no significant difference in overall teachers' resilience in relation to designation at highersecondary level.**

Table 4.29

Comparison of Mean and SD of Overall Teachers' Resilience in relation to Designation of Teachers (N=174)

	Designation	<i>n</i>	<i>Mean</i>	<i>SD</i>
Overall	Lecturer	108	199.74	20.965
Teachers' Resilience	Assistant Professor	54	201.76	17.385
	Associate Professor	9	207.44	15.001
	Professor	3	212.00	10.583
	Total	174	200.98	19.534

Table 4.30

One-Way Analysis of Variance on Overall Teachers' Resilience in relation to Designation of Teachers (N=174)

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Overall	Between Groups	939.075	3	313.025	0.818	.486
Teachers' Resilience	Within Groups	65072.833	170	382.781		
	Total	66011.908	173			

$p > .05$

It was hypothesized that overall teachers' resilience and their designation at the HSSC level are not significantly associated. Table 4.29 depicts the mean overall teachers' resilience scores in relation to the designation of teachers. It was observed

that teachers holding the designation of professors scored the highest mean ($M = 212.00$, $SD = 10.583$), whereas, the lecturers had the lowest mean score ($M = 199.74$, $SD = 20.965$). The ANOVA statistics displayed that difference between average overall teachers' resilience scores in relation to designation held by them is not statistically significant ($F(3,170) = 0.818$, $p = .486$). Hence, the null hypothesis H_0 4 (d) could not be rejected concluding that overall teachers' resilience and the designation held are not associated significantly.

H₀ 4 (e) **There is no significant difference in overall teachers' resilience in relation to academic qualifications at higher secondary level.**

Table 4.31

Comparison of Mean and SD of Overall Teachers' Resilience in relation to Academic Qualifications (N=174)

	Academic Qualification	<i>n</i>	<i>Mean</i>	<i>SD</i>
Overall Teachers' Resilience	Masters	127	200.24	19.204
	M.Phil.	37	200.38	21.611
	Ph.D.	10	212.60	12.002
	Total	174	200.98	19.534

Table 4.32

One-Way Analysis of Variance of Overall Teachers' Resilience in relation to Academic Qualifications (N=174)

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Overall	Between Groups	1433.892	2	716.946	1.898	.153
Teachers' Resilience	Within Groups	64578.016	171	377.649		
	Total	66011.908	173			

$p > .05$

The average overall resilience scores of teachers holding three different academic qualifications are presented in Table 4.31. The difference in resilience of teachers holding different academic qualifications was tested by applying ANOVA. The mean overall teachers' resilience score of Ph.D. degree holder teachers was the

highest ($M = 212.60$, $SD = 12.002$) whereas, the overall teachers' resilience mean score of Master degree holders was the lowest ($M = 200.24$, $SD = 19.204$). The analysis yielded no significant difference ($F(2,171) = 1.898$, $p = .153$) in the average overall resilience score of teachers concerning their academic qualifications. So, the null hypothesis stating that overall teachers' resilience and their academic qualifications are significantly associated could not be rejected as the association is statistically not significant.

H₀ 4 (f) **There is no significant difference in overall teachers' resilience in relation to professional qualifications at higher secondary level.**

Table 4.33

Comparison of Mean and SD of Overall Teachers' Resilience in relation to Professional Qualifications (N=174)

	Professional Qualifications	<i>n</i>	<i>Mean</i>	<i>SD</i>
Overall Teachers' Resilience	B.Ed.	98	201.72	18.989
	M.Ed.	33	194.73	18.492
	Nil	43	204.07	20.895
	Total	174	200.98	19.534

Table 4.34

One-Way Analysis of Variance on Overall Teachers' Resilience in relation to Professional Qualifications (N=174)

		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Overall Teachers' Resilience	Between Groups	1755.011	2	877.505	2.335	.100
	Within Groups	64256.897	171	375.771		
	Total	66011.908	173			

p > .05

At the HSSC level the ANOVA statistics were applied to data for testing of teachers' resilience in relation to their professional qualification. Table 4.34 presents the average overall teachers' resilience scores in relation to professional qualifications

held by them. The highest mean score ($M = 204.07$, $SD = 20.895$) was possessed by teachers holding no professional qualifications, whereas, the teachers with M.Ed. degree scored the lowest mean score ($M = 194.73$, $SD = 18.492$). The ANOVA analysis illustrates that this difference is statistically not significant ($F(2,171) = 2.335$, $p = .100$). Therefore, the null hypothesis H_0 4 (f) could not be rejected establishing that the overall resilience of teachers is not significantly associated with their professional qualifications.

H₀ 4 (g) **There is no significant difference in overall teachers' resilience in relation to marital status at higher secondary level.**

Table 4.35

Mean, SD and t-value on Overall Teachers' Resilience in relation to Marital Status of Teachers (N=174)

Variable	Marital status	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>
Overall Teachers' Resilience	married	157	200.76	19.498	172	- 0.435	.664
	single	17	202.94	20.361			

p > .05

The comparison of mean overall teachers' resilience scores based on marital status at the HSSC level is depicted in Table 4.35. It was observed that the average score of married teachers ($M = 200.76$, $SD = 19.498$) is lower than the average score of single teachers ($M = 202.94$, $SD = 20.361$). The t-test statistics reveal that the difference in average scores of married and single teachers did not reach to a statistically significant level ($t(172) = -0.435$, $p = .664$). Therefore, the null hypothesis *H₀ 4 (g)* is failed to be rejected and it is established that both married and single teachers possess similar level of overall resilience.

Research Objective No. 07. To investigate gender-based difference in students' academic resilience at higher secondary level.

***H₀ 5* There is no gender-based significant difference in students' academic resilience at higher secondary level.**

Table 4.36

Mean, SD and t-value between Male and Female Students on Academic Resilience

(N=588)

Variables	Gender	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>
Students' Academic Resilience	Male	288	102.40	8.59	586	-1.142	.150
	Female	300	103.43	8.68			
Confidence	Male	288	15.27	2.79	586	0.078	.938
	Female	300	15.25	2.61			
Coordination	Male	288	21.20	3.14	586	-2.319	.021
	Female	300	21.77	2.83			
Commitment	Male	288	27.75	3.37	586	0.981	.327
	Female	300	27.47	3.54			
Composure	Male	288	18.59	4.18	586	-2.859	.004
	Female	300	19.62	4.53			
Control	Male	288	19.59	2.79	586	1.192	.234
	Female	300	19.32	2.85			

The gender-based difference in students' academic resilience at the HSSC level was investigated by applying a t-test. Table 4.36 shows that the mean score of male students ($M = 102.40$, $SD = 8.59$) and that of female students ($M = 103.43$, $SD = 8.68$)

is statistically not significant ($t(586) = -1.142, p = .150$). Therefore, the null hypothesis (H_0) could not be rejected and it is concluded that at higher secondary level, male and female students possess similar level of overall academic resilience.

Furthermore, the gender-based analysis of students' confidence disclosed that the difference between mean score of boys ($M = 15.27, SD = 2.79$) and that of girls ($M = 15.25, SD = 2.61$) is statistically not significant ($t(586) = 0.078, p = .938$). It is observed that the female students ($M = 21.77, SD = 2.83$) held a significantly higher average score ($t(586) = -2.319, p = .021$) as compared to their male counterparts ($M = 21.20, SD = 3.14$) on coordination subscale establishing that female students are better on the coordination subscale of students' academic resilience as compared to male students. The mean score of boys ($M = 27.75, SD = 3.37$) does not vary significantly from the average score of girls ($M = 27.45, SD = 3.54$) on the subscale commitment ($t(586) = 0.981, p = .327$) of students' academic resilience. It is concluded that at the HSSC level the students' academic resilience on the commitment subscale is not different among both boys and girls. The comparison between average score of boys ($M = 18.59, SD = 4.18$) and that of girls ($M = 19.62, SD = 4.53$) discloses that the difference in mean scores on composure subscale ($t(586) = -2.859, p = .004$) is statistically significant. It shows that female students surpass their male counterparts on the composure subscale of students' academic resilience. A difference existed between the mean scores of boys ($M = 19.59, SD = 2.79$) and girls ($M = 19.32, SD = 2.85$) on control subscale but it does not reach a statistically significant level ($t(586) = 1.192, p = .234$).

Research Objective No. 08. To investigate gender-based difference in students' life skills development at higher secondary level.

***H₀ 6* There is no gender-based significant difference in students' life skills development at higher secondary level.**

Table 4.37

Mean, SD and t-value between Male and Female Students on Life Skills Development (N=588)

Variable	Gender	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>																																																																																												
Students' life skills development	Male	288	127.16	13.56	586	-3.536	.000																																																																																												
	Female	300	131.13	13.66				Decision making	Male	288	11.81	2.50	586	-0.237	.813	Female	300	11.85	2.39	Wise use of resources	Male	288	15.63	2.89	586	-0.714	.475	Female	300	15.80	2.92	Communication	Male	288	15.39	2.96	586	-3.561	.000	Female	300	16.18	2.41	Empathy	Male	288	18.60	3.26	586	-4.008	.000	Female	300	19.74	3.59	Leadership	Male	288	10.10	2.58	586	-4.063	.000	Female	300	11.01	2.80	Useful/Marketable life skills	Male	288	24.36	4.05	586	0.468	.640	Female	300	24.21	3.95	Healthy lifestyle choices	Male	288	14.81	3.08	586	-3.490	.001	Female	300	15.65	2.73	Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259
Decision making	Male	288	11.81	2.50	586	-0.237	.813																																																																																												
	Female	300	11.85	2.39				Wise use of resources	Male	288	15.63	2.89	586	-0.714	.475	Female	300	15.80	2.92	Communication	Male	288	15.39	2.96	586	-3.561	.000	Female	300	16.18	2.41	Empathy	Male	288	18.60	3.26	586	-4.008	.000	Female	300	19.74	3.59	Leadership	Male	288	10.10	2.58	586	-4.063	.000	Female	300	11.01	2.80	Useful/Marketable life skills	Male	288	24.36	4.05	586	0.468	.640	Female	300	24.21	3.95	Healthy lifestyle choices	Male	288	14.81	3.08	586	-3.490	.001	Female	300	15.65	2.73	Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259	Female	300	16.69	2.44								
Wise use of resources	Male	288	15.63	2.89	586	-0.714	.475																																																																																												
	Female	300	15.80	2.92				Communication	Male	288	15.39	2.96	586	-3.561	.000	Female	300	16.18	2.41	Empathy	Male	288	18.60	3.26	586	-4.008	.000	Female	300	19.74	3.59	Leadership	Male	288	10.10	2.58	586	-4.063	.000	Female	300	11.01	2.80	Useful/Marketable life skills	Male	288	24.36	4.05	586	0.468	.640	Female	300	24.21	3.95	Healthy lifestyle choices	Male	288	14.81	3.08	586	-3.490	.001	Female	300	15.65	2.73	Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259	Female	300	16.69	2.44																				
Communication	Male	288	15.39	2.96	586	-3.561	.000																																																																																												
	Female	300	16.18	2.41				Empathy	Male	288	18.60	3.26	586	-4.008	.000	Female	300	19.74	3.59	Leadership	Male	288	10.10	2.58	586	-4.063	.000	Female	300	11.01	2.80	Useful/Marketable life skills	Male	288	24.36	4.05	586	0.468	.640	Female	300	24.21	3.95	Healthy lifestyle choices	Male	288	14.81	3.08	586	-3.490	.001	Female	300	15.65	2.73	Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259	Female	300	16.69	2.44																																
Empathy	Male	288	18.60	3.26	586	-4.008	.000																																																																																												
	Female	300	19.74	3.59				Leadership	Male	288	10.10	2.58	586	-4.063	.000	Female	300	11.01	2.80	Useful/Marketable life skills	Male	288	24.36	4.05	586	0.468	.640	Female	300	24.21	3.95	Healthy lifestyle choices	Male	288	14.81	3.08	586	-3.490	.001	Female	300	15.65	2.73	Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259	Female	300	16.69	2.44																																												
Leadership	Male	288	10.10	2.58	586	-4.063	.000																																																																																												
	Female	300	11.01	2.80				Useful/Marketable life skills	Male	288	24.36	4.05	586	0.468	.640	Female	300	24.21	3.95	Healthy lifestyle choices	Male	288	14.81	3.08	586	-3.490	.001	Female	300	15.65	2.73	Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259	Female	300	16.69	2.44																																																								
Useful/Marketable life skills	Male	288	24.36	4.05	586	0.468	.640																																																																																												
	Female	300	24.21	3.95				Healthy lifestyle choices	Male	288	14.81	3.08	586	-3.490	.001	Female	300	15.65	2.73	Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259	Female	300	16.69	2.44																																																																				
Healthy lifestyle choices	Male	288	14.81	3.08	586	-3.490	.001																																																																																												
	Female	300	15.65	2.73				Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259	Female	300	16.69	2.44																																																																																
Self-responsibility	Male	288	16.45	2.67	586	-1.131	.259																																																																																												
	Female	300	16.69	2.44																																																																																															

Table 4.37 indicates the mean overall life skills development among students in relation to gender at the HSSC level. The *H₀ 6* was tested by conducting t-test statistics.

It was revealed that the average score of male students ($M = 127.16$, $SD = 13.56$) was significantly different ($t(586) = -3.536$, $p < .001$) from the average scores of female students ($M = 131.13$, $SD = 13.66$). Hence, the H_0 could not be accepted and it is concluded that the female students surpass their male counterparts on overall life skills development at the higher secondary level. Furthermore it is observed that the difference between mean decision-making scores of male students ($M = 11.81$, $SD = 2.50$) and that of female students ($M = 11.85$, $SD = 2.39$) is statistically not significant ($t(586) = -0.237$, $p = .813$).

It is noticed that the average score of boys ($M = 15.63$, $SD = 2.89$) is not significantly different ($t(586) = -0.714$, $p = .475$) from the average score of girls ($M = 15.80$, $SD = 2.92$) on wise use of resources subscale of students' life skills development. The comparison disclosed that the average scores of boys ($M = 15.39$, $SD = 2.96$) and that of girls ($M = 16.18$, $SD = 2.41$) varied significantly ($t(586) = -3.561$, $p < .001$) on communication subscale of students' life skills development. The analysis shows that the average score of female students ($M = 19.74$, $SD = 3.59$) is significantly higher ($t(586) = -4.008$, $p < .001$) than the average score of male students ($M = 18.60$, $SD = 3.26$). Table 4.37 presents the average scores of boys and girls on leadership subscales of students' life skills development at HSSC level. It is found that the average score of boys ($M = 10.10$, $SD = 2.58$) was significantly lower ($t(586) = -4.063$, $p < .001$) than the mean score of girls ($M = 11.01$, $SD = 2.80$) on leadership subscale. It is disclosed that the difference between mean score of boys ($M = 24.36$, $SD = 4.05$) and that of girls ($M = 24.21$, $SD = 3.95$) is statistically not significant ($t(586) = 0.468$, $p = .640$) on the useful/marketable life skills subscale. The difference between average score of boys ($M = 14.81$, $SD = 3.08$) and that of girls ($M = 15.65$, $SD = 2.73$) is statistically significant ($t(586) = -3.490$, $p = .001$) on healthy lifestyle choices subscale. The findings show that

the difference between average scores of male students ($M = 16.45$, $SD = 2.67$) and average score of female students ($M = 16.69$, $SD = 2.44$) on self-responsibility life skill is statistically not significant ($t(586) = -1.131$, $p = .259$). So it is concluded that boys and girls possess a similar level of self-responsibility life skill at higher secondary level.

Table 4.38

Alignment of Research Objectives, Hypotheses and Statistical treatment with Findings of Research

Objectives	Research Hypotheses	Statistical Treatment	Findings
<p>Objectives 1</p> <p>To examine teachers' resilience at higher secondary level.</p>		<p>Mean, percentages</p>	<p>78.7% possessed a high resilience level. Skill factor (4.4), Family and identity factor (4.1), education factor (4.0), were the stronger external sources of teachers' resilience whereas community (3.3) was the weakest source. All three internal sources (self-efficacy (4.2), awareness of resources (3.9) and self-esteem (3.9)) were equally contributing to teachers' resilience at HSSC level.</p>
<p>Objectives 2</p> <p>To examine students' academic resilience at higher secondary level.</p>		<p>Mean, percentages</p>	<p>54.2% of students exhibited a high level of academic resilience. Coordination (4.3) was indicated as relatively stronger determinant of students' overall academic resilience. Composure (2.7) remained the weakest determinant. Confidence (3.8), commitment (3.9), and control (3.7) equally determined students' academic resilience.</p>

<p>Objectives 3</p> <p>To examine students' life skills development at higher secondary level.</p>		<p>Mean, percentages</p>	<p>71.3% of the students have developed life skills at a high level. Students showed highest mean scores on useable/ marketable life skills and self-responsibility life skill. Leadership (3.5) which was the weakest among all.</p>
<p>Objectives 4</p> <p>To find out the relationship of teachers' resilience with students' academic resilience and students' life skill development at</p>	<p><i>H_o1</i> There is no significant relationship between teachers' resilience and students' academic resilience at higher secondary level.</p>	<p>Pearson Correlation</p>	<p>rejected</p>
<p>higher secondary level.</p>	<p><i>H_o 2</i> There is no significant relationship between teachers' resilience and students' life skills development at higher secondary level.</p>	<p>Pearson Correlation</p>	<p>rejected</p>

<p>Objectives 5</p> <p>To find out relationship of students' academic resilience with students' life skills development at higher secondary level.</p>	<p><i>H_o 3</i> There is no significant relationship between students' academic resilience and students' life skills development factors at higher secondary level.</p>	<p>Pearson Correlation</p>	<p>rejected</p>
<p>Objectives 6</p> <p>To investigate teachers' resilience in relation to demographic variations (gender, age, teaching experience, designation, academic</p>	<p><i>H_o 4</i> There is no demographic-based (gender, age, teaching experience, designation, academic qualifications, professional qualifications and marital status) significant difference in teachers' resilience at higher secondary level.</p>		
<p>qualifications, professional qualifications and</p>	<p><i>H_o 4(a)</i> There is no gender-based significant difference in teachers' resilience at higher secondary level.</p>	<p>t-test</p>	<p>failed to reject</p>
<p>marital status) at higher secondary level.</p>	<p><i>H_o 4(b)</i> There is no significant difference in teachers' resilience in relation to age at higher secondary level.</p>	<p>ANOVA</p>	<p>failed to reject</p>

<p><i>H₀</i> 4(c) There is no significant difference in teachers' resilience in relation to teaching experience at higher secondary level</p>	ANOVA	failed to reject
<p><i>H₀</i> 4(d) There is no significant difference in teachers' resilience in relation to designation at higher secondary level.</p>	ANOVA	failed to reject
<p><i>H₀</i> 4(e) There is no significant difference in teachers' resilience in relation to academic qualifications at higher secondary level.</p>	ANOVA	failed to reject
<p><i>H₀</i> 4(f) There is no significant difference in teachers' resilience in relation to professional qualifications at higher secondary level.</p>	ANOVA	failed to reject
<p><i>H₀</i> 4(g) There is no significant difference in teachers' resilience in relation to marital status at higher secondary level.</p>	t-test	failed to reject

Objectives 7	<i>H₀</i> 5 There is no gender-		
To investigate	based significant difference		
gender-based	in students' academic		
difference in	resilience at higher		failed to
students' academic	secondary level.	t-test	reject
resilience at higher			
secondary level.			

Objectives 8	<i>H₀</i> 6 There is no gender-		
To investigate	based significant difference		
gender-based	in students' life skills		
difference in	development at higher		
students' life skills	secondary level.		
development at		t-test	rejected
higher secondary			
level.			

CHAPTER 5

SUMMARY, FINDINGS, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

The following chapter presents the summary, findings, and conclusions of the research study. It includes a detailed discussion to highlight the findings of the current study and align them with previous research studies. Recommendations and suggestions for further study are made at the end of the chapter.

5.1 Summary

This research aimed to investigate teachers' resilience, students' academic resilience, and students' life skills development at the HSSC level. It was designed to find out the relationship of teachers' resilience with students' academic resilience and students' life skills development. It was also meant to find out the relationship between students' academic resilience and students' life skills development. Furthermore, it investigated teachers' resilience, students' academic resilience, and students' life skills development in relation to demographical variations. The population of the study comprised two major units which were students and teachers. All the HSSC-II students enrolled in institutions under FDE, Islamabad constituted the students' population, whereas their teachers constituted the teachers' population. The population of teachers consisted of 620 teachers out of which 174 teachers were chosen as teachers' sample. A

total of 5783 students were identified as the population of the students, out of which 588 students were chosen as sample of students for the study. Both units of samples were composed of male and female strata with a ratio of around 51.5% females and 48.5% males. The gender-based proportionate ratio of respondents was observed in the population and sample.

The study was descriptive in nature and used a correlational design. Three major research variables were under investigation in the study. Three research instruments were used for the collection of data on these variables. Responses on teachers' resilience were collected on 'The Resilience Doughnut Quiz'. It had 51 items on six external factors and three internal factors of resilience. Students' academic resilience scale was used to measure academic resilience on 5 subscales called 5Cs. The scale consisted of 28 items. The life skills development instrument consisted of 33 items on eight life skills. The instruments included a section for demographic information. All the instruments used a 5-point Likert scale for the collection of data. Small-scaled research was conducted before initiating the major research. Before piloting, the instruments were presented to the experts for qualitative validation. After addressing the observations of the experts, the instruments were pilot tested. The pilot sample consisted of 24 teachers and 75 students. It was conducted to establish the reliability of the research instruments by applying the Cronbach alpha coefficient. The Cronbach alpha coefficient was acceptable for all three instruments (the resilience doughnut quiz $\alpha = .819$; students' academic resilience $\alpha = .713$; students' life skills development $\alpha = .887$). Reliability statistics for subscales of all instruments were calculated (Table 3.9, 3.10, and 3.11). After finalizing the research instruments, the researcher collected data for the major study. Permissions were obtained from concerned authorities before the collection of data. The data collection process was completed in 35 working days. The

response rate was 90.4%. All the data were organized and entered into a computer software SPSS.21 for analysis in light of the objectives of the study. The normality of data was confirmed before applying further statistical treatment (Table 4.12, 4.13 and 4.14). The interscale correlation was also calculated for all three research instruments (Table 4.9, 4.10, 4.11).

- Descriptive statistics were applied to reach objectives No.1, 2, and 3.
- For objective No. 4 null hypotheses (H_{o1} and H_{o2}) were developed and a statistical procedure of Pearson correlation coefficient was applied. The null hypotheses devised for objective 4 were rejected.
- Objective No. 5 was addressed by devising the null hypothesis (H_{o3}) which was tested by applying the Pearson correlation coefficient and the null hypothesis H_{o3} was rejected.
- Objective No.6 aimed to find differences in teachers' resilience regarding demographic variations at higher secondary level. The null hypothesis (H_{o4}) was stated to achieve the objective. It was split into seven sub hypotheses $H_{o4(a)}$ to $H_{o4(g)}$ with reference to each demographic. These were tested by applying t-test and ANOVA to the data. All null hypotheses were failed to be rejected.
- Null hypothesis (H_{o5}) was developed to achieve objective No.7. The t-test was applied to the data and the null hypothesis was failed to be rejected.
- Objective No.8 was to find out differences in students' life skills development in relation to gender at higher secondary level. The null hypothesis (H_{o6}) was devised to achieve the objective. The data were treated with the t-test and the null hypothesis was rejected.

The findings showed that the resilience among teachers was significantly correlated with students' academic resilience and students' life skills development in a positive direction. Similarly, Students' academic resilience and students' life skills development were also positively and significantly correlated. While investigating demographic variations, it was found that gender is no more a significant determinant of difference in overall teachers' resilience and overall students' academic resilience. However, gender differences were proved statistically significant for the community factor and peer factor of teachers' resilience. Similarly, the gender difference was significant in determining students' academic resilience on coordination and composure subscales. Students' overall life skills development significantly varied with gender difference at higher secondary level. Furthermore, students' life skills development on communication, empathy, leadership and healthy lifestyle choices was determined by gender differences. The overall teachers' resilience did not vary significantly with demographical variations including age, teaching experience, designation, academic qualifications, professional qualifications, and marital status.

The first part of research findings discussed the demographic composition of the respondents, whereas the second part included the findings on research objectives.

5.2 Findings on Demographic Composition of Teachers and Students

1. The study found that 48.3% of respondents among teachers were male, whereas, 51.7% were female (Table 4.1).
2. Table 4.2 indicated that age of the majority of the teachers (58.6%) was between 30+ to 40 years. 22.4% of respondent teachers were part of the age group from 40+ to 50 years. The respondents from the eldest age group of 50+ to 60 years included 9.2% of the teachers. An almost equal percentage (9.8%) fell in the youngest age group which was 20+ - 30 years of age.

3. The work experience analysis described that majority of teachers (38.5%) had a teaching experience of 10⁺ to 15 years. 21.3% of the respondent teachers had a teaching experience of 5⁺ to 10 years. The categories of work experience of 20⁺ to 25 years and 25⁺ to 30 years were occupied by an equal number (6.3%) of respondents. The least experience group (less than 5 years) was held by 6.9% of the respondents. Only 2.3% of teachers had a teaching experience of more than 30 years (Table 4.3).
4. The study indicated that the sample consisted of 62.1% of the lecturers, 31.0% were assistant professors, 5.2% were associate professors and only 1.7 % were professors (Table 4.4).
5. The analysis of the academic qualifications of the teachers exposed that 73.0% of the respondent teachers held a Master's degree, 21.3% were having an M.Phil. degree and 5.7% had a Ph.D. degree (Table 4.5).
6. Table 4.6 revealed the professional qualifications of the sampled teachers. It showed that 56.3% of teachers had a B.Ed. degree, 19.0% had M.Ed. degree and 24.7% had no professional qualifications.
7. The study indicated that 90.2% of the sampled teachers were married whereas only 9.8% were single (Table 4.7).
8. Table 4.8 revealed a gender-based distribution of students in the sample. It was indicated that 49% of the students were male and 51% were female.

5.3 Findings on Research Objectives

The following section presents findings regarding the objectives of the study. There were eight research objectives. Descriptive statistics were applied to achieve the first three objectives, whereas, null hypotheses were constructed for rest of the five

objectives. Before applying statistical treatment, the data were tested for normality and interscale correlation.

Objective No.1.

1. The average score of participant teachers on external factors of teachers' resilience at higher secondary level revealed that the skill factor held a mean score of 4.4 which was the highest of all factors, while the community factor held the lowest mean score of 3.3. Most of the respondents often agreed on the factors of skill (4.4), family and identity (4.1), education (4.0), peer (3.9), and money (3.9), while they sometimes agreed on the community factor (3.3) subscale of teachers' resilience. Mean scores of teachers on internal factors of teachers' resilience showed that self-efficacy mean score (4.2) was relatively higher than awareness of resources (3.9) and self-esteem (3.9). It was indicated that most teachers often agreed upon self-efficacy, awareness of resources, and self-esteem factors of teachers' resilience. Furthermore, it was indicated that most of the teachers often agreed (3.9) on the overall resilience doughnut scale (Table 4.15).
2. The descriptive analysis of overall teachers' resilience on resilience doughnut quiz indicated that 78.7% (n=137) of the respondents possessed a high level of resilience 21.3 % (n=37) showed a moderate level of resilience and none 0% (n=0) of the teachers had a low level of resilience (Table 4.16).

Objective No.2.

1. The mean scores on subscales of students' academic resilience were recorded (Confidence 3.8, Coordination 4.3, Commitment 3.9, Composure 2.7, Control 3.9). It was observed that the subscales composure and coordination showed the lowest (2.7) and the highest (4.3) mean scores respectively. The average overall academic resilience score was 3.7. Most of the respondents often agreed upon the subscales

of confidence, coordination, commitment, and control whereas they sometimes agreed upon the subscales of composure. They have often agreed upon (3.7) the overall students' academic resilience at HSSC level (Table 4.17).

2. The descriptive analysis showed that 0.2% (n=1) of the respondent students had a low level of academic resilience, 45.6% (n=268) students held a moderate level of academic resilience and 54.2% (n=319) had a high level of academic resilience (Table 4.18).

Objective No.3.

1. The descriptive analysis indicated mean scores of respondent students on subscales of life scale development at the higher secondary level (Decision-making 3.9, Wise Use of Resources 3.9, Communication 4.0, Empathy 3.8, Leadership 3.5, Useful/Marketable Life Skills 4.1, Healthy Lifestyle Choices 3.8, Self-responsibility 4.1). The leadership subscale had the lowest (3.5) mean score whereas, the self-responsibility and useful marketable life skills had the highest mean scores (4.1,4.1). Most of the respondents often agreed upon the subscales of life skills development (decision making, wise use of resources, communication, empathy, useful/marketable life skills, healthy lifestyle choices, self-responsibility) while they sometimes agreed upon the leadership subscale. At higher secondary level, the students often agreed upon (3.9) the overall life skills development (Table 4.19).
2. The level of overall students' life skills development was explained through descriptive analysis. It showed that no student 0% (n=0) among respondents possessed a low level of life skills development, 28.7% (n=169) of students had a moderate level of life skills development, whereas 71.3% (n=419) possessed a high level of life skills development (Table 4.20).

Objective No.4.

Two null hypotheses ($H_0 1$ & $H_0 2$) were devised for objective No. 4. The product-moment correlation coefficient was applied to data to test these hypotheses, which produced the following findings.

1. The coefficient revealed a statistically significant positive correlation ($r = .244^{**}$, $p < .01$) between overall teachers' resilience and students' overall academic resilience at higher secondary level. All the subscales confidence ($r = .199^{**}$, $p < .01$), coordination ($r = .169^{**}$, $p < .01$), commitment ($r = .111^{**}$, $p < .01$), and control ($r = .160^{**}$, $p < .01$) were statistically significantly correlated with the overall teachers' resilience except the subscale composure ($r = .052$, $p > .05$). The null hypothesis ($H_0 1$) was rejected concluding that at higher secondary level, a statistically significant correlation existed between overall teachers' resilience and overall students' academic resilience in a positive direction (Table 4.21).

The relationship between skill factor of teachers' resilience and students' overall academic resilience ($r = .085^*$, $p < .05$) was statistically significant. The subscales confidence ($r = .121^{**}$, $p < .01$) and coordination ($r = .104^*$, $p < .05$) were statistically significantly correlated with skill factor of teachers' resilience, whereas the relationship of subscales commitment ($r = .068$, $p > .05$), composure ($r = .052$, $p > .05$), and control ($r = .033$, $p > .05$) with skill factor was not statistically significant.

The overall academic resilience of students ($r = .135^{**}$, $p < .01$) was statistically significantly correlated with the family and identity factor of teachers' resilience. The students' academic resilience subscales including confidence ($r = .055^{**}$, $p < .01$), coordination ($r = .108^*$, $p < .05$) and control ($r = .142^{**}$, $p < .01$) were statistically significantly correlated with family and identity factor of teachers' resilience. The relationship of family and identity factor of teachers' resilience with

subscales commitment ($r = .043, p > .05$) and composure ($r = .034, p > .05$) was not statistically significant.

The relationship between the education factor of teachers' resilience and students' overall academic resilience was statistically significant ($r = .203^{**}, p < .01$). The subscales confidence ($r = .190^{**}, p < .01$), coordination ($r = .168^{**}, p < .01$) and control ($r = .112^{**}, p < .01$) also had statistically significant relationship with education factor of teachers' resilience. Whereas the relationship of education factor with commitment ($r = .074, p > .05$) and composure ($r = .039, p > .05$) subscales was statistically not significant.

The correlation coefficient showed that the peer factor of teachers' resilience and students' overall academic resilience were significantly correlated ($r = .177^{**}, p < .01$). The peer factor of teachers' resilience was positively correlated with the subscales confidence ($r = .188^{**}, p < .01$), coordination ($r = .140^{**}, p < .01$) and composure ($r = .096^{*}, p < .05$) of students' academic resilience, while its relationship with rest of the subscales (commitment $r = .018, p > .05$ and control $r = .043, p > .05$) was not statistically significant.

A statistically significant and positive correlation ($r = .126^{**}, p < .01$) was found between community factor of teachers' resilience and students' overall academic resilience. The community factor of teachers' resilience was not significantly correlated with the coordination ($r = .030, p > .05$), commitment ($r = .065, p > .05$) and composure ($r = .043, p > .05$) subscales of students' academic resilience. Its relationship with confidence ($r = .083^{*}, p < .05$) and control ($r = .127^{**}, p < .01$) subscales was positive and statistically significant.

The correlation coefficient between the money factor of teachers' resilience and students' overall academic resilience was statistically significant ($r = .166^{**}, p$

< .01) in a positive direction. The relationship between money factor and the subscales confidence ($r = .102^*$, $p < .05$), coordination ($r = .108^{**}$, $p < .01$), commitment ($r = .130^{**}$, $p < .01$) and control ($r = .112^{**}$, $p < .01$) was found statistically significant. Whereas, the relationship between money factor and composure ($r = .016$, $p > .05$) was statistically not significant.

The correlation coefficient disclosed a statistically significant relationship ($r = .151^{**}$, $p < .01$) between teachers' self-efficacy factor and students' overall academic resilience in a positive direction. The students' academic resilience subscales including confidence ($r = .126^{**}$, $p < .01$), coordination ($r = .111^{**}$, $p < .01$), commitment ($r = .134^{**}$, $p < .01$) and control ($r = .102^*$, $p < .05$) also displayed a statistically significant correlation with self-efficacy factor of teachers' resilience in a positive direction. Whereas the teachers' self-efficacy factor and composure subscale showed a negative correlation ($r = -.026$, $p > .05$) but it was statistically not significant.

There existed a statistically significant and positive correlation ($r = .227^{**}$, $p < .01$) between teachers' awareness of resources factor and students' overall academic resilience. The analysis indicated that teachers' awareness of resources factor was positively correlated with the subscale confidence ($r = .164^{**}$, $p < .01$), coordination ($r = .153^{**}$, $p < .01$), composure ($r = .093^*$, $p < .05$), and control ($r = .138^{**}$, $p < .01$) of students' academic resilience, while its relationship with commitment ($r = .075$, $p > .05$) was not statistically significant.

There was a statistically significant positive correlation ($r = .218^{**}$, $p < .01$) between teachers' self-esteem factor and students' overall academic resilience. It was further shown that the teachers' self-esteem factor was positively correlated with the subscale confidence ($r = .202^{**}$, $p < .01$), coordination ($r = .153^{**}$, $p < .01$),

commitment ($r = .106^*$, $p < .05$) and control ($r = .155^{**}$, $p < .01$) of students' academic resilience, while its relationship with the subscale composure ($r = .018$, $p > .05$) was not statistically significant.

2. The analysis showed that all the subscales of students' life skills development including decision making ($r = .157^{**}$, $p < .01$), wise use of resources ($r = .105^*$, $p < .05$), communication ($r = .309^{**}$, $p < .01$), empathy ($r = .150^{**}$, $p < .01$), leadership ($r = .313^{**}$, $p < .01$), useful/ marketable life skills ($r = .085^*$, $p < .05$), healthy lifestyle choices ($r = .165^{**}$, $p < .01$), and self-responsibility ($r = .107^{**}$, $p < .01$) were positively and significantly correlated with overall teachers' resilience. Moreover, there was a significant and positive correlation ($r = .291^{**}$, $p < .01$) between overall teachers' resilience and students' overall life skills development. Therefore, the null hypothesis (H_0 2) was rejected concluding that there is a significant relationship between teachers' resilience and students' life skills development (Table 4.22).

The skill factor of teachers' resilience had statistically significant relationship ($r = .142^{**}$, $p < .01$) with students' overall life skills development in a positive direction. The subscales of students' life skills development including decision making ($r = .086^{**}$, $p < .01$), communication ($r = .179^{**}$, $p < .01$), useful/ marketable life skills ($r = .101^*$, $p < .05$) and self-responsibility ($r = .112^{**}$, $p < .01$) were positively and statistically significantly correlated with skill factor of teachers' resilience. The subscales including wise use of resources ($r = .036$, $p > .05$), empathy ($r = .064$, $p > .05$), leadership ($r = .065$, $p > .05$) and healthy lifestyle choices ($r = .021$, $p > .05$) were not significantly correlated with the students' overall life skills development.

The family and identity factor of teachers' resilience had a positive and statistically significant correlation ($r = .232^{**}$, $p < .01$) with students' overall life skills development. The subscales of life skills development including decision making ($r = .147^{**}$, $p < .01$), wise use of resources ($r = .116^{**}$, $p < .01$), communication ($r = .257^{**}$, $p < .01$), empathy ($r = .130^{**}$, $p < .01$), leadership ($r = .248^{**}$, $p < .01$) and healthy lifestyle choices ($r = .107^{**}$, $p < .01$) were positively and significantly correlated with family and identity factor of teachers' resilience whereas, the subscales of useful/marketable life skills ($r = .041$, $p > .05$) and self-responsibility ($r = .069$, $p > .05$) showed a non-significant relationship with family and identity factor.

It was found that the relationship of the education factor of teachers' resilience with students' life skills development at higher secondary level was positive and statistically significant ($r = .246^{**}$, $p < .01$). All the subscales of students' life skills development (decision making, $r = .136^{**}$, $p < .01$, communication $r = .221^{**}$, $p < .01$, empathy $r = .165^{**}$, $p < .01$, leadership $r = .248^{**}$, $p < .01$, useful/ marketable life skills $r = .104^{*}$, $p < .05$, healthy lifestyle choices $r = .087^{*}$, $p < .05$, self-responsibility $r = .092^{*}$, $p < .05$) except wise use of resources ($r = .063$, $p > .05$) were statistically significantly correlated with education factor of teachers' resilience in a positive direction.

The analysis specified that the relationship between peer factor of teachers' resilience and the subscales of students' life skills development including decision making ($r = .115^{**}$, $p < .01$), wise use of resources, ($r = .110^{**}$, $p < .01$), communication ($r = .120^{**}$, $p < .01$), empathy ($r = .156^{**}$, $p < .01$), leadership ($r = .165^{**}$, $p < .01$) and self-responsibility ($r = .085^{*}$, $p < .05$) was positive and statistically significant except the subscales of useful/ marketable life skills (r

=.057, $p > .05$) and healthy lifestyle choices ($r = .040$, $p > .05$) that showed insignificant correlation. The peer factor of teachers' resilience and students' overall life skills development at higher secondary level were statistically significantly correlated ($r = .181^{**}$, $p < .01$) in a positive direction.

The community factor of teachers' resilience had a positive and statistically significant correlation ($r = .113^{**}$, $p < .01$) with students' overall life skills development. Moreover, the communication ($r = .177^{**}$, $p < .01$), leadership ($r = .119^{**}$, $p < .01$) and healthy lifestyle choices ($r = .131^{**}$, $p < .01$) subscales of students' life skills development were positively and statistically significantly correlated with community factor of teachers' resilience. Whereas, the decision making ($r = .047$, $p > .05$), wise use of resources ($r = .023$, $p > .05$), empathy ($r = .032$, $p > .05$), useful/ marketable life skills ($r = .006$, $p > .05$) and self-responsibility ($r = .017$, $p > .05$) subscales were not statistically significantly correlated with community factor of teachers' resilience.

The correlation statistics revealed that decision making ($r = .082^*$, $p < .05$), communication ($r = .205^{**}$, $p < .01$), leadership ($r = .271^{**}$, $p < .01$) and healthy life style choices ($r = .185^*$, $p < .05$) subscales of students' life skills development were positively and significantly correlated with money factor of teachers' resilience, whereas the wise use of resources ($r = .072$, $p > .05$), empathy ($r = .041$, $p > .05$), useful/ marketable life skills ($r = .031$, $p > .05$) and self-responsibility subscale ($r = .056$, $p > .05$) possessed a statistically insignificant relationship with the money factor. A positive and statistically significant relationship ($r = .194^{**}$, $p < .01$) was noticed between money factor of teachers' resilience and students' overall life skills development at higher secondary level.

The self-efficacy factor of teachers' resilience was positively and statistically significantly correlated ($r = .230^{**}$, $p < .01$) with students' overall life skills development. Moreover, communication ($r = .283^{**}$, $p < .01$), empathy ($r = .095^*$, $p < .05$), leadership ($r = .259^{**}$, $p < .01$) and healthy lifestyle choices ($r = .200^{**}$, $p < .01$) subscales of students' life skills development were positively and statistically significantly correlated with self-efficacy factor of teachers' resilience. Whereas the subscales decision making ($r = .076$, $p > .05$), wise use of resources ($r = .059$, $p > .05$), useful/ marketable life skills ($r = .055$, $p > .05$) and self-responsibility ($r = .074$, $p > .05$) were not significantly correlated with self-efficacy factor of teachers' resilience.

Pearson product-moment correlation showed that awareness of resources factor of teachers' resilience was statistically significantly correlated with students' overall life skills development ($r = .285^{**}$, $p < .01$) and all its subscales including decision making ($r = .138^{**}$, $p < .01$), wise use of resources ($r = .100^*$, $p < .05$), communication ($r = .276^{**}$, $p < .01$), empathy ($r = .151^{**}$, $p < .01$), leadership ($r = .310^{**}$, $p < .01$), useful/ marketable life skills ($r = .094^*$, $p < .05$), healthy lifestyle choices ($r = .184^{**}$, $p < .01$) and self-responsibility ($r = .099^{**}$, $p < .01$). All the relationships were in a positive direction.

The correlation coefficient established that decision making ($r = .157^{**}$, $p < .01$), wise use of resources ($r = .094^*$, $p < .05$) communication ($r = .251^{**}$, $p < .01$), empathy ($r = .120^{**}$, $p < .01$), leadership ($r = .288^{**}$, $p < .01$) and self-responsibility ($r = .091^*$, $p < .05$) subscales of students' life skills development had a positive and statistically significant relationship with teachers' self-esteem factor, whereas useful/ marketable life skills ($r = .057$, $p > .05$) and healthy lifestyle choices ($r = .070$, $p > .05$) subscales possessed a relationship with teachers' self-esteem/self-concept

factor which was statistically not significant. It was further revealed that teachers' self-esteem factor is significantly and positively correlated ($r = .222^{**}$, $p < .01$) with students' overall life skills development.

Objective No.5.

To achieve the objective No.5 null hypothesis (H_0 3) was stated. To test the hypothesis, Pearson product-moment correlation coefficient was applied.

Pearson product-moment correlation displayed that students' overall life skills development was statistically significantly ($r = .490^{**}$, $p < .01$) correlated with students' overall academic resilience and all its subscales including confidence ($r = .318^{**}$, $p < .01$) coordination ($r = .478^{**}$, $p < .01$) commitment ($r = .377^{**}$, $p < .01$) composure ($r = -.084^*$, $p < .05$) and control ($r = .358^{**}$, $p < .01$). All the subscales were correlated in positive direction except the subscale composure which was significantly correlated in a negative direction. The null hypothesis (H_0 3) was rejected and it was concluded that students' overall life skills development and students' overall academic resilience were positively and significantly correlated at HSSC level (Table 4.23).

A statistically significant correlation ($r = .383^{**}$, $p < .01$) was observed between students' overall academic resilience and decision-making subscale of their life skills development at higher secondary level. The analysis also revealed that all subscales of students' academic resilience (confidence $r = .277^{**}$, $p < .01$, coordination $r = .358^{**}$, $p < .01$, commitment $r = .305^{**}$, $p < .01$, composure $r = -.090^*$, $p < .05$ and control $r = .294^{**}$, $p < .01$) were statistically significantly correlated with decision making subscale of students' life skills development in a positive direction except composure ($r = -.090^*$) which was negatively correlated.

The wise use of resources subscale was statistically significantly correlated with students' overall academic resilience ($r = .338^{**}$, $p < .01$) and all its subscales

(confidence $r = .276^{**}$, $p < .01$, coordination $r = .330^{**}$, $p < .01$, commitment $r = .319^{**}$, $p < .01$, composure $r = -.159^{**}$, $p < .01$ and control $r = .278^{**}$, $p < .01$) in a positive direction except composure which was significantly correlated ($r = -.159^{**}$) in a negative direction.

The correlation between students' overall academic resilience and students' communication life skill was statistically significant in a positive direction ($r = .236^{**}$, $p < .01$) at the higher secondary level. The subscales confidence ($r = .147^{**}$, $p < .01$) coordination ($r = .207^{**}$, $p < .01$) commitment ($r = .137^{**}$, $p < .01$) and control ($r = .149^{**}$, $p < .01$) also possessed a positive and statistically significant correlation with students' communication life skill. Whereas, the subscale composure and students' communication life skill showed a relationship ($r = .029$, $p > .05$) which was statistically not significant.

It was found that a statistically significant correlation ($r = .253^{**}$, $p < .01$) exists between students' overall academic resilience and empathy subscale of their life skills development at the HSSC level. All subscales of students' academic resilience (confidence $r = .146^{**}$, $p < .01$, coordination $r = .229^{**}$, $p < .01$, commitment $r = .122^{**}$, $p < .01$, composure $r = .084^{*}$, $p < .05$ and control $r = .112^{**}$, $p < .01$) were statistically significantly correlated with empathy subscale of students' life skills development in a positive direction.

Pearson product-moment correlation coefficient between leadership subscale of students' life skills development and students' overall academic resilience at HSSC level indicated that leadership subscale was statistically significantly correlated with students' overall academic resilience ($r = .178^{**}$, $p < .01$) and its subscales confidence ($r = .109^{**}$, $p < .01$), coordination ($r = .144^{**}$, $p < .01$) and control ($r = .141^{**}$, $p < .01$) in

a positive direction. Whereas, the subscales commitment ($r = .079, p > .05$) and composure ($r = .032, p > .05$) were not significantly associated with leadership.

The analysis exposed that useful/marketable life skills subscale was statistically significantly correlated with students' overall academic resilience ($r = .394^{**}, p < .01$) and its subscales (confidence $r = .288^{**}, p < .01$, coordination $r = .384^{**}, p < .01$, commitment $r = .330^{**}, p < .01$, and control $r = .328^{**}, p < .01$) in a positive direction. This relationship was significant in a negative direction with the composure subscale ($r = -.134^{**}, p < .01$).

The relationship between the healthy lifestyle choices subscale of students' life skills development and students' overall academic resilience was statistically significant ($r = .176^{**}, p < .01$). Furthermore, it was found that the subscales (coordination $r = .183^{**}, p < .01$, commitment $r = .138^{**}, p < .01$ and control $r = .116^{**}, p < .01$) of students' academic resilience were statistically significantly correlated with healthy lifestyle choices subscale of students' life skills development. Whereas two subscales of students' academic resilience including confidence ($r = .026, p > .05$) and composure ($r = .023, p > .05$) showed an insignificant correlation with healthy lifestyle choices. All these subscales displayed relationship in positive direction.

The correlation between students' overall academic resilience and students' self-responsibility life skill was positive and significant ($r = .281^{**}, p < .01$) at higher secondary level. Furthermore, all subscales of students' academic resilience (confidence $r = .180^{**}, p < .01$, coordination $r = .355^{**}, p < .01$, commitment $r = .301^{**}, p < .01$, composure $r = -.178^{**}, p < .01$ and control $r = .218^{**}, p < .01$) also possessed statistically significant correlation with students' self-responsibility life skill in a positive direction except the subscale composure which showed a relationship in negative direction.

Objective No. 6.

This study aimed to assess teacher resilience at higher secondary level in relation to demographic variations such as gender, age, teaching experience, designation, academic qualifications, professional qualifications and marital status of teachers. In this regard a null hypothesis $H_0 4$ and seven sub hypotheses $H_0 4(a)$ to $H_0 4(g)$ were framed. One-way analysis of variance (ANOVA) and independent sample t-test were applied to the data. The findings of the study were as following:

1. The difference between mean teachers' resilience score of male teachers ($M = 200.17$, $SD = 20.58$) and that of females ($M = 201.73$, $SD = 18.59$) was statistically non significant ($t(172) = -0.528$, $p = .598$). Hence, the null hypothesis $H_0 4(a)$ was failed to be rejected concluding that the resilience of teachers did not vary significantly in relation to gender at HSSC level (Table 4.24).

The independent sample t-test revealed that the average score of male teachers ($M = 34.20$, $SD = 3.87$) was not significantly different ($t(172) = -1.891$, $p = .060$) from the average score of female teachers ($M = 35.31$, $SD = 3.86$) on skill factor.

The comparison of average scores of male teachers ($M = 41.06$, $SD = 4.43$) and that of female teachers ($M = 41.69$, $SD = 4.70$) disclosed that the difference between mean scores on family and identity factor was statistically not significant ($t(172) = -0.907$, $p = .366$).

The difference between average score of male teachers ($M = 35.92$, $SD = 5.75$) and that of female teachers ($M = 36.49$, $SD = 4.68$) did not vary significantly ($t(172) = -0.722$, $p = .471$) on education factor of teachers' resilience.

It was indicated that the gap between average scores of male teachers ($M = 22.89$, $SD = 3.96$) and that of female teachers ($M = 24.04$, $SD = 3.76$) was

statistically significant ($t(172) = -1.967, p = .050$) on peer factor of teachers' resilience at higher secondary level.

The independent sample t-test statistics established that on community factor, the difference between mean scores of male teachers ($M = 31.01, SD = 6.06$) and that of female teachers ($M = 28.44, SD = 6.05$) was statistically significant ($t(172) = 2.796, p = .006$).

The t-test statistics revealed that the difference between mean score of male teachers ($M = 35.08, SD = 5.54$) and that of female teachers ($M = 35.76, SD = 5.18$) was statistically not significant ($t(172) = -0.828, p = .409$) on money factor.

It was found that the average score of male teachers ($M = 41.33, SD = 3.70$) was not significantly different from the average score of female teachers ($M = 42.21, SD = 4.27$) on self-efficacy factor ($t(172) = -1.445, p = .150$).

The comparison between average scores in relation to gender of teachers on awareness of resources factor of teachers' resilience showed that at HSSC level, the mean score of male teachers ($M = 73.39, SD = 9.54$) was not significantly different ($t(172) = -0.599, p = .550$) from that of female teachers ($M = 74.20, SD = 8.21$).

It was discovered that the difference between average score of male teachers ($M = 85.44, SD = 9.73$) and that of female teachers ($M = 85.32, SD = 8.41$) was statistically not significant ($t(172) = 0.086, p = .932$) on self-esteem factor of teachers' resilience.

2. The null hypothesis H_0 4 (b) was tested by applying ANOVA. It was indicated that the age group of 50+ to 60 years had the highest mean score ($M = 204.56, SD = 16.565$), whereas the age group of 40+ to 50 years possessed the lowest mean score ($M = 199.08, SD = 19.172$). The ANOVA analysis showed that this difference did not reach to a statistically significant level ($F(3,170) = 0.383, p = .766$). Therefore,

H_0 4 (b) could not be rejected concluding that the overall teachers' resilience is not significantly associated with the age of respondent teachers at the HSSC level (Table 4.25, 4.26).

3. The one-way analysis of variance depicted mean overall teachers' resilience scores at higher secondary level in relation to years of experience in seven groups. The highest mean score ($M = 208.00$, $SD = 11.605$) was possessed by the group having an experience of more than 30 years, whereas, the teaching experience group of 05⁺ to 10 years possessed the lowest mean score ($M = 197.92$, $SD = 21.364$). This difference was statistically not significant ($F(6,167) = 0.363$, $p = .902$). Hence, H_0 4(c) could not be rejected establishing that at the higher secondary level, overall teachers' resilience and years of teaching experience are not significantly associated (4.27, 4.28).
4. It was observed that teachers holding the designation of professors scored the highest mean score ($M = 212.00$, $SD = 10.583$), whereas, lecturers had the lowest mean score ($M = 199.74$, $SD = 20.965$). The ANOVA analysis revealed that mean overall teachers' resilience scores of respondents holding various designations did not vary significantly ($F(3,170) = 0.818$, $p = .486$). Therefore, H_0 4(d) could not be rejected and a conclusion was reached that the designation of teachers and their overall resilience are not associated significantly at HSSC level (Table 4.29, 4.30).
5. Table 4.31 depicted the average resilience scores of teachers holding three different levels of academic qualifications. The overall teachers' resilience mean score of those holding a Ph.D. degree was the highest ($M = 212.60$, $SD = 12.002$), whereas, the overall teachers' resilience mean score of Masters degree holders was the lowest ($M = 200.24$, $SD = 19.204$). The ANOVA revealed that the difference in overall teachers' resilience mean score in relation to academic qualifications was

statistically not significant ($F(2,171) = 1.898, p = .153$). Hence, $H_0 4(e)$ could not be rejected and it was concluded that the overall teachers' resilience is not significantly associated with their academic qualifications at the HSSC level (Table 4.32).

6. The one-way analysis of variance illustrated that the highest mean score ($M = 204.07, SD = 20.895$) was possessed by teachers holding no professional qualifications, whereas, the teachers with M.Ed. degree scored the lowest mean score ($M = 194.73, SD = 18.492$). The ANOVA analysis illustrated that this difference was statistically not significant ($F(2,171) = 2.335, p = .100$). Therefore, $H_0 4(f)$ was failed to be rejected, and it was established that overall resilience among teachers and their professional qualifications were not significantly associated at the HSSC level (Table 4.33, 4.34).
7. The independent sample t-test statistics discovered that the average score of single teachers was higher ($M = 202.94, SD = 20.361$) than that of the married teachers ($M = 200.76, SD = 19.498$) at higher secondary level. However, this difference did not reach a statistically significant level ($t(172) = -0.435, p = .664$). Hence, $H_0 4(g)$ failed to be rejected concluding that the marital status of teachers is not significantly associated with their resilience at higher secondary level (Table 4.35).

Objective No.7.

The study intended to assess students' academic resilience in relation to gender at higher secondary level. The null hypotheses ($H_0 5$) was tested by applying independent sample t-test to data which generated the following findings.

It was found that the difference between the average score of students' overall academic resilience among male students ($M = 102.40, SD = 8.59$) and female students ($M = 103.43, SD = 8.68$) was not significant ($t(586) = -1.142, p = .150$). Hence, the

null hypothesis ($H_0 5$) could not be rejected concluding that the difference between the average academic resilience among male and female students was statistically not significant at the HSSC level (Table 4.36).

A comparison of mean scores of male students ($M = 15.27, SD = 2.79$) and of female students ($M = 15.25, SD = 2.61$) disclosed that the difference in mean scores on subscale confidence ($t(586) = 0.078, p = .938$) was statistically not significant.

The t-test analysis established that at HSSC level, the average score obtained by girls ($M = 21.77, SD = 2.83$) was significantly higher ($t(586) = -2.319, p = .021$) than the average score of boys ($M = 21.20, SD = 3.14$) on the coordination subscale.

The average score of boys ($M = 27.75, SD = 3.37$) did not vary significantly from the average score of girls ($M = 27.47, SD = 3.54$) on the commitment subscale ($t(586) = 0.981, p = .327$) of their academic resilience at HSSC level.

The mean score of male students ($M = 18.59, SD = 4.18$) and that of female students ($M = 19.62, SD = 4.53$) was significantly different ($t(586) = -2.859, p = .004$) on the composure subscale.

The average score of male students ($M = 19.59, SD = 2.79$) and that of female students ($M = 19.32, SD = 2.85$) on the control subscale of students' academic resilience varied but the difference did not reach a statistically significant level ($t(586) = 1.192, p = .234$).

Objective No. 8.

The study aimed to investigate students' life skills development at the HSSC level in relation to gender. The null hypothesis ($H_0 6$) was tested by applying independent sample t-test to the data which generated following findings.

The analysis of means scored by boys ($M = 127.16, SD = 13.56$) and girls ($M = 131.13, SD = 13.66$) revealed that the difference between overall life skills development

of students in relation to their gender was statistically significant ($t(586) = -3.536, p < .001$). Hence, the null hypothesis (H_0) was rejected concluding that the female students surpassed their male counterparts on overall life skills development (Table 4.37).

The t-test analysis exposed that the difference between averages of decision-making scores among boys ($M = 11.81, SD = 2.50$) and girls ($M = 11.85, SD = 2.39$) was statistically not significant ($t(586) = -0.237, p = .813$) at higher secondary level.

It was found that the mean score of male students ($M = 15.63, SD = 2.89$) did not vary significantly ($t(586) = -0.714, p = .475$) from average score of females ($M = 15.80, SD = 2.92$) on wise use of resources subscale of students' life skills development.

The independent sample t-test showed a comparison between mean score of boys ($M = 15.39, SD = 2.96$) and that of girls ($M = 16.18, SD = 2.41$). It was indicated that the average scores on the communication subscale vary significantly ($t(586) = -3.561, p < .001$) in relation to the gender of students.

It was found that the average score of girls ($M = 18.60, SD = 3.26$) was higher than the average score of boys ($M = 19.74, SD = 3.59$) on empathy subscale. The difference in scores of boys and girls was statistically significant ($t(586) = -4.008, p < .001$).

The independent sample t-test statistics revealed that the average score of college boys ($M = 10.10, SD = 2.58$) and of that of college girls ($M = 11.01, SD = 2.80$) had a statistically significant difference ($t(586) = -4.063, p < .001$) on leadership subscale of students' life skills development at HSSC level. Therefore, it was concluded that the female students exceed their male counterparts on the leadership subscale of students' life skills development.

The t-test statistics established that the difference between averages on useful/marketable life skills scores of boys ($M = 24.36$, $SD = 4.05$) and that of girls ($M = 24.21$, $SD = 3.95$) was statistically not significant ($t(586) = 0.468$, $p = .640$).

The comparison of average scores of boys ($M = 14.81$, $SD = 3.08$) and girls ($M = 15.65$, $SD = 2.73$) described that their average scores on healthy life style choices subscale varied significantly ($t(586) = -3.490$, $p = .001$). It was concluded that at the higher secondary level, the difference in life skills development of boys and girls on the healthy lifestyle choices subscale is statistically significant.

The t-test analysis revealed that the average score of boys ($M = 16.45$, $SD = 2.67$) and that of girls ($M = 16.69$, $SD = 2.44$) was statistically not significant ($t(586) = -1.131$, $p = .259$) on self-responsibility life skill.

5.4 Discussion

The role of the teacher is central in the teaching-learning process. Attitudes, values, and behaviour of teachers are unconsciously imitated by their students. It is unrealistic to assume that a teacher keeps his/her problems and worries out of the class. Instead, the way he/ she deals with issues and challenges becomes an unplanned part of the content delivered to the students. A resilient teacher may become a powerful source of inspiration for students who are exposed to stressful academic situations. Students unconsciously learn from their teachers' coping strategies and acquire various life skills. Studies (Arif & Mirza 2017; Henderson & Milstein, 2003) have established that teachers can help students attain protective mechanisms against the risks they face. The supportive environment which they provide to students helps them develop protective factors and resiliency skills which contribute to fostering their resilience. Through this research, an effort was made to assess teachers' resilience, students' academic resilience, and their life skills development at the higher secondary level. The study

further discovered the relationship of teachers' resilience with students' academic resilience and their life skills development. A relationship between students' academic resilience and students' life skills development was also examined. Research variables were investigated in relation to demographic variations among teachers and students.

The **first objective** of the current research was to examine teachers' resilience at the higher secondary level. It was found that most of the teachers possessed a high level of resilience on the doughnut resilience quiz. Previous researches (Botou et al., 2017; Brouskeli et al., 2018) also found teacher resilience at a moderately high and high level. The current study noticed that among external sources of resilience, the skill factor was the strongest source, whereas, community remained the weakest factor. According to Worsley (2010), all external factors are not required at a given time, the individuals need at least three external factors working well in their life to be resilient. The three well-working external factors may integrate with the internal factors of self-efficacy, awareness of resources, and self-esteem to build a resilience framework for an individual. Day (2008) also opined that instead of focusing on risk factors of resilience, researchers should highlight resource factors that enhance resilience. The current research identified skill, family and identity, and education factors as the three relatively stronger external factors of resilience that are working better in teachers' life. A detailed discussion on these three factors is given as under.

Teachers have reported the skill factor as a stronger source for their resilience. The skill factor was not defined according to a limited range of skills related to the teaching-learning process, instead, it may include any of the learned skills that teachers might possess. Teachers perceived themselves as having good reading and writing skills. They are self-esteemed that they can do things well and can try new experiences. They perceive themselves as self-efficient for doing hard work when they need to

improve their skills. They know resources available to them for learning a skill. The significance of skill factor is supported by several studies which have recommended skill learning for building teachers' resilience. Such as Chan (2008) suggested training in personal skills e.g. stress management, Klusmann, Kunter, Trautwein, Ludtke, and Baumert (2008) recommended that occupational well-being and classroom instruction could be improved through the self-regulatory coping behaviour of teachers. According to Tait (2008), teachers' resilience may be built by inculcating skills of socialization, assertiveness, self-discipline, and empathy among prospective teachers. Macpherson and Heaver(2016) reported that the practice of visual arts contributed to resilience development.

The family and identity factor was exposed as the second-best factor for resilience with the second highest mean score. Most of the teachers have reported themselves as part of families that have parents, uncles, aunts, grandparents, cousins, and children. They have the confidence of one or more people in the family to whom they can talk. Their family members value their success and encourage them to do well. Their families have a happy view of the world and they have gone through tough times together. They reported that they can spend time with their wider family. They can take care of their family members and can make them feel better. They are valued and loved in their family. They believe that they can make mistakes that will be forgiven. They can identify with one or more of their family members. Botou et al. (2017) recognized the significance of support from family as an important factor to enhance teachers' resilience. They confirmed that during the economic crisis in Greece, teachers successfully maintained their resilience level due to their strong family nexus. This was explained in the context of the strong relationships they had in their families. Teachers reported that economic crisis could only moderately affect them because when they

faced difficulties in fulfilling their financial needs and obligations they gained support and strength from their families.

The strength of family and identity factor is also supported by the research work of Chang et al. (2015), who discovered that individual resilience and well-being is predicted by family resilience. A reciprocal causal relationship existed between the resilience of a family and that of an individual. People reported that they acquire material and psychological support from their families. Many researchers (Cohen et al., 2002) conducted studies to identify various protective factors and processes which families contribute to the resilience of individuals. The construct of family resilience, underpinned by the dynamic family processes is specific to Asian countries, where the family acts as an agent in stress and coping situations and behave as a response unit in difficult events (Masten & Obradovic, 2008; Patterson, 2002; Walsh, 1998a, 2003).

Education is the third strong external factor of resilience among teachers at the higher secondary level. Teachers have stated that they enjoy learning and getting new information through reading. They are valued for their different ideas. They have reported that they have groups where they can discuss their ideas and can learn new information. They credited their teachers who encouraged them throughout their studies and told them that they can do well. They have mentors, tutors, or other professionals who provide extra help whenever needed. The college teachers are involved in activities for their professional development. Their environment provides them with various exciting ways of learning. They care about the quality of learning while belonging to their profession. Academic qualifications and command of subject knowledge enhance teachers' confidence and self-esteem. Generally, teachers with better subject knowledge, updated information and higher degrees are better able to achieve their teaching objectives. Therefore, they face lesser professional challenges. Cochran-Smith

and Lytle (1999) described the phenomenon of ‘know more’---‘teach better’. The current research has exposed that education is a good source of resilience among teachers. The study of Jackson and Martin (1998) who discovered education as a crucial factor for building resilience also supports the findings of the current study. Le Cornu, (2009) explained a reciprocal connection that improved resilience, in turn, creates a healthy environment for learning by using support networks.

The current study reported community factor as the poorest source of resilience among teachers. It seems surprising in Pakistani/eastern social settings that teachers are not considering the community as their strength. It is happening in a society where people are generally considered close to each other, but the workplace scenario is different as depicted by the current study. The findings revealed that rather than being able to develop a strong connection with the community, our teachers obtain resilience from their family and identity factor. The findings further revealed that our teacher seems disengaged from a pivotal role in the community. Particularly, the female teachers do not find community as a source of resilience, which was disclosed by gender-based analysis. These discoveries are inconsistent with the results of earlier researches, which reported social support as an important source of resilience (Sudom, Lee & Zamorski, 2014). Researchers found that environmental protective factors mostly come from the community. The supportive factors which are intervened other than those already existing in the environment did not prove effective (Luthar & Cicchetti, 2000). According to Yates et al. (2008) community, family and school factors explain teachers’ resilience besides their personal factors. Studies (Ungar 2008a; Ungar & Lienbenberg, 2011) have described resilience in the context of an individual’s social skills, academic success, and positive relationships. Johnson et al. (2014) also believed that human relationships have a strong connection with resilience. The current study

identified community as a weak source of resilience among teachers, it may be due to the reason that our society does not employ teachers for a social role other than teaching in the formal settings of educational institutions. The teacher may be given the role of reformer in the community, who may get engaged in the solutions of various social issues. Such a role is specifically missing for female teachers. There are no formal community centres, some rare events of community galas, festivals, and get-togethers are observed. These limitations may make the community a weak source of resilience among teachers.

Money factor and peer factor are also contributing well in developing teachers' resilience at the higher secondary level. Although these two factors are contributing better than the community factor, this contribution could not outdo the three best factors mentioned earlier. The money factor is important for teachers to stay at their job as discovered by Mackenzie (2012). Previous researches (Day et al., 2006; Peterson, Park, & Sweeney, 2008) have confirmed that resilience is affected by socio-economic challenges. But for the matter of fact money becomes a source of resilience only when one possesses it. In case an individual does not possess enough money, there are alternate sources of resilience such as the rest of the five external factors of the doughnut model. Teachers get better financial gains with more years of experience and advancement in the designation. But with such advancement, other factors such as teaching experience and higher positions also come to multiply the magnitude of resilience. Therefore, the money factor requires some exclusive research design to be further explored.

Freedman and Appleman (2008) have provided evidence on peer support, especially for freshly appointed teachers. Anderson and Olsen (2006) opined that teachers gain aspiration and hope from their colleagues whenever their work becomes

challenging. Peers not only boost morale, but their positive outlook is transmissible (Howard & Johnson, 2004; Jarzabkowski, 2002). Botou et al. (2017) highlighted the significance of relationships with colleagues which helped teachers in maintaining their resilience level during the economic crisis in Greece. According to Luthar (2006), resilience is a product of positive relationships among colleagues. Various other scholars (Gorman, 2005; Gu & Day, 2013; Luthans, Aolio, Avey, & Norman, 2007; Masten, 2001; Seligman & Csikszentmihalyi, 2000) also suggest that resilience rests on positive healthy professional relationships.

Day (2008) believed that the teaching profession requires certain personal factors. Doughnut Resilience model defines them as self-efficacy (I can), awareness of resources (I have), and self-esteem (I am). These are the three internal resources of resilience on “Resilience Doughnut Quiz”. These personal factors of resilience interact with external factors. On assessing internal factors of teachers’ resilience, it was discovered that all these three internal factors of resilience were parallel contributors in resilience development among teachers at the higher secondary level. However, self-efficacy with a little better mean score remained a relatively stronger factor among all. Previous researches (Day, 2008; Kitching, et al., 2009; Lerner, Brentano, Dowling, & Anderson, 2002; Tait, 2008) also mentioned that characteristics such as self-esteem and self-efficacy empower individuals to overcome an adverse situation with increased resilience. Current findings are further supported by the literature (Castro et al., 2010; Chan, 2008; Woolfolk & Spero, 2005). It is mentioned that self-efficacy and confidence are individual characteristics that help in planning the coping strategies while trying to overcome setbacks and challenges (Tsouloupas et al., 2010).

The **second objective** of the study was to assess students’ academic resilience at the HSSC level. It was discovered that more than half of the students possessed

academic resilience at a high level. Very few students displayed a lower level of academic resilience, whereas, rest of the students held a moderate level of academic resilience. Coordination (planning) was observed as the best predictor of students' academic resilience at the higher secondary level. Whereas, composure (low anxiety) was the weakest attribute for students' academic resilience. The contribution of confidence, commitment, and control remained almost similar. According to Martin and Marsh (2006), 5Cs are the possible factors for effective interventions where composure or low anxiety is the strongest factor that can predict academic resilience. The findings of current research disclosed that nearly half of the respondents had a moderate level of academic resilience, and they showed low composure. It confirms the significant role of composure attribute. Martin and Marsh (2006) suggest that interventions may be designed to address anxiety first. In an experimental study, Arif and Mirza (2017) identified that the resilience of at-risk students may be enhanced by fostering confidence, self-efficacy, self-determination related to academics, competency, self-esteem, internal locus of control, creativity, sense of humour, autonomy and optimism.

The **third objective** of the study was to examine life skills development among students at HSSC level. The findings established that students possess good life skills, as, majority of them scored high on life skills development scale. The best-learned life skills among college students at higher secondary level are self-responsibility and useful/marketable life skills. Students feel quite confident in admitting responsibility for making mistakes, they show control over their goals. They can do what is right even when they are in a group. They feel the importance of fulfilling commitments. Students have reported that they possess useful/marketable life skills. They can find solutions to problems and can follow instructions presented to them. They can contribute to a team

as its member. They can keep accurate records. They are ready to apply for a job and can take up related responsibilities. All other life skills are possessed equally by the students except leadership. They perceived themselves as unable to organize a group to reach its goals. They could not conceive different styles of leadership and did not bear sharing in leadership.

The **fourth objective** of the study was to investigate the relationship of teachers' resilience with students' academic resilience and their life skills development at HSSC level. It is found that overall teachers' resilience is significantly associated with students' overall academic resilience. All the six external factors and three internal factors of teachers' resilience are positively and significantly correlated with overall students' academic resilience. Silyvier and Nyandusi, (2015) identified that resilience research takes a broader view and focuses on greater issues of adjustment, but they leave a gap on the influence of a teacher. They believed that teachers' competence is necessary for fostering resilience among students. Mirza and Arif (2018) in an experimental study confirmed that the role of a teacher is a key factor for developing resilience among students. They can develop resiliency characteristics among students through a protective mechanism. Pianta and Walsh (2014) describe that the relationship with a positive key figure is significant in developing resilience among students. Without the support and guideline of an adult, it is very difficult to acquire and sustain resilience. No doubt teacher is a central figure in a student's academic life. Similarly, Krovetz (2007) described that the power of individual characteristics is determined by the protective environmental elements. School is the most important of all, where the role of a teacher is central. Krovetz (2007) further explains that resilience-building is not just a function of curriculum or special training program, instead, the role of teacher

and outer environment is crucial. Morrison and Allen (2007) believe in the role of teachers for developing and reinforcing resilience-building skills among students.

It was found that the relationship between overall teachers' resilience and overall students' life skills development at HSSC level is significant. All the six external factors and three internal factors of teachers' resilience had a positive and significant correlation with students' overall life skills development. According to Bernard (1998), resilient people possess some special skills such as autonomy, problem-solving, social competency, sense of purpose, and future. Teachers, school, family, and community can make these attributes strong enough so that individuals may cope with challenges. The longitudinal studies such as Tufts Study of PYD (Lerner et al., 2005) established that the programs which helped in developing the personal and social skills help develop positive behaviour among students.

The **fifth objective** of the study was to investigate relationship between students' life skills development and students' academic resilience at HSSC level. It was established that this relationship was statistically significant. All the eight life skills (decision-making, wise use of resources, communication, empathy, leadership, useful/marketable life skills, healthy lifestyles choices, self-responsibility) of students displayed a significant relationship with their overall academic resilience in a positive direction. These findings are supported by Werner (1993) who believes that research on resilience may help in youth development programs through various skills. Wolin and Wolin (1995) identified certain skills and behaviours among resilient individuals that include insight, independence, relationship, initiative, creativity, humour, and morality. They believed that such skills allow people to rise above hardships. Arif and Mirza (2017) also emphasized learning skills related to resilience. In their later research, Mirza and Arif (2018) emphasized learning of specific protective factors for

developing academic resilience. Keogh (2000) also referred that skills such as students' self-esteem, self-efficacy, autonomy, etc. become the source of resilience. Rojas (2015) mentioned the other side of the relationship by believing that resilience not only helps people to overcome adverse situations but it develops certain skills in them such as communication, planning, problem-solving, etc. The relationship between students' overall life skills development and students' overall academic resilience is also mentioned by Oswald et al. (2003) who believes that students who have skills of communication, self-responsibility, social competence, self-belief or leadership were more resilient. In difficult situations children become frightened, Silyvier and Nyandusi, (2015) believe that such children become less vulnerable if they possess skills such as self-belief, confidence, and other sources for resilience. Garmezy and Rutter (1983) during earlier resilience research have identified certain life skills possessed by resilient students belonging to high poverty areas. These skills included social skills, peer relationships, sensitivity, empathy, problem-solving skills, sense of humor, etc. Hurtes and Allen (2001) also identified resilience as a framework of prominent skills, competencies, and attitudes which help in coping with adversities.

The **sixth objective** of the study was to find out teachers' resilience in relation to demographic variations (gender, age, teaching experience, designation, academic qualifications, professional qualifications, and marital status) at the higher secondary level. The gender-based analysis disclosed that the average overall resilience score of female teachers was higher but did not meet a significant level. Therefore, it was concluded that the gender-based difference in mean scores of overall resilience among teachers is not significant. Brouskeli et al. (2018) and Wagnild (2016) also found similar results. However, the results of the current study for overall teachers' resilience in relation to gender are not supported by some of the previous researches which found

that the resilience of male and female teachers varies significantly. Some researchers reported a higher resilience level among female teachers than that of their counterpart male teachers (Botou et al., 2017; Estaji & Rahimi, 2014). The current research has also reported a higher resilience level of female teachers, but the difference is not significant. Possibly, this is because the average woman in our society has to perform many roles at home and work. She usually accepts the roles specified by society and rarely tries to opt for her own choices. Still, it is a known fact that she has to face problems and find solutions to make her life on the go. This makes a woman more resilient than a man. According to the current study, all the internal and external subfactors of resilience acted similarly for male and female respondents except the peer and community factors. A significant gender-based difference was observed in the peer factor in favour of female teachers. It shows that female teachers are on better terms with their colleagues and develop a sense of belonging with them which helps at any difficult time. It was found that female teachers do not perceive community as their source for resilience. One of the major reasons for this difference is that females in our society usually prefer to spend time with their families. They are not very outgoing, and they keep their outdoor activities limited. They do not get membership in clubs, libraries, religious and social groups according to their hobbies or interests. On the other hand, male teachers have active roles in society. They have social circles and groups hence, they perceive society as a source for their resilience.

Demographic variations other than gender did not place any significant difference in overall teachers' resilience. The mean score of teachers belonging to the eldest age group was high but did not reach a significant level. Similarly, the average resilience score of teachers increased with added years of teaching experience but not significantly. These results are not supported by the findings of Anderson and Olsen

(2006) who reported that teachers after an experience of 3 to 6 years intended to find new responsibilities and roles. So that they gain confidence and enthusiastically accept challenges with this added experience. Estaji and Rahimi (2014) also reported a significant difference in teachers' resilience in relation to teaching experience. Botou et al. (2017) also found results inconsistent with the findings of the current study. They observed a higher resilience with more years of age and experience. Such findings were also reported by other researchers (Carroll & Foster, 2010; Wagnild, 2016). The role of age and experience is explained by the link between self-efficacy and resilience. Researchers (Gibson & Demdo, 1984; Gu & Day, 2007; Rutter, 1990) believe that with age and experience people have to deal with numerous issues and crises which in turn improve their self-efficacy. Improved self-efficacy, in turn, improves resilience, hence people high on self-efficacy are high on resilience. Bobek (2002) described that resilient people are capable of correctly assessing adverse situations, they can spot and develop coping options to solve the issues. It is observed that people get better in these abilities with age and experience. Researchers (Gu & Day 2007; Henderson & Milstein, 2003; Oswald et al., 2003; Pence, 1998; Wang et al., 1993) have found evidences of greater resilience with increased age and experience.

In their later research, Brouskeli et al. (2018) and Gu & Day (2013) found interestingly contrasting findings. Gu & Day (2013) reported that teachers who were young and middle-aged had better resilience level as compared to their older colleagues. Current findings may be explained in the context of increased responsibilities of teachers with age. Additionally, continuous change in government policies, increased workloads, additional responsibilities at the job, students' behaviour issues, and poor health conditions of teachers with growing age may decrease resilience rather than significantly increase it. In personal lives, our elders traditionally, retain a burden of

decision-making and responsibilities upon themselves such as the education, jobs, and marriages of their young children. Teachers usually keep important projects of their private life for their later stages of life such as the construction of a house for the family etc. Such burdens may influence their resilience negatively. Moreover, lack of compatibility for working with modern technologies may also affect the self-efficacy of the aging workforce, ultimately reducing their resilience. Nevertheless, these dimensions require further investigations.

The current study found that mean teachers' resilience score became higher with progress in designation but did not differ significantly. However, (Beltman et al., 2011; Botou et al., 2017; Goddard & Foster, 2001; Howard & Johnson, 2004; Tschannen-Moran & Woolfolk, 2007) reported converse findings. They found that teachers at higher responsibility positions demonstrate higher resilience. The current study did not observe significant improvement in resilience with progress in designations. The underlined reasons require further investigations. However, currently, it is observed that individuals at key positions are considered more accountable for organizational failure. They may face issues such as lack of authorized power for decision making, charges of corruption and unjust accountability, unrealistically greater expectations with scarce resources, lack of cooperation at the workplace, etc. Such factors may cause low resilience.

Results of the current study revealed that higher academic qualifications of teachers also improved the mean resilience score of teachers, but the difference was not significant. The findings of previous researches (Brouskeli et al., 2018; Morris, 2002) were converse. However, the findings of the current study have confirmed results given by Botou et al. (2017). They did not discover any significant correlation between teachers' higher qualifications and their resilience. This was explained by the rationale

that most of the teachers possess similar academic qualifications and very few opted to upgrade their qualifications during the job. Therefore, variation in their resilience in relation to academic qualifications is minimal. Similar findings were presented by current research on overall teachers' resilience where 73% of the respondent teachers were holding similar academic qualifications i.e. a master's degree.

According to the previous recruitment system in Pakistan, at the HSSC level teachers were not required to possess any professional qualifications or teacher training certification. Most of them were recruited after completing their university degree at the Master's level. Therefore, it is assumed that teaching skills attained through training programs such as B.Ed and M.Ed are crucially missed by them. Even though, most college teachers hold professional qualifications such as B.Ed and M.Ed. The current study shows surprising results, as mean teachers' resilience scores of teachers who do not possess any professional degree remained higher. This finding highlighted the fact that teachers' training programs are irrelevant in developing teachers' resilience, it has exposed the limitations of such programs.

The mean teachers' resilience score in relation to the marital status of teachers did not vary significantly. Whereas the previous researches presented inconsistent results. Odanga et al. (2015) disclosed the importance of teachers' marital status in relation to their self-efficacy. They found that male and married teachers are willing to put some extra effort into school. They try to do their best effort, stick for longer to their work and recuperate faster when they do not get success to meet their targets at school. Their quantitative findings established no significant influence of teachers' marital status on their self-efficacy whereas, the qualitative analysis found that self-efficacy among teachers is significantly correlated with their marital status. Therefore, Odanga et al. (2015) reported married male teachers as more resilient. Some other

research studies have also confirmed that self-efficacy reflects teachers' resilience (Klassen & Chiu, 2010; Protheroe, 2008).

The **seventh objective** of the research was to find out students' academic resilience in relation to gender at HSSC level. The study exposed that gender difference did not place a significant difference in overall students' academic resilience. Previous researches have investigated the relationship between gender and resilience but could not agree on a single result. Resilience among females was reported higher than that of males by Önder and Gülay (2008). Whereas, some research studies (Bahadır, 2009; Sarwar et al., 2010; Sürücü & Bacanlı, 2010) reported higher resilience among male students. Erdogan et al. (2015) also reported a significant effect of gender on resilience in favour of male students. In some other studies (Aktay, 2010; Özcan, 2005; Sezgin, 2012) relationship between gender and resilience was not spotted. The current research noticed that the average resilience score among boys and girls significantly varied on subfactors of coordination and composure. Female students make better use of coordination and composure to build their academic resilience. Whereas, confidence, commitment, and control are the subfactors that show no significant difference in relation to gender. Martin (2003a) also found girls better at planning, monitoring, and study management. His results were inconsistent with the findings of the current result where he discovered girls were high on anxiety and persistence too.

The **Eighth objective** of the research was to investigate students' life skills development in relation to gender at the higher secondary level. The gender-based analysis revealed that the overall life skills development of students in relation to their gender varied significantly. Female students showed better mean scores on the overall life skills development scale. They were better in skills of communication, empathy, leadership, and healthy lifestyle choices. These results were confirmed by the Positive

Youth Development Study. Geldhof et al. (2013) discovered a general trend among girls to display better life skills as compared to boys. Bartoszek and Randall (2011) also found females scoring higher on skill development. Haas et al. (2015) found that female students had higher level of competencies. They were better than their male counterparts on skills of problem-solving, critical-thinking, decision-making, communication and planning. Contrary to current findings on leadership life skills, Eagly and Karau (1991) found that in 58 studies of groups that were initially without leaders, males appeared as leaders more frequently than females.

5.5 Conclusions

The data analysis and findings led to the following conclusions.

1. As indicated by the overall teachers' resilience scores, most of the teachers possessed a high resilience level. Skill factor, Family and identity factor, education factor, were the stronger external factors of teachers' resilience. Peer factor and money factor almost equally contributed to teachers' resilience. Whereas, community factor remained the weakest among all. The analysis on internal factors of resilience indicated that all three internal sources (self-efficacy, awareness of resources, and self-esteem) equally contributed to developing overall teachers' resilience at the HSSC level.
2. The majority of the students exhibited a high level of academic resilience at higher secondary level. Coordination (planning) was indicated as a relatively stronger determinant of students' overall academic resilience, whereas, composure remained the weakest determinant. It was found that Confidence, commitment, and control equally determine students' academic resilience.

3. Majority of the students have developed life skills at a high level. All the life skills which were addressed in the current study were possessed equally by the students of higher secondary level except leadership which was weakest among all life skills. Useable/ Marketable life skills and skills of self-responsibility were relatively stronger than the rest of the life skills which were investigated.
4. It is concluded that overall teachers' resilience and students' overall academic resilience are positively and significantly correlated. Furthermore, teachers' overall resilience showed a significant relationship with students' academic resilience on subscales confidence, coordination, commitment and control in a positive direction. This relationship was not significant on subscale composure. All external subfactors of teachers' resilience (skill factor, family and identity, education, peer, community and money factors) and all internal factors (self-efficacy, awareness of resources and self-esteem) of teachers' resilience were significantly associated with students' overall academic resilience in a positive direction. Moreover, it is concluded that teachers' resilience and overall students' life skills development are significantly and positively correlated at higher secondary level. Teachers' resilience is positively and significantly correlated with students' life skills development on its subscales of decision making, wise use of resources, communication, empathy, leadership, useful/marketable life skills, healthy life style choices and self-responsibility. All the external resources (skill factor, family and identity, education, peer, community and money factors) and internal resources (teachers' self-efficacy, teachers' awareness of resources, teachers' self-esteem) of teachers' resilience also displayed a significant correlation with students' life skills development in a positive direction.

5. The correlation between students' overall academic resilience and their overall life skills development was significant in a positive direction at higher secondary level. Students' overall life skills development is significantly and positively associated with students' overall academic resilience on subscales confidence, coordination, commitment and control. This relationship was significant in a negative direction on the subscale composure. Students' overall academic resilience is positively and significantly associated with life skills development of students on its all subscales at higher secondary level.
6. Findings on gender-based difference in teachers' resilience have revealed attenuation of such differences in the modern world. It was concluded that the overall teachers' resilience did not vary significantly in relation to gender. Teachers from both genders showed similar level of resilience on all external and internal factors except the peer and community factors. Female teachers perceived peer as a better source of resilience as compared to male teachers. Whereas community factor was proved to be a better source of resilience for male teachers as compared to their female counterparts. The study didn't find any significant difference in overall teachers' resilience in relation to demographic variations including age, teaching experience, designation, marital status, academic and professional qualifications.
7. It was found that at HSSC level, students do not have significant difference in their overall academic resilience in relation to their gender. Academic resilience of both male and female students was similarly determined by the subscales of confidence, commitment, and control. But, the gender-based difference was significant on subscales of coordination (planning) and composure (low anxiety) as female students made better use of coordination and composure to develop their academic resilience as compared to male students.

8. Male and female students were significantly different on their overall life skills development where girls outperformed boys. It was identified that female students outperformed the male students on communication, healthy lifestyle choices, empathy and leadership life skills. Whereas, both boys and girls performed equally well on skills of making decisions, using resources wisely, marketable and useful life skills and self-responsibility.

5.6 Research Limitations

1. This research work used self-reporting instruments for the collection of data, which may introduce bias from respondents.
2. A quantitative approach with a cross-sectional design was adopted, hence limited to relationship conclusions. However, variables of current study might be investigated through qualitative and mixed approaches using experimental designs while introducing interventions to bring improvements on variables under investigation. Longitudinal research design and case studies along with additional sources of data in future such as interviews, anecdotal records may provide supportive evidences for causal conclusions.
3. The partner factor of resilience doughnut model was not included in study due to difficulty in data collection and limitation of data analysis in current design which places a limitation on the current study.
4. The role of composure (low anxiety) is complicated in determining students' academic resilience. As some level of anxiety is required to keep individuals motivated. But there comes a stage when it starts harming the individuals. It is hard to decide that, at what level anxiety is needed to be controlled as, the situation may be subjective. Current research had limited scope to explore this phenomenon.

5. Only gender-based differences were investigated for all subfactors of three variables for current study. The demographic variables were investigated for overall teachers' resilience, overall students' academic resilience and overall life skills development. Future research may disclose differences on subfactors of major variables in relation to demographic variations.
6. Money comes with professional experience, designation and age, so that to become a source of resilience. This phenomenon may cast an overlapping effect on teachers resilience which could not be investigated well under the current design.

5.7 Recommendations

Teachers' resilience demonstrates a significant correlation with students' academic resilience and their life skills development therefore, it is recommended to arrange means for enhancement of teachers' resilience. Factors including skill, education and family & identity are identified as the major external sources of teacher resilience. Investment in these resources may further enhance teachers' resilience.

Skill factor encompasses numerous skills that potentially contribute in teachers' resilience such as writing, reading singing, playing an instrument, communication, leadership, time management, skills to incorporate technologies in process of teaching and learning, online teaching, classroom management, social skills, art and creativity etc. It is suggested that encouragement and better opportunities such as workshops, seminars and on-job training sessions for teachers may be arranged at colleges for demonstration and refinement of skills. The curriculum for prospective teachers may incorporate mastering such skills during teacher training programs.

Educational institutions and organizations may also invest in family and identity factors by providing recreational and educational opportunities such as family dinners at the official level, recreational leave, special symposiums for elder family members,

orientation programs for better grooming of young children of teachers, provision of basic facilities such as health, residence, daycares etc., so that families of teachers may be involved in their professional activities which might add a lighter side in the stressful teaching day and nights. This may strengthen the family and identity factor of teachers' resilience.

Education factor is another strong source of resilience among teachers at higher secondary level. Usually, teachers do not upgrade their qualifications during their service period and lose compatibility with the latest development in their field of knowledge. During this period, sometimes the qualifications possessed by them do not remain compatible with the latest developments in their fields of knowledge, which may cause a lack of confidence. Teachers may be provided opportunities and incentives to upgrade their education. They may be granted enrollments in online national and international courses of their interest. Educational institutions may introduce incentives such as higher pay scales, promotions and special pay allowances in response to educational upgradation. Procedures for study leave and scholarships may be made simple and unconditional.

Opportunities may be created to develop better peer relationships such as annual dinners, formal and informal discussion sessions, mentor programs at the institutional level and open forums for addressing professional challenges. Administrations based on justice and equality may remove mutual grievances among teachers to promote healthy peer interaction. To make money a stronger factor of resilience, tangible and intangible remunerations may be improved for teachers. Teachers may be offered loans and insurance schemes to help them with better financial management.

The subfactor composure (low anxiety) of students' academic resilience remained the weakest factor. The subfactor composure represents low anxiety.

According to the findings, our students perceive a high level of anxiety at the moment of difficulty. Hence, students may be taught effective techniques for relaxation. Guidelines may be provided to students to face pressure situations like examinations. Proper training sessions may be arranged at colleges to teach strategies for dealing with academic stress. Promotion of classroom climate for personal progress, cooperation and self-improvement may also be helpful.

“Leadership” was identified as a less developed life skill among students. Special arrangements may be made to train students for leadership skill. Short courses, projects and classroom strategies may help students at the college level. Students’ life skills training may enhance academic resilience among them. The NEP, 2009 (Government of Pakistan, 2009) has recommended life-skills-based education at secondary and higher secondary level. Currently, our curriculums do not address life skills as a separate area of study. Efforts are needed to highlight the need and scope of life skills development at all levels of education through research work. It is highly recommended to develop a complete curriculum based upon life skills starting right from early childhood education to the highest level of education. Life skills training academies may be established in public and private sectors to train students through curricular and co-curricular activities.

Male teachers scored better than female teachers on the community factor. It is recommended to find out the reasons of such differences through further research, moreover, strategies may be developed to fill the gap as discussed earlier. Results of the research suggest that resilience does not grow significantly with progress in designations, age and experience of teachers. This may be a result of attached insecurities and deprivation from resources. Therefore, structural improvements in educational organizations are recommended which may protect individuals from

uncertainties and may lead them to become resilient with age, experience and higher designation. Teachers' education programs require reforms to inculcate teachers' resilience for difficult teaching assignments through professional training.

It is recommended that reasons for gender-based differences on subfactors of coordination and composure may be explored through further research among students. Male students may be trained for improved coordination (planning). Institutions may train their students in this area by helping them to set achievable goals and provide guidance to work in that direction. Students need training in self-regulatory skills, which may improve their ability of planning and manage time. Teachers may teach students how to have clarity on their goals and directions and how to use their time effectively by prioritizing tasks.

The role of gender in life skills development seems critical as shown by the findings of the current study. At higher secondary level female students outperformed their male counterparts on life skills of communication, empathy, leadership and healthy lifestyle choices. Male students need life skills training programs in these areas. Leadership is found to be the weakest life skill of all students at the higher secondary level, hence, it requires special attention. Short courses, workshops, sports activities summer camps and seminars may be arranged at colleges to help students with these skills. As life skills development shows a significant correlation with students' academic resilience, therefore, it is recommended to arrange means for life skills development which may result in improvement of the academic resilience among students.

5.8 Suggestions for Further Research

The present study had a limited scope due to limited resources. The results of the current study have divulged the need for more exclusive studies in the area.

1. The current study was designed at higher secondary level. However, future research may select populations with a broader range of educational levels and age at university or secondary school levels. Studies may include a broader geographical area with larger samples of heterogeneous groups and demographic variation.
2. The sample only comprised of respondents from public institutions, future studies may also investigate differences on these variables in the private sector as well.
3. Future studies may be designed for populations suffering chronically from adverse situations. Focus group studies or case studies may help in developing in-depth understanding on resilience.
4. More exclusive data analysis is recommended to investigate the role of subscales of each variable in relation to demographic variations. Some other life skills may be identified for relationship with resilience.
5. Gender differences were observed on community factor of teachers' resilience which needs further investigation. Similarly, students' academic resilience displayed gender differences on subscales of coordination and composure. Whereas, noticeable gender differences were divulged in overall life skills development. The life skills of communication, empathy, leadership and healthy lifestyle choices were not similarly possessed by male and female students. Therefore, studies are needed to discover reasons for variations on these attributes of male and female respondents, so that strategies could be devised to bring improvement.
6. Additional research is required to analyze the relationship of attributes of teachers' resilience, students' academic resilience and students' life skills development with other important attributes such as intelligence, personality traits, motivation, health, the role of faith and religious beliefs, socio-economic status etc. In this regard, case

studies may help in differentiating the personality profile features of resilient and non-resilient individuals.

7. Research is specifically needed in the area of instrument development while addressing adversities faced by people in local scenario. It may help to devise intervention programs for improvement of resilience and life skills.
8. Research is needed to investigate the overlapping effects of demographic attributes such as professional experience, designation, and age in relation to the money factor of teachers' resilience.
9. Extended research is required to explain the role of anxiety in students' academic resilience.

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Appendix-A

Instrument No.1

The Resilience Doughnut Quiz

Gender	Male	Female					
Age	20+ to 30 years	30+ to 40 years		40+ to 50 years		50+ to 60 years	
Teaching experience	Less than 05 years	05+ to 10 years	10+ to 15 years	15+ to 20 years	20+ to 25 years	25+ to 30 years	more than 30 years
Designation	Lecturer	Assistant Professor		Associate Professor		Professor	Others
Professional qualification	B.Ed.		M.Ed.	Nil			
Academic qualification	Masters		M.Phil.	Ph.D.			
Marital Status	Married		Single				

Note: Read the statements given below carefully and rate how well the statement describes you using the following scale.

Always agree Often agree Sometimes agree Rarely agree Never agree

1. THE SKILL FACTOR						
1	I can read and write well.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
2	I am really good at one or two skills.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
3	I can do most things well and like trying new experiences.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
4	I can feel good about myself when I do a skill.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
5	I have people around me who also think I am good at my skill.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
6	I am able to work hard to get better at my skill.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
7	I am proud of myself because of my skill.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
8	I am involved in a group which can help skill.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
2. THE FAMILY AND IDENTITY FACTOR						
9	I am part of and feel I belong to a family that has parents, uncles, aunts, grandparents, cousins or children.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
10	I have one or more people in my family I can talk to apart from my life partner.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
11	I have many people in my family who value success and encourage me to do well.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
12	I am able to spend a lot of time with my wider family.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree

13	I can care for others in my family and make them feel better.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
14	I am valued and loved in my family.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
15	I have a family that has a happy view of the world.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
16	I am able to make mistakes and know that I will be forgiven in my family.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
17	I am like one or more of my family members.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
18	I have a family that has gone through some hard times together.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
3. THE EDUCATION FACTOR						
19	I enjoy learning and studying new information.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
20	I am valued when my ideas are different to someone else's.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
21	I have a group where I can discuss ideas and learn new information.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
22	I had a teacher who liked me and encouraged me throughout my studies.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
23	I had teachers who thought I could do well.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
24	I have tutors/ mentors or other professionals I can refer to when I need extra help.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
25	I am involved in professional development activities.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
26	I have an environment where there are lots of different and exciting ways to learn.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
27	I have a sense of belonging and care about the quality of learning that occurs with my profession.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
4. THE PEER FACTOR						
28	I have friends that say what they think and sometimes we fight	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
29	I can share ideas and difficulties with a close friend.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
30	I have a group of friends that other people know.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
31	I am able to change how I behave in my group of friends, so I can fit in.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
32	I am able to stick-up (fight) for my friends.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
33	I am able to control myself around my friends	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
5. THE COMMUNITY FACTOR						
34	I have a local library, community centre and shops that I regularly visit.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree

35	I am part of a community that likes and values people of all ages.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
36	I have a wise mentor who is not a relative or teacher, who I can talk to.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
37	I am involved in a religious group.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
38	I am part of a club associated with my hobbies or interests.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
39	I am part of a sport group.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
40	I have a community that has a wide range of age groups.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
41	I have a faith in God or a high spiritual being.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
42	I can feel safe in my community and know that some people can be trusted.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
6. THE MONEY FACTOR						
43	I have enough money to live ok.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
44	I am contributor to the running of household chores.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
45	I can save for things I would like to buy.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
46	I am usually happy with how I have spent my money.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
47	I can work harder to earn more money to raise funds for a project.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
48	I am on time and have a plan for getting things done.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
49	I pay my own expenses.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
50	I have a savings account.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
51	I can seek advice about how I budget my money.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree

Appendix-B

Instrument No.2

Scale for Measurement of Students' Academic Resilience

Gender	Male	Female		
Age	15 to16 Years	16+ to 17 years	17+ to 18 years	Above 18 years
Subjects	Science	Humanities	Computer	
<p>Note: Please read the given situation and imagine that you are in the situation being described: The result of your recent examination is not good. You have failed a subject. Your marks in two other subjects are also poor. Your plans for career in life are clear but these results are lower than what you want for your goals. You don't want to disappoint your family. Your teachers have pointed out your weaknesses as a feedback for you such as “lack of understanding”, “poor hand writing”, “poor concepts” etc. Your teachers also have provided you with clear guidelines to improve your performance. Now think fairly how would you react in above mentioned situation? Read carefully each of the statements and rate how well the statement describes you, circle the relevant option in front of each statement.</p>				
Always agree	Often agree	Sometimes agree	Rarely agree	Never agree

1.	I would act upon my teachers' feedback.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
2.	I would use the guidelines provided by my teachers to improve my work.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
3	I would take the situation as a motivation for myself.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
4	I would make new plans for my career.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
5	I would probably get irritated.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
6	I would start thinking negatively regarding my chances of success at college	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
7	I would take the situation as a challenge.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
8	I would try to stop thinking negative thoughts.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
9	I would take the situation as temporary.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
10	I would try harder.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree

11	I would be depressed in case of poor performance.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
12	I would try to find out new solutions.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
13	I would feel completely disappointed.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
14	I would continue my efforts.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
15	I would not change my future plans, goals and ambitions.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
16	I would take motivation from my past successes.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
17	I would start thinking, that there are less chances of getting in the profession I want.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
18	I would begin to keep an eye on my achievements and effort.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
19	I would seek help from my teachers.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
20	I would encourage myself.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
21	I would stop myself from anxiety.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
22	I would change my ways to study.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
23	I would set my own targets for achievement.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
24	I would need encouragement from my family and friends.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
25	I would evaluate my strengths and weaknesses to help me work better.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
26	I would feel like everything was destructed and was going wrong.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
27	I would start to self-impose rewards and punishments depending on my performance.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
28	I would think about to show that I can improve my grades.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree

Appendix-C

Instrument No.3

Scale for Measurement of Students' Life Skills Development

Note: Read the statements given below carefully and rate according to the given scale how well the statement describes your life skills.

Always agree Often agree Sometimes agree Rarely agree Never agree

1	I list my options before making a decision.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
2	I think about what might happen because of my decision.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
3	I evaluate decisions I have made.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
4	I wisely use the natural resources in my environment.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
5	I can plan how to use my financial resources.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
6	I use my time wisely.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
7	I take care of my personal belongings.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
8	I can make a presentation.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
9	I listen carefully to what others say.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
10	I can clearly state my thoughts, feelings, and ideas to others.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
11	I can settle disagreements in ways that are not hurtful.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
12	When someone else is feeling excited, I feel excited too.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
13	It makes me upset when someone is treated disrespectfully.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
14	I change my mood with other people's mood.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
15	I enjoy when I make other people feel better.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
16	I feel sad when watching sad things on T.V. or in films.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
17	I can organize a group to reach its goal.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree

18	I can use different leadership styles (Autocratic, democratic, laissez-faire).	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
19	I can get others to share in leadership.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
20	I can work out problems that are presented to me.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
21	I follow instructions as they are given to me.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
22	I contribute as a member of a team.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
23	I accept responsibility for doing a job.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
24	I can keep accurate and useful records.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
25	I can apply for a job.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
26	I make healthy food choices.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
27	I choose activities that promote physical health and wellbeing.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
28	I can manage stress positively in my life.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
29	I can avoid risky behaviours.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
30	I can do what is right for myself when within a group.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
31	I admit to mistakes I make.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
32	I understand it is important to follow through on commitments I have made.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree
33	I have control over my own personal goals/future.	Always agree	Often agree	Sometimes agree	Rarely agree	Never agree

Certificates of Validity for Instrument No.1

Expert :1



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

This is to certify that the standardized research instrument "*The Resilience Doughnut Quiz developed by Lyn Worsley (2006)*" to be used by the researcher towards her thesis have been assessed by me and I find that the instrument has been designed adequately to measure Teachers' Resilience, at higher secondary level.

It is considered that the research instrument, developed for measurement of resilience is according to the objectives and hypotheses of the above titled research. It assures adequate construct and content validity according to the purpose of research and can be used for data collection by the researcher with fair amount of confidence.

Name: DR Asghar Ali Shah

Designation: Assistant Professor

Institute: Deptt of Psychology, FSS, IUI

Signature: Asghar Ali

Date: 28 Sep 2017

Stamp:

DR ASGHAR ALI SHAH
Assistant Professor
Department of Psychology
FSS, International Islamic University
Islamabad

DR ASGHAR ALI SHAH
Assistant Professor
Department of Psychology
FSS, International Islamic University
Islamabad

Expert :2



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: ALLAH BAKHSH MALIK

Designation: Ex-Head of Education Dept

Institute: NIML

Signature: ALLAH BAKHSH MALIK

Date: 18/9/17

Stamp:

Expert :3



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: Dr. Wajeaha Shahid

Designation: Assistant Professor

Institute: NUML, H-9 Islamabad

Signature: *Wajeaha*

Date: 24/5/18

Stamp:

Dr. Wajeaha Shahid
Manager QA & SA (QFC)
Assistant Prof.
NUML H-9, Isl.

Expert :4



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: Dr. Saira Nudrat
Designation: Assistant Professor
Institute: NUML, Isb.
Signature: [Signature]
Date: 18-09-2017
Stamp:

Certificates of Validity for Instrument No.2

Expert :1



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr.Shazia Zamir

National University of Modern Languages, H-9, Islamabad. Pakistan.

This is to certify that the research instrument "*Academic Resilience Scale for School developed by the researcher*" to be used by the researcher towards her thesis have been assessed by me and I find that the instrument has been designed adequately to measure Students' Academic Resilience, at higher secondary level.

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Name: DR Asghar Ali Shah

Designation: Assistt Professor

Institute: Deptt of Psychology, FSS, IUI

Signature: Asghar Ali

Date: 28 Sep 2017

Stamp: DR / ASGHAR ALI SHAH
Assistant Professor
Department of Psychology
SS, International Islamic University
Islamabad

Expert :2



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: Muhammad Malik

Designation: Ex-Head Dept of Ed

Institute: NUML

Signature: Muhammad Malik

Date: 18/9/17

Stamp:

Expert :3



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

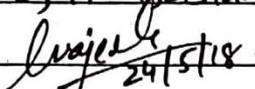
By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: Dr. Wajeaha Shahid
Designation: Assistant Professor
Institute: NUML, H-9, Islamabad
Signature: 
Date: 24/5/18

Stamp:

Dr. Wajeaha Shahid
Manager QA & SA (QEC)
Assistant Professor
NUML H-9, Islamabad

Expert :4



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: Dr. Saira Nudrat
Designation: Assistant Professor
Institute: NUMC, Islamabad
Signature: [Signature]
Date: 18-09-2017
Stamp:

Certificates of Validity for Instrument No.3

Expert :1



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

This is to certify that the research instrument "*Tool for Measurement of Life Skills developed by Sandra J. Bailey and Mary J. Deen (2000)*" to be used by the researcher towards her thesis have been assessed by me and I find that the instrument has been designed adequately to measure Students' Life Skills Development, at higher secondary level.

It is considered that the research instrument, adapted for the above titled research is according to the objectives and hypotheses of the research. It assures adequate construct and content validity according to the purpose of research and can be used for data collection by the researcher with fair amount of confidence.

Name: DR Asghar Ali Shah

Designation: Assist Professor

Institute: Dept of Psychology, FSS, IUI

Signature: Asghar Ali

Date: 28 Sep 2017

Stamp: DR ASGHAR ALI SHAH
Assistant Professor
Department of Psychology
FSS, International Islamic University
Islamabad

Expert :2



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: ALMA BAKISH MALIK
Designation: Ex-Head of Dept of Ed
Institute: NWML Islamabad
Signature: Alma Bakish
Date: 18/9/17
Stamp:

Expert :3



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: Dr. Wajeeha Shahid

Designation: Assistant Professor

Institute: NUML, H-9 Islamabad

Signature: *Wajeeha*

Date: 25/5/18

Stamp:

Dr. Wajeeha Shahid
Manager QA & SA (QEC)
Assistant Professor
NUML H-9, Islamabad

Expert :4



CERTIFICATE OF VALIDITY

TOPIC: Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level

By: Nighat Parveen

Supervised By: Dr. Shazia Zamir

National University of Modern Languages, H-9, Islamabad, Pakistan.

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Name: Dr. Saira Nudrat

Designation: Assistant Professor

Institute: NUML, Islamabad

Signature: Saira

Date: 18-09-2017

Stamp:

Permission to use Instrument No.1

5/18/2019

Gmail - Re:



nighat parveen <nighatwadanafri@gmail.com>

Re:

Lyn Worsley <lyn@theresiliencecentre.com.au>
To: nighat parveen <nighatwadanafri@gmail.com>

Mon, May 1, 2017 at 7:11 AM

Hi Nighat,
w can give you access to the Resilience Report
the report has three questionnaires which will be helpful for your research.
1.The Resilience Doughnut
2.The Resilience Scale for Adults
3. the DASS.
the access to the report is
www.resiliencereport.com
attached is the validation study

i can give you access to a number of reports for you to use with the subjects and they can do this on line.
cheers LYN

Lyn Worsley
Senior Clinical Psychologist
Director The Resilience Centre
48 Oxford Street, Epping, 2121
PH 02 98690377
FAX 02 98690388
lyn@theresiliencecentre.com.au
www.theresiliencecentre.com.au www.theresilencedoughnut.com.au



On 30 April 2017 at 13:54, nighat parveen <nighatwadanafri@gmail.com> wrote:

Dear Lyn Worsley,
I'm sending my research proposal. What I actually need is a questionnaire for teachers based upon the resilience doughnut factors in order to measure the resilience level of teachers.
best regards,

Nighat
phd scholar Numl, Islamabad
Pakistan

17.01.01 scale development of the resilience doughnut model.pdf
163K

Permission to use Instrument No.3

5/18/2019

Gmail - (no subject)



nighat parveen <nighatwadanafri@gmail.com>

(no subject)

Bailey, Sandra <baileys@montana.edu>
To: nighat parveen <nighatwadanafri@gmail.com>

Mon, May 1, 2017 at 5:13 PM

Nighat,

All of the items are listed in the article and the Likert Scale we used. You simply need to set up a table with the items. You have permission to use the survey, simply cite us from the article to give credit.

Sandy

Sandra J. Bailey, Ph.D., CFLE
Professor & Family & Human Development Specialist
Extension FCS State Program Leader
Affiliate Faculty MSU Center for Mental Health Research & Recovery
316B Herrick Hall
Montana State University
Bozeman, MT 59717-33450
Phone: 406-994-6745
Fax: 406-994-2013
baileys@montana.edu
The Montana State University Extension Service is an ADA/EO/AA/Veteran's Preference Employer and Provider of Educational Outreach.

On Sun, Apr 30, 2017 at 7:54 PM, Bailey, Sandra <baileys@montana.edu> wrote:

Nighat,

All of the information is located in this journal article that you can find on-line.

Bailey, S. J. & Deen, M. (2002). Measuring life skills in youth and family programs: Development of a statewide web-based evaluation system. *Family Relations*, 51, 138-147.

Best wishes on your project!

From: nighat parveen [mailto:nighatwadanafri@gmail.com]

Sent: Sunday, April 30, 2017 1:17 AM

To: Bailey, Sandra <baileys@montana.edu>; nighat parveen <nighatwadanafri@gmail.com>

Subject: Fwd:

Dear Sandra J. Bailey,

I'm Nighat a PhD scholar working on Teacher's resilience and students' life skill development under the supervision of Dr. Shazia Zamir, Assistant Professor, National University of Modern Languages, Islamabad. I need your scale (Development of a Web-Based Evaluation System: A Tool for Measuring Life Skills in Youth and Family Programs*) for measurement of life skills development based on 4 H Targeting life skill model by Hendricks, P 1998. I may need to adapt the scale according to my research context and it will be used just for research purpose.

looking forward for your response.

regards,

Nighat

phd scholar Numl, Islamabad
Pakistan

**Letter 1: Permission to Conduct Study in Institutions of Federal
Directorate of Education, Islamabad**

NO.F. 1-32/2016/MC/FDE/ACAD
GOVERNMENT OF PAKISTAN
FEDERAL DIRECTORATE OF EDUCATION
(MODEL COLLEGES WING)

Islamabad, August 28, 2017

**All the Principals,
Islamabad Model Colleges,
Islamabad.**

**SUBJECT: APPROVAL FOR RESEARCH WORK AT ISLAMABAD MODEL
COLLEGES, ISLAMABAD**

Reference is made to an application of Ms. Nighat Parveen, Ph.D. Scholar
No.Nil, dated 24.08.2017 on the subject noted above.

2. It is stated that Ms. Nighat Parveen, Ph.D. Scholar, NUML, intends to start
to research work on the topic of "Relationship of Teachers, Resilience with
Students' Academic Resilience and Life Skills Development at Higher Secondary
Level" in Islamabad Model Colleges, Islamabad. You are requested to maximum
facilitate / cooperate with the said scholar.


(PROF. DR. M. TARIQ MASOOD)
DIRECTOR (MODEL COLLEGES)

Copy to:-
▪ PS to DG (Education), FDE.
▪ Office Record.

**Letter 2: Permission to Conduct Study in Institutions of Federal
Directorate of Education, Islamabad**

MOST IMMEDIATE

No. F.1-1/2017-(CA)-FDE
GOVERNMENT OF PAKISTAN
FEDERAL DIRECTORATE OF EDUCATION

Islamabad, the September 18, 2017.

**The Principals:-
Islamabad Model Colleges,
IMCG (F-7/2, F-7/4, G-10/4, Humak, I-8/3, I-14/3, Bharakau)
IMCB, H-8, IMCB, H-9, IMPCC, H-8/4, IMCB, F-10/4, IMCB, Sihala
Islamabad.**

Subject: RESEARCH WORK:

I am directed to refer to the captioned subject and to say that Ms. Nighat Perveen, Ph.D scholar intends to start research work on the topic of "Relationship of Teachers, Reliance with students, academic Resilience and Life Skills Development at Higher Secondary Level" in your institution. You are requested to extend maximum cooperation.

2. This is issued with the approval of Director (Colleges).


(MUHAMMAD ALI)
DEPUTY DIRECTOR (COLLEGES)

Copy to:

- P.S to Director General (Edu)
- A.P.S to Director (Colleges), FDE.

Letter for approval of PhD Topic and Supervisor



NATIONAL UNIVERSITY OF MODERN LANGUAGES
Faculty of Social Sciences
Sector H-9, P.O. Shaigan, Islamabad
Tel: +92-9265100-110 ext: 2096
Web: www.numl.edu.pk

ML.1-2/2017/FSS
Dated: 17-07-2017

To,
Ms. Nighat Parveen

Subject: APPROVAL OF PHD TOPIC AND SUPERVISOR

1. Reference Academic Branch's Notification No. ML.2-5/17/Adms/Acad dated 14-06-2017, the Board of Higher Studies and Research has approved the following vide its meeting held from 24th, 28th April, 4th, 5th & 30th May 2017.

2a. Supervisor's Name & Designation

Dr. Shazia Zamir
Assistant Professor,
Department of Education,
NUML, Islamabad.

2b. Topic of Thesis

"Relationship of Teachers' Resilience with Students' Academic Resilience and Life Skills Development at Higher Secondary Level"

3. You may carry out research on the given topic under the guidance of your Supervisor and submit the thesis for further evaluation within the stipulated time.

4. It is inform you that your thesis should be submit within described period by Jan 2021 positively for further necessary action please. You will also submit Acceptance/published article in "Y" category with thesis for evaluation and defense purpose.

5. As per policy of NUML, all MPhil/PhD theses are to be run on turnitin by QEC of NUML before being sent for evaluation. The university shall not take any responsibility for high similarity resulting due to theses run from own sources.

6. Theses are to be prepared strictly on NUML's format that can be had from Coordinator, MPhil/PhD (Education Department)

Telephone No: 051-9265100-110 Ext: 2091
E-mail: snudrat@numl.edu.pk

Prof. Dr. Sufiana Khatoon Malik
Dean, Faculty of Social Sciences

Cc to
Dr. Shazia Zamir
(Supervisor)

Official Letter related to Present Study



DEPARTMENT OF EDUCATION
FACULTY OF SOCIAL SCIENCES
National University of Modern Languages
Sector H-9, Islamabad
Tel.No: 051-9265100 Ext: 2090

ML.1-5/2017-Edu

Dated: 5-7-2017

WHOM SO EVER IT MAY CONCERN

Ms Nighat Parveen Student of Ph.D (Edu) Department of Education of National University of Modern Languages is engaged in project of Research Work.

She may please be allowed to visit your Institution / Library to obtain the required information for her Research Work.

This information shall not be divulged to any unauthorized person or agency. It shall be kept confidential.




Dr Hukam Dad Malik
Head,
Department of Education.

List of Institutions Included in Study

List of Institutions Included in Pilot Study

1. IMCG, I-8/3
2. IMCG (VI-XII), G-8/4
3. IMCB (VI-XII), G-9/4
4. IMPCC (B), H-8/4

List of Institutions Included in Major Study

1. IMCG (VI-XII) G-6/1-4
2. IMCG (VI-XII), G-9/2
3. IMCG (I-XII), I-9/1
4. IMCG (COM), F-10/3
5. IMCG, F-6/2
6. ICG, F-6/2
7. IMCG, F-7/4
8. IMCG, F-8/1
9. IMCG, G-10/2
10. IMCG, I-10/4
11. IMCG, I-8/4
12. IMCG, F-10/2
13. IMCG (PG), F-7/2
14. IMCG (PG), G-10/4
15. IMCG (PG), F-7/4
16. IMCB (VI-XII), G-6/2
17. IMCB, F-10/3
18. IMCB, F-11/1
19. IMCB, F-11/3
20. IMCB, F-7/3
21. IMCB, F-8/4
22. IMCB, G-10/4
23. IMCB, G-11/1
24. ICB, G-6/3
25. IMCB, I-10/1
26. IMCB, I-8/3
27. IMPC, H-8
28. IMCB, F-10/4
29. IMCB, H-9