

**EFFECT OF PERCEIVED STRESS AND COPING STRATEGIES ON RESILIENCE  
AND EMOTIONAL REACTIVITY**

**A**

*Thesis submitted*

*In partial fulfillment of the requirement for the degree of*

**MASTER OF ARTS**

**IN**

**PSYCHOLOGY**

**(CLINICAL)**



**THAPAR INSTITUTE**  
OF ENGINEERING & TECHNOLOGY  
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**June, 2018**

## CERTIFICATE

This is to certify that the thesis entitled, “**Effect of Perceived Stress and Coping Strategies on Resilience and Emotional Reactivity**” being submitted in partial fulfillment of requirement for the award of the Degree of **Master of Arts in Psychology**, in **The School of Humanities and Social Sciences, Thapar Institute of Engineering and Technology (Deemed to be University), Patiala**, is a bonafide work carried out under the supervision of **Dr. Santha Kumari**, Professor and Head, School of Humanities and Social Sciences, Thapar Institute of Engineering and Technology (Deemed to be University), Patiala and that no part of this project has been submitted for the award of any other degree.

  
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This is to certify that the above statement made by the student concerned is correct and true to the best of my knowledge.

  
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## CANDIDATE'S DECLARATION

I hereby declare that the work presented in this thesis entitles, “**Effect of Perceived Stress and Coping Strategies on Resilience and Emotional Reactivity**” being submitted in partial fulfillment of requirement for the award of the Degree of **Master of Arts in Psychology**, in **The School of Humanities and Social Sciences, Thapar Institute of Engineering and Technology (Deemed to be University)**, Patiala, is an authentic record of my own work carried out under the supervision and guidance of **Dr. Santha Kumari**, Professor and Head, School of Humanities and Social Sciences, Thapar Institute of Engineering and Technology (Deemed to be University), Patiala and refers other researchers’ work which are duly listed in the references section.

The matter embodied in this thesis has not formed the basis of any other degree of this or any other university.

Date: June, 2018

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*“Imagination is more important than knowledge.”*

*- Albert Einstein*

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## **Abstract**

Resilience is a capacity that affects our lives greatly helping us cope better. Understanding resilience increases the scope for trying to enhance it. This study aimed at understanding the effect of perceived stress and coping strategies on emotional reactivity and resilience in males and females. The sample consisted of 181 students (90 males, 91 females) of Thapar Institute of Engineering and Technology (Deemed to be University), Patiala. For this purpose, Brief Resilience Scale developed by Bruce W. Smith, Jeanne Dalen, and Kathryn Wiggins et al., Perceived Stress Scale given by Sheldon Cohen, Perth Emotional Reactivity Scale by Becerra and Campitelli and Ways of Coping by Folkman and Lazarus were used. The data was analyzed using descriptive statistics, t test, correlation and linear regression. The findings suggest that perceived stress and resilience are negatively correlated, while perceived stress and emotional reactivity are positively related. Coping strategies – Confrontative Coping, Planful Problem Solving and Positive Reappraisal are linked to high levels of resilience among students. Distancing, Accepting Responsibility and Escape Avoidance are directly related to high emotional reactivity. Perceived stress and emotional reactivity were higher in females while males were more resilient. The coping strategies confrontative coping, self controlling, accepting responsibility, planful problem solving and positive reappraisal were used more by males and females used distancing, seeking social support and escape avoidance more.

**Keywords:** Perceived Stress, Coping Strategies, Resilience and Emotional Reactivity.

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## LIST OF ABBREVIATIONS

Pr Stress	Perceived Stress
Pos EREA, Positive Emo React	Positive Emotional Reactivity
Neg EREA, Negative Emo React	Negative Emotional Reactivity
Total rea	Total Emotional Reactivity
Con Cop, Con Coping	Confrontative Coping
Dist	Distancing
Self Con	Self-Controlling
Social	Seeking Social Support
Acc Resp	Accepting Responsibility
Esc Avd	Escape Avoidance
PP, Planful PS	Planful Problem Solving
Pos Re	Positive Reappraisal

# Chapter 1

## INTRODUCTION

### 1.1 Resilience

The capacity to deal effectively with adversities and to ‘bounce back’ is known as resilience. It is the tendency to adapt successfully to the traumatic events. In face of testing circumstances individuals are expected to readily cope with difficulties and challenges they face. Some psychologists suggest that every individual is born with the ability to be resilient in face of challenges but it is largely affected by the conditions in which one lives. Some people recover quickly from stresses while others take comparatively more time, this is because everyone uses this ability in a distinct manner and degree.

Resilient people are said to be more self-aware, they can understand their needs and act according to them. This helps them adapt quicker and better than people who are low on self-awareness. They practice mindfulness which is a kind of natural healing that also helps them become more in touch with their real self. These individuals are also high on self-acceptance. They accept and understand the situation that they are in and are also aware of the fact that this situation is temporary. They try to get the most out of these testing situations by having a positive outlook. Resilient individuals know that things take time and that adverse situations help them grow. In this sense resilience helps enhance the overall physical and psychological well- being of people.

Masten (2001) defined resilience as a phenomenon which consists of positive experiences in spite of facing hardships and problems in life. Many kinds of stressors like trauma, social relationships problems, workplace issues, financial inadequacies, natural

disasters and others can be difficult to deal with. Resilience helps people recover from circumstances like these.

Resilience is influenced by a number of factors like emotional reactivity, gratitude expression, personality, gender and type of interpersonal relationships of the individual among various others. The ways in which different people utilize this capacity are also different; the coping strategies used by people differ markedly. Males and females have been shown to use different coping mechanisms by various studies.

Gavida-Payne (2015) reported resilience to be a positive adaptation on biological, psychological and social levels that has shown to be an important factor in recognising and predicting long-term physical, emotional, cognitive, psychological and social well-being in individuals.

Resilient individuals 'respond' emotionally to crisis than 'reacting' on impulse. They try to employ various coping mechanisms to deal with their problems rather than blaming others for their circumstances. Pember (2015) suggested that resilience may be inherited. She believed that this capacity is epigenetic.

Another important aspect in understanding and determining the ways in which people cope with various life stressors is gender. Research suggests that males and females differ in the way they make use of resilience. Bonanno (2008) stated that there are various paths to resilience and males and females use different mechanisms to adapt to their environment. Males and females experience and perceive stressful events differently and so use different resources that may be gender specific.

While women are believed to make use of their stronger social support and rely heavily on them; men tend to be more individualistic and self-regulating in their coping mannerisms. These gender differences may be attributable to how young boys and girls are

raised by their parents and the norms of the society that they grow up in. Both genders can learn from one another to become more resilient and live more fulfilling lives.

## **1.2 Emotional Reactivity**

Emotional reactivity is explained as the instantaneous and involuntary 'reaction' to an emotion evoking event or a situation. Instead of being able to affectively respond to a situation, one reacts uncontrollably at times. The intensity of these reactions is generally too strong and the individual may feel confused and left out of their comfort zone. But this intensity varies from situation to situation. It is the unpredictability of the time or situation in which these reactions will emerge that makes the individual feel threatened by them. This is another way in which the unconscious material expresses itself. These reactions are impulsive and can make the person feel like they are a victim of them as they feel helpless after the sudden surfacing of these feelings. The repressed past emotions affect a person's present as well. Emotional reactivity is influenced by an individual's present experiences. At times when an individual is faced by a trigger from the past, they may not be able to have an appropriate response to the current situation thus, reacting impulsively. When a person feels too stressed and overwhelmed by what is happening in their life, there is a possibility that they may have a reactive reply to non-threatening stimuli as well as threatening ones.

## **1.3 Perceived Stress**

Perceived stress is an individual's perception of how much stress they are facing. People can often feel burdened by the unpredictable nature of their life's events and misjudge the amount of distress caused by them. Perceived stress is not the actual level of stress an individual faces but rather how an individual thinks or feels about the amount of stress in

their life. People may get the wrong impression about their ability to cope with stress due to this misperception. Not all stress is bad. Stress in a mild to moderate degree has been known to be of survival value. A healthy amount of stress pushes an individual to work better. But when this stress gets too high, it can be harmful for the individual's physical and mental health. The persons scoring high on perceived stress are found to mistakenly exaggerate the degree of the intensity of the actual as well as perceived stressors. High perceived stress has been strongly linked to poorer health as stress affects a person negatively, thus leading to a temporarily poorer quality of living.

There are various ways in which one can manage stress. Resilience has been reported to be negatively related with stress. People who are more resilient will be less affected by stress and stressors than the ones who have lower levels of resilience. Building resilience in people reduces their chances of having to deal with the adverse effects of stress because they will likely experience stress of lesser intensity and duration. There are numerous other ways to deal with stress, one such method is the use of coping strategies, (Folkman and Lazarus, 1988). There are a variety of mechanisms that people make use of when trying to deal with their life strains. Different people rely on different styles of trying to adjust with their issues. These ways could be determined by one's personality, but every person uses different mechanisms in different situations.

## **1.4 Coping Strategies**

Coping refers to the 'active efforts' one puts into tackling various life stressors and traumas. The ways or mechanisms used by a person are known as coping strategies; which can be positive or negative. The effectiveness and the method of coping used depend on the individual's personality and their circumstances. Several different ways of coping with the stressors have been found.

Weiten and Lloyd (2008) identified four major categories of coping strategies – appraisal focused (adaptive cognitive), problem focused (adaptive behavioural), emotion focused and occupation focused.

Folkman and Lazarus (1988) gave three problem oriented and five emotion focused coping mechanisms. The three problem focused methods included taking control, information seeking and evaluating pros and cons, while the five emotion focused strategies are disclaiming, escape avoidance, accepting responsibility or blame, exercising self-control and positive reappraisal.

The emotion focused strategies lay emphasis on trying to tackle the emotions that come along with any problematic situation while in problem focused mechanisms, one tries to consciously work towards understanding and resolving the issue. In general, people use a number of coping strategies which keep changing with time and experience. Studies suggest that problem focused coping strategies are better at helping individuals cope better with life stressing events as compared to other strategies.

## Chapter 2

### LITERATURE REVIEW

#### 2.1 Resilience

Garmezy (1971) conducted a research on children of schizophrenic patients. He reported that despite the heightened risk of developing schizophrenia, 90% of the children who participated in this research did not develop the disorder. He reasoned that some protective factors that exist help people against certain vulnerabilities. The risk of people developing problems decreases in spite of being predisposed to them. In this case Garmezy suggested that the protective factors involved were positive peer relationships, good academic achievement, and purposive life goals.

Rutter (1979) conducted a comparable study and came to similar conclusions. He interviewed children of psychologically ill parents and reported that living in adverse, high risk circumstances did not guarantee that children will also develop these disorders. Positive and affectionate living conditions helped almost half of the children participating in the combat maladaptive behaviours. Rutter shortlisted a few protective factors, such as, positive school environment, sports or musical achievements, high positions in school, positive social relationships that helped in the development of personal strength.

During a four decade longitudinal study involving Hawaiian children, Werner (1982) found that one third of the 698 children he studied, had four or more existing risk factors but still demonstrated positive results as adolescence. When these participants turned 30 two-thirds of participants that showed any kind of problems while they were teenagers turned out to be living successful lives (Werner & Smith, 1982). During these forty years, the researchers tried to understand the protective factors associated with higher levels of

resilience. They found two types of protective factors, internal and external, also including dispositional factors. These factors include family size (four or less children), early environment and attention, a firm structure and set of rules during adolescence, family cohesion, supporting teachers and positive relationships with friends.

In 1990, Richardson et al. defined resilience as “the process of coping with disruptive, stressful, or challenging life events in a way that provides the individual with additional protective and coping skills prior to the disruption that results from the event”.

Wolins (1993) explained resilience as the capacity to revert from problems and traumas and to be able to mend oneself. Benard (1995) reported four common characteristics that were found in resilient individuals which were social competence, problem solving skills, autonomy and a sense of purpose and future. Richardson (2002) focused on a new course of direction of research that emphasized on understanding and testing the individual and circumstantial components of resilience which is more holistic and structured.

Leckman and Mayes (2007) found similarities in rats and humans that environmental settings, nurturing and attention in early life can fundamentally alter the expression of key genes involved in stress and response and reward mechanisms that may underlie attachment and bonding.

Recent research on resilience stresses that interactions between genetic and environmental conditions affect adaptation, coping and resilience in complex ways (Hoge et al., 2007; Kim-Cohen, 2007; Smolka et al., 2007). The relationships and interplay of genes and environment have not been fully explained, but it is believed by researchers that genetics alone aren't sufficient enough in themselves to determine how a person responds to stressing life situations. These genetic and environmental influences can also be classified as protective factors (Kim-Cohen 2007; Smolk et al., 2007).

Bonanno (2008) reported that resilience is positively related to high self-esteem and positive social relationships. It is believed that this theory is more applicable to females since it has been found that females are more social during stressful life situations but there are no differences in males and females in the relationship between close parental relations and higher self esteem.

## **2.2 Emotional Reactivity**

Kornreich, Philippot, Verpoorten, Dan et al. (1998) conducted a preliminary research to study the connection between Alcoholism and Emotional Reactivity. They reported that people who are addicted to alcohol show higher variability of emotion.

Bylsma, Morris and Rottenberg (2007) conducted a meta-analysis of emotional reactivity in patients diagnosed with major depressive disorder and reported that, “comparing the results to healthy individuals, MDD was characterized by reduced emotional reactivity to both positively and negatively valenced stimuli.” Goldin, Manber, Hakimi, Canli and Gross (2008), studied the neural bases for social anxiety disorder with respect to emotional reactivity and found that the patients of social anxiety disorder had more negative emotional reactivity as compared to the healthy controls.

Kalvin, Bierman and Gatzke-Kopp in 2016 conducted a research on emotional reactivity, behaviour problems and social adjustment in children. Their research findings suggest that emotional reactivity causes behavioural issues and as well as adjustment in social settings and may lead to more problems to be faced in social environment due to impulsive behaviour that occurs as a result of high emotional reactivity.

## **2.3 Research Gap**

Numerous studies have been conducted to explain resilience in people. These studies are usually done in Western countries and their results cannot be fully generalized to Eastern populations due to cultural differences. This study aims to understand the interplay of resilience and emotional reactivity with perceived stress and coping styles among young adults of Eastern countries. Most of the studies done with respect to resilience involve clinical populations but studies with non-psychiatric populations are not that common. This study will include healthy individuals for determining the factors that may help in enhancing resilience.

## **Chapter 3**

# **MOTIVATION, OBJECTIVES, RATIONALE AND HYPOTHESES**

### **3.1 Motivation for the study**

The present research aims to understand the relationships between resilience, perceived stress, emotional reactivity and coping strategies in a greater depth. Resilience has an important role to play in present times as it is becoming increasingly difficult for people to cope with their life stressors effectively. This has led to an increase in suicide rates and the number of mental and physical health problems caused by stress of daily life. Resilience has also been linked with success, life satisfaction and subjective well-being.

This study will help in understanding how we can try to alleviate the negatives while strengthening the positives.

### **3.2 Rationale for the Study**

Resilience is also an important part of Clinical Psychology as are the Psychological disorders. Resilience is an individual's capacity to deal with the stressors of everyday life. Greater levels of resilience can be linked to positive aspects of life like active and problem focused coping styles, lower stress, lower emotional reactivity and greater emotional regulation, while lower levels of resilience are associated with high perceived stress and high emotional reactivity.

### **3.3 Objectives**

1. To study the effect of perceived stress and coping strategies on resilience and emotional reactivity.
2. To study gender differences in perceived stress, coping strategies, resilience and emotional reactivity.

### **3.4 Hypotheses**

Pourafzal, Seyedfatemi, Inanloo and Haghani (2013) investigated resilience and perceived stress in students and found a statistically negative correlation between these two concepts. Resilience and Perceived Stress can be understood as two forces working in opposite directions. They seem to be constantly at war and the one an individual has more will determine the kind of experiences one will have.

**H<sub>1</sub>:** There is a negative relationship between Perceived Stress and Resilience.

Waugh et al. (2008) found people with low level of resilience to usually show more emotional reactions and also take longer to bring their physical state back to a normal level when faced with stress evoking situations. The relationship between Emotional Reactivity and Resilience has also been of similar nature because in most occasions Emotional Reactivity is negative in nature. Negativity Bias also plays a role in this as one we focus more on the negative aspects of events and they have more effect on us. Resilience would be better correlated with Emotional Responses and Regulation than with Emotional Reactivity (Negative Emotional Reactivity). Positive Emotional Reactivity may have a slightly, if not completely, different relationship with Resilience. These two variables may have a better correlation as compared to Resilience and Negative Emotional Reactivity.

**H<sub>2</sub>:** Emotional Reactivity and Resilience are negatively related.

**H<sub>3</sub>:** There is a positive relationship between Positive Emotional Reactivity and Resilience.

**H<sub>4</sub>:** Negative Emotional Reactivity is negatively related to Resilience.

Stawski et al. (2008) studied perceived stress and reported stress in teenagers and young adults to be severely affected by excessive negative emotions.

**H<sub>5</sub>:** There is a positive relationship between Perceived Stress and Emotional Reactivity.

Yi, Smith, and Vitaliano (2005) reported Problem – Focused coping styles are found among individuals with high levels of resilience. Hence, the Confrontative Coping, Planful Problem Solving and Positive Reappraisal and resilience are also related.

Oniszczenko and Laskowska (2014) found high levels of emotional reactivity to be positively related to destructive coping styles which include avoiding or succumbing to the problem. Emotional Reactivity is the intense sudden surge of emotions which may lead to an individual showing Avoidance Behaviours and detaching from the situation. In an example of Emotional Reactivity one might also blame oneself for the problems one faces.

**H<sub>6</sub>:** There is a positive relationship between Resilience and Confrontative Coping, Planful Problem Solving and Positive Reappraisal.

**H<sub>7</sub>:** Emotional Reactivity is positively related to Distancing, Accepting Responsibility and Escape Avoidance.

Matud (2004) conducted a research to determine the differences in males and females in utilizing different coping styles and stress and reported that males made use of rational coping styles more. Copeland and Hess (1995) found females to make more use of social support as compared to males. Male and females differ with respect to the coping strategies they use. Males have been found to use problem focused strategies more while females tend to rely on emotion focused ways and seek social and emotional support.

**H<sub>8</sub>:** “Confrontative Coping” and “Distancing” are used more by males.

**H<sub>9</sub>:** “Planful Problem Solving” is utilized more by males.

**H<sub>10</sub>:** “Positive Reappraisal” is more frequently used by males.

**H<sub>11</sub>:** “Seeking Social Support” and “Escape Avoidance” are often used by females.

Masood, Masud and Mazahir (2016) conducted a research to study the differences among males and females with respect to resilience and psychological distress among patients who suffered from burn injuries and found males to be more resilient than females.

**H<sub>12</sub>:** Males are more resilient as compared to Females.

Females have been reported to show higher levels of perceived stress as compared to males (Kendler, 2001 and Fararbaugh et al. 2004). Misigo (2015) also found females to have more perceived stress.

**H<sub>13</sub>:** Females show higher perceived stress than males.

Hampel and Petermann (2006) suggested that greater levels of perceived stress among females have adverse effects on their emotional and behavioural states.

**H<sub>14</sub>:** Females are more emotionally reactive as compared to males.

## **Chapter 4**

### **METHOD**

#### **4.1 Sample**

The sample consisted of 181 participants (90 male & 91 females) of the age 18 – 25 years. The data was collected from Thapar Institute of Engineering and Technology (Deemed to be University), Patiala.

#### **4.2 Design**

‘Resilience’ and ‘Emotional Reactivity’ were the dependent variable;

‘Perceived Stress’, ‘Coping strategies’ and ‘Gender’ were the independent variables.

The data was analyzed using Statistical Package for Social Sciences (SPSS-20).

Mean, Standard Deviation, t test, Correlation and Linear Regression were used to analyze the data.

#### **4.3 Tools Used**

##### **Brief Resilience Scale**

Brief resilience scale is a six item likert type scale with 5 alternative responses. It was developed by Bruce W. Smith, Jeanne Dalen and Kathryn Wiggins et al. (2008). Three of these six items are reverse scored and then summed to obtain the individual’s resilience score. This scale is used individually for adults.

### **Perceived Stress Scale**

Perceived stress scale is the most widely used perceived stress scale. It was developed by Sheldon Cohen (1983) and is a 10 item likert type scale. It has five alternative responses and judges an individual's level of perceived stress.

### **Perth Emotional Reactivity Scale**

Perth Emotional Reactivity Scale consists of 30 items divided into 2 scales that are further divided into 6 subscales. This scale is also a likert type scale having 5 options. This scale was developed by Becerra and Campitelli in 2013. Two scales in this questionnaire measure positive and negative emotional reactivity, both of which further judge an individual in terms of activation, duration and the intensity of the emotional reactivity.

### **Ways of Coping Questionnaire**

Ways of coping questionnaire was developed by Folkman and Lazarus in 1988. This scale has 66 items have 4 responses each out of which only 50 items are scored. There are eight subscales in this scale which tell about various coping strategies employed by individuals.

These Subscales are:

Confrontative Coping, Distancing, Self Controlling, Seeking Social Support, Accepting Responsibility, Escape Avoidance, Planful Problem Solving and Positive Reappraisal.

## **4.4 Procedure**

This study has been designed to study the effect of perceived stress and coping strategies on resilience and emotional reactivity. For this purpose, the informed consent was taken from all participants and they were provided with the scales for resilience, coping strategies, emotional reactivity and perceived stress and instructed as follows:

“These inventories inquire about your thoughts and feelings in a variety of situations. Read the statements very carefully and then select the alternative that you feel is most true for you. There is no right or wrong answer so try not to take a lot of time and respond as truthfully as possible. Do not leave any statement unanswered.”

The responses of the subjects were carefully scored and the statistical analysis was done.

## Chapter 5

### RESULTS

The data was analyzed using descriptive statistics, correlation and linear regression to study the effect of perceived stress and coping strategies on resilience and emotional reactivity. To test the relationship between Resilience, Perceived Stress, Emotional Reactivity and Coping Strategies, correlations were computed.

**Table 1:** Correlations between Perceived Stress, Coping Strategies, Resilience and Emotional Reactivity.

	Resili- ence	Pr Stress	Pos EREA	Neg EREA	Total Rea	Con Cop	Dist	Self Con	Social	Acc Resp	Esc Avd	PP	Pos Re
Resilience	1												
Pr Stress	-0.53**	1											
Pos EREA	0.16*	-0.23**	1										
Neg EREA	-0.53**	0.53**	-0.19*	1									
Total Rea	-0.38**	0.34**	0.46**	0.79**	1								
Con Cop	0.16*	-0.07	0.18*	0.02	0.13	1							
Dist	0.10	-0.07	0.11	0.09	0.15*	0.25**	1						
Self Con	0.11	-0.09	-0.02	0.01	-0.01	0.30**	0.47**	1					
Social	-0.05	0.02	0.12	0.00	0.08	0.35**	0.16*	0.20**	1				
Acc Resp	-0.02	0.06	0.16*	0.18*	0.26**	0.26**	0.41**	0.41**	0.27**	1			
Esc Avd	-0.05	0.13	0.06	0.29**	0.30**	0.33**	0.37**	0.30**	0.27**	0.43**	1		
PP	0.35**	-0.28**	0.21**	-0.11	0.03	0.50**	0.39**	0.37**	0.32**	0.37**	0.22**	1	
Pos Re	0.33**	-0.26**	0.22**	-0.28**	-0.12	0.23**	0.27**	0.31**	0.35**	0.31**	0.14	0.48**	1

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

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

(RESILIENCE, Perceived Stress, Pos EREA - Positive Emotional Reactivity, Neg EREA – Negative Emotional Reactivity, Total rea – Total Emotional Reactivity, Con Coping –

Confrontative Coping, Dist - Distancing, Self Con. – Self Controlling, Social – Seeking Social Support, Acc Resp – Accepting Responsibility, Esc Avd – Escape Avoidance, Planful PS – Planful Problem Solving, Pos Re – Positive Reappraisal,)

Table 1 shows correlations among resilience, perceived stress, emotional reactivity and various coping strategies. It can be noted that Resilience is negatively correlated with perceived stress, negative emotional reactivity and total emotional reactivity, thus confirming the first, second and the fourth hypotheses. It can also be seen that Resilience is positively correlated with Positive Emotional Reactivity, Confrontative Coping, Planful Problem Solving, and Positive Reappraisal. The results are significant; hence, the third and the sixth hypotheses are accepted.

Perceived Stress is negatively correlated with Positive Emotional Reactivity, Planful Problem Solving and Positive Reappraisal while it is positively correlated with Negative Emotional Reactivity and Total Emotional Reactivity. The fifth hypothesis is confirmed.

Emotional Reactivity is positively related to Distancing, Accepting Responsibility and Escape Avoidance. The results turned out to be significant, so the 7<sup>th</sup> hypothesis is accepted.

**Table 2:** Mean, Standard Deviation and t test

	Mean (Males)	Sd (Males)	Mean (Females)	Sd (Females)	df	t	Sig
RESILIENCE	18.81	3.45	17.07	3.51	179	3.37	0.00
Pr Stress	18.81	7.17	22.05	5.29	179	-3.47	0.00
Pos EREA	53.04	9.68	55.40	6.83	170	-1.89	0.06
Neg EREA	46.19	12.87	51.11	10.93	179	-2.77	0.01
Total rea	99.23	12.22	106.51	13.69	179	-3.77	0.00
Con Cop	1.53	0.45	1.43	0.45	179	1.32	0.19
Dist	1.52	0.43	1.54	0.56	179	-0.27	0.79
Self Con	1.70	0.38	1.60	0.49	179	1.53	0.13
Social	1.64	0.56	1.75	0.63	179	-1.24	0.22
Acc Resp	1.71	0.58	1.66	0.66	179	0.56	0.57
Esc Avd	1.44	0.47	1.51	0.51	179	-1.05	0.30
PP	1.80	0.46	1.59	0.56	179	2.65	0.01
Pos Re	1.75	0.55	1.67	0.47	179	1.00	0.32

(RESILIENCE, Pr Stress - Perceived Stress, Pos EREA - Positive Emotional Reactivity, Neg EREA - Negative Emotional Reactivity, Total rea - Total Emotional Reactivity, Con Cop - Confrontative Coping, Dist - Distancing, Self Con - Self Controlling, Social - Seeking Social Support, Acc Resp - Accepting Responsibility, Esc Avd - Escape Avoidance, PP - Planful Problem Solving And Pos Re - Positive Reappraisal.)

Table 2 shows the mean, standard deviation and t test results of the sample for Resilience, Perceived Stress, Emotional Reactivity and various Coping Strategies. The mean resilience for males came out to be 18.81 and standard deviation was 3.45. For females, the mean was 17.07 and the standard deviation was 3.51. The t test value came out to be 3.37.

With respect to Perceived Stress, mean for males and females was 18.81 and 22.05 respectively, while the standard deviation was 7.17 for males and 5.29 for females. The t test value was 3.47, which is statistically significant, hence, hypothesis 12 and 13 are confirmed.

Females were found to be more emotionally reactive (total emotional reactivity - mean = 99.23 for males and 106.51 for females) than males on the whole, leading to acceptance of the 14<sup>th</sup> hypothesis as the t test value (3.77) is also significant. More emotional reactions are given by females to both positive (mean = 55.40) and negative (mean = 51.11) situations as compared to males (mean for positive emotional reactivity = 53.04 and negative emotional reactivity = 46.19).

From the above table it can be seen that mean for Confrontative Coping, Self Controlling, Accepting Responsibility, Planful Problem Solving and Positive Reappraisal is higher for males and the means for Distancing, Seeking Social Support and Escape Avoidance is more for females.

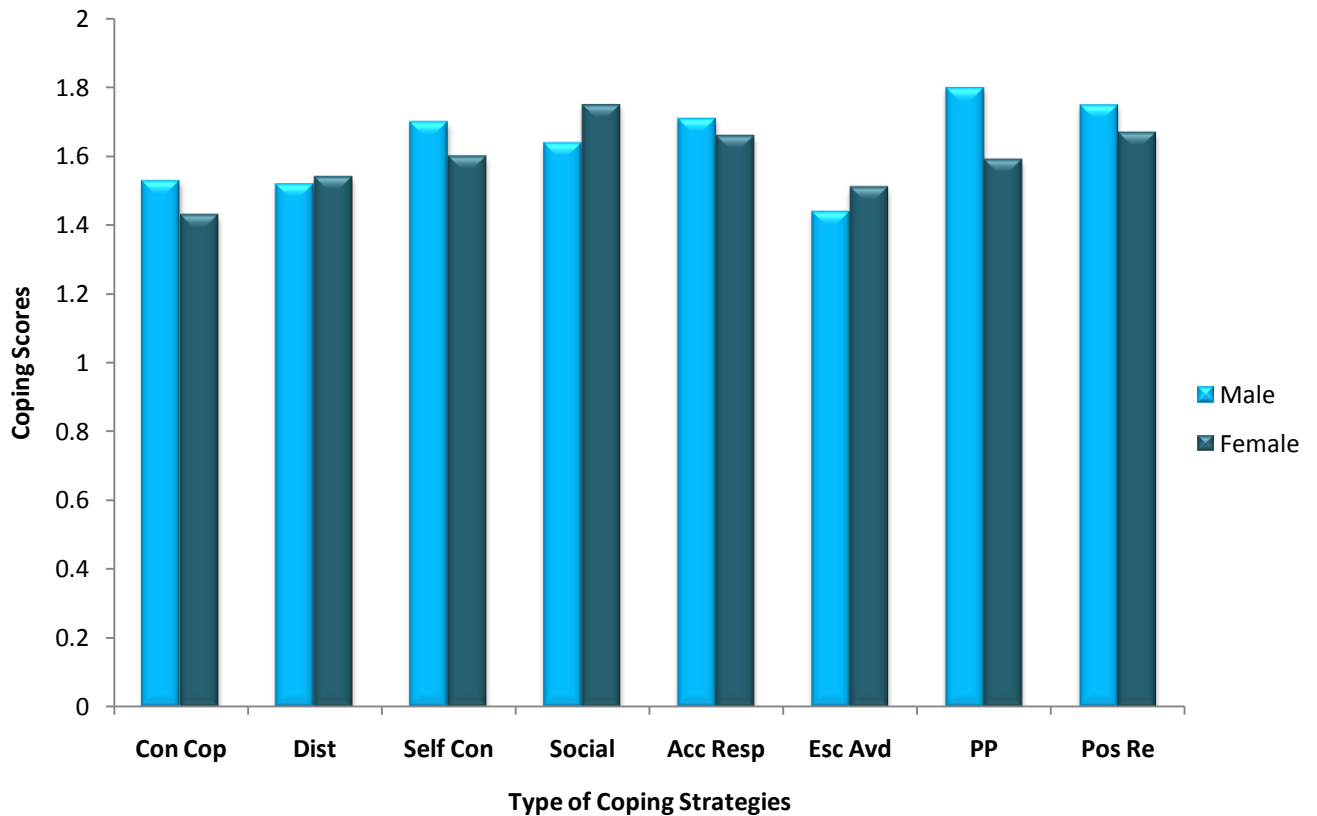
The t test results for males and females show that males and females significantly differ with respect to Planful Problem Solving, with males making more use of this coping strategy.

Although it is evident from the table that males make use of Confrontative Coping more as compared to females, the result is not significant and as opposed to what was hypothesized for this study, Distancing is used more by females. Hence, the 8<sup>th</sup> hypothesis is rejected.

The results confirm that males utilize Planful Problem Solving significantly more as compared to females, thus confirming the 9<sup>th</sup> hypothesis. But the t test for Positive Reappraisal was not significant, so the 10<sup>th</sup> hypothesis is rejected. Seeking Social Support and

Escape Avoidance are two Coping Strategies that were used more by females but as the results were not significant, the 11<sup>th</sup> hypothesis is also rejected.

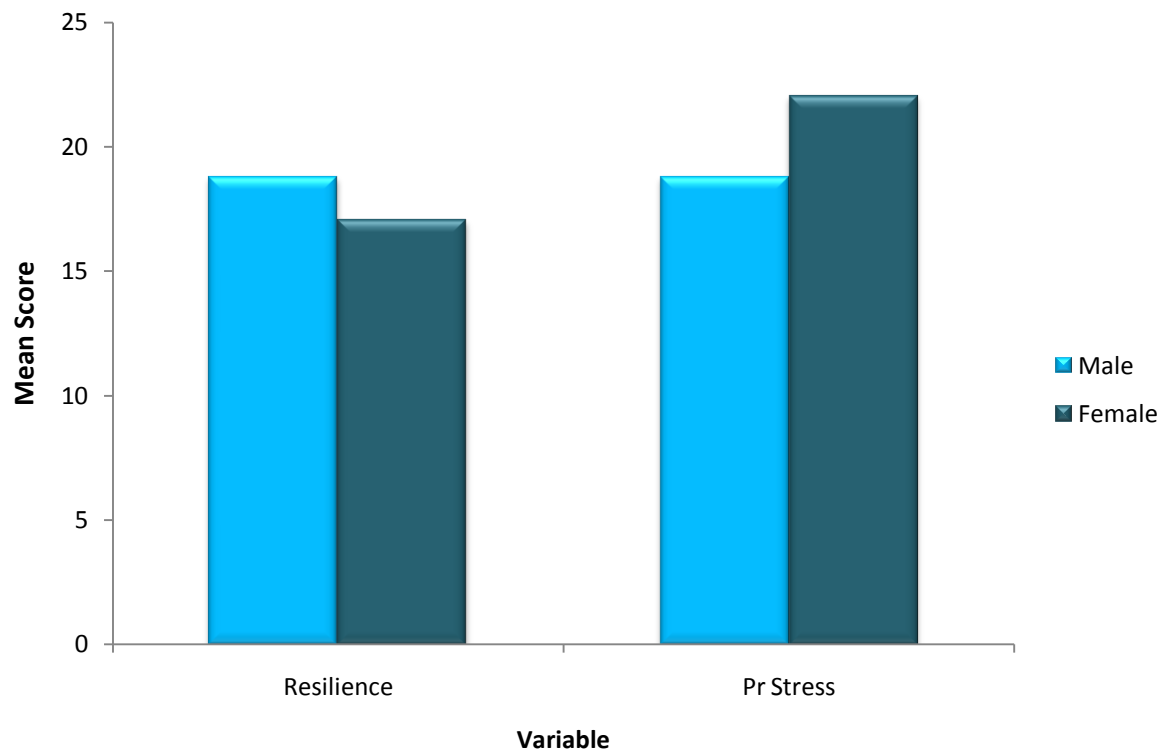
**Figure 1:** Mean scores of males and females for Coping Strategies.



(Con Cop – Confrontative Coping, Dist - Distancing, Self Con – Self Controlling, Social – Seeking Social Support, Acc Resp – Accepting Responsibility, Esc Avd – Escape Avoidance, PP – Planful Problem Solving, Pos Re – Positive Reappraisal)

Figure 1 shows the mean scores of males and females for various Coping Strategies. It can be observed that males have high scores in Confrontative Coping, Self Controlling, Accepting Responsibility, Planful Problem Solving and Positive Reappraisal while females scored higher in Distancing, Seeking Social Support and Escape Avoidance.

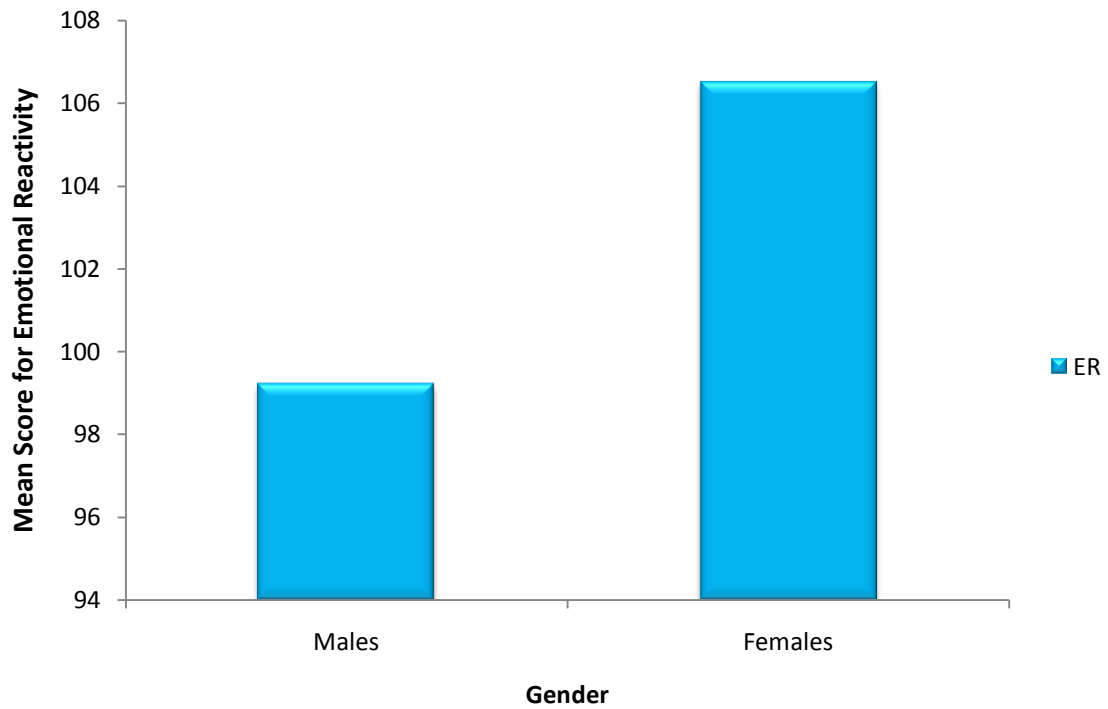
**Figure 2:** Mean Scores for Resilience and Perceived Stress



(Pr Stress – Perceived Stress)

Figure 2 depicts mean scores of males and females for Resilience and Perceived Stress. Males scored higher on Resilience and lower on Perceived Stress and females scored lower on Resilience and higher on Perceived Stress. This explains the rationale that with higher resilience, a person can better deal with stress and low resilience will correspond with high levels of stress.

**Figure 3:** Mean Scores for Emotional Reactivity in Males and Females



(ER – Emotional Reactivity)

From the mean scores for males and females shown in figure 3, it is evident that female participants were more emotionally reactive. Males show a statistically significantly lower Emotional Reactivity as compared to females. This might be due to differences in brain lateralization among both genders, which suggest that males use the left side of their brain more while females have been known to be right brain dominant. The left and the right hemispheres of the brain control the logical and the emotional aspects respectively.

**Table 3:** Regression Analysis for Perceived Stress, Coping Strategies, Resilience and Emotional Reactivity

Independent Variable	Dependent Variable	B	Std. Error	Beta	t-value	Adj. R Sq.
	Resilience	-0.29	0.04	-0.53	-8.28**	0.27
Perceived Stress	Positive Emo React	-0.30	0.10	-0.23	-3.12**	0.05
	Negative Emo React	1.00	0.12	0.53	8.45**	0.28
Con Coping		1.23	0.59	0.16	2.09*	0.02
Distancing		0.75	0.54	0.10	1.40	0.01
Self Con.		0.85	0.60	0.11	1.41	0.01
Social	Resilience	-0.30	0.45	-0.05	-0.66	-0.003
Acc Resp		-0.12	0.43	-0.02	-0.28	-0.01
Esc Avd		-0.37	0.55	-0.05	-0.67	-0.003
Planful PS		2.33	0.47	0.35	4.92**	0.11
Pos Re		2.31	0.50	0.33	4.66**	0.10
Con Coping		3.44	1.37	0.18	2.50*	0.03
Distancing		1.92	1.27	0.11	1.51	0.01
Self Con.		-0.37	1.42	-0.02	-0.26	-0.01
Social	Positive Emo React	1.65	1.05	0.12	1.58	0.01
Acc Resp		2.13	1.01	0.16	2.12*	0.02
Esc Avd		1.06	1.29	0.06	0.83	-0.002
PP		3.37	1.16	0.21	2.90**	0.04
Pos Re		3.65	1.21	0.22	3.02**	0.04
Con Coping		0.40	2.02	0.02	0.20	-0.01
Distancing		2.20	1.83	0.09	1.20	0.002
Self Con.		0.14	2.05	0.01	0.07	-0.01
Social	Negative Emo React	0.04	1.52	0.002	0.02	-0.01
Acc Resp		3.46	1.45	0.18	2.39*	0.03
Esc Avd		7.24	1.78	0.29	4.08**	0.08
PP		-2.55	1.71	-0.11	-1.49	0.01
Pos Re		-6.75	1.71	-0.28	-3.94**	0.08

\*. Significant at 0.05 level.

\*\*.. Significant at 0.01 level.

(Perceived Stress, Con Coping – Confrontative Coping, Distancing, Self Con. – Self Controlling, Social – Seeking Social Support, Acc Resp – Accepting Responsibility, Esc Avd

– Escape Avoidance, Planful PS – Planful Problem Solving, Pos Re – Positive Reappraisal, Resilience, Positive Emo React - Positive Emotional Reactivity, Negative Emo React – Negative Emotional Reactivity)

Table 3 contains the regression analysis for Perceived Stress, Coping Strategies, Resilience and Emotional Reactivity. It is evident from the table that Perceived Stress explains 27% of the variation in Resilience, 5% of the variation in Positive Emotional Reactivity and 28% of the variation in Negative Emotional Reactivity. The t values for these variables are significant. The B values specify that 1 unit increase in Perceived Stress will lead to 0.29 units decrease in Resilience, 0.30 units decrease in Positive Emotional Reactivity and 1 unit increase in Negative Emotional Reactivity.

It can be seen that 2% of variation in Resilience can be attributed Confrontative Coping, 11% to Planful Problem Solving, 10% to Positive Reappraisal. The t values are significant for Confrontative Coping, Planful Problem Solving and Positive Reappraisal.

The table above suggests that 3% of variation in Positive Emotional Reactivity can be explained by Confrontative Coping, 2% by Accepting Responsibility, and 4% by Planful Problem Solving and Positive Reappraisal each. The t values for Confrontative Coping, Accepting Responsibility, Planful Problem Solving and Positive Reappraisal are significant.

For Negative Emotional Reactivity it is evident that 1% of the variation is caused by Confrontative Coping, 0.2% by Distancing, 1% by Self Controlling and Seeking Social Support each, while Accepting Responsibility causes 3% of the variation, 8% by both Escape Avoidance and Positive Reappraisal and 1% by Planful Problem Solving. The t values for Accepting Responsibility, Escape Avoidance and Positive Reappraisal are significant.

The B values suggest that 1 unit increase in Confrontative Coping will lead to 1.23 units increase in Resilience, 3.44 units increase in Positive Emotional Reactivity and 0.40

units increase in Negative Emotional Reactivity. 1 unit increase in Distancing will result in 0.75 units increase in Resilience, 1.92 units increase in Positive Emotional Reactivity and 2.20 units increase in Negative Emotional Reactivity. Furthermore, it is evident that 1 unit increase in Self Controlling will cause 0.85 units increase in Resilience, 0.37 units decrease in Positive Emotional Reactivity and 0.14 units increase in Negative Emotional Reactivity and 1 unit increase in Seeking Social Support will lead to 0.30 units decrease in Resilience, 1.65 units increase in Positive Emotional Reactivity and 0.04 units increase in Negative Emotional Reactivity. It can also be noted that 1 unit increase in Accepting Responsibility will result in 0.12 units decrease in Resilience, 2.13 units increase in Positive Emotional Reactivity and 3.46 units increase in Negative Emotional Reactivity and 1 unit increase in Escape Avoidance leads to 0.37 units decrease in Resilience, 1.06 units increase in Positive Emotional Reactivity and 7.24 units increase in Negative Emotional Reactivity. Furthermore, increasing 1 unit of Planful Problem Solving results in 2.33 units increase in Resilience, 3.37 units increase in Positive Emotional Reactivity and 2.55 units decrease in Negative Emotional Reactivity while 1 unit increase in Positive Reappraisal will cause 2.31 units increase in Resilience, 3.65 units increase in Positive Emotional Reactivity and 6.67 units decrease in Negative Emotional Reactivity.

**Table 4:** Regression Analysis for Perceived Stress, Coping Strategies, Resilience and Emotional Reactivity (Males)

Independent Variable	Dependent Variable	B	Std. Error	Beta	t-value	Adj. R Sq.
	Resilience	-0.27	0.04	-0.55	-6.24**	0.30
Perceived Stress	Positive	-0.66	0.13	-0.49	-5.21**	0.23
	Emo React					
	Negative	1.23	0.14	0.69	8.87**	0.47
	Emo React					
PP		2.35	0.73	0.32	3.21**	0.09
	Resilience					
Pos Re		1.96	0.64	0.31	3.04**	0.09
PP	Positive	7.92	2.00	0.39	3.95**	0.14
Pos Re	Emo React	5.69	1.79	0.32	3.17**	0.09
PP	Negative	-6.10	2.81	-0.23	-2.17*	0.04
Pos Re	Emo React	-5.72	2.44	-0.24	-2.34*	0.05

\*. Significant at 0.05 level.

\*\*. Significant at 0.01 level.

(Perceived Stress, Con Coping – Confrontative Coping, Distancing, Self Con. – Self Controlling, Social – Seeking Social Support, Acc Resp – Accepting Responsibility, Esc Avd – Escape Avoidance, Planful PS – Planful Problem Solving, Pos Re – Positive Reappraisal, Resilience, Positive Emo React - Positive Emotional Reactivity, Negative Emo React – Negative Emotional Reactivity)

Table 4 shows the regression analysis for male participants. It has been found that, for males, 30% of the variation in Perceived Stress can be attributed to Resilience, 23% of the variation is caused by Positive Emotional Reactivity and 47% of the variation is explained by Negative Emotional Reactivity.

The t values are significant for Resilience, Positive Emotional Reactivity and Negative Emotional Reactivity. It is also evident from the B values that 1 unit increase in Perceived Stress in males will lead to 0.27 units decrease in Resilience, 0.66 units decrease in Positive Emotional Reactivity and 1.23 units increase in Negative Emotional Reactivity.

With respect to the Coping Strategies, it can be noted that 9 % of variation in Planful Problem Solving can be explained by Resilience, 14% by Positive Emotional Reactivity, while only 4% of the variation can be attributed to Negative Emotional Reactivity.

The t values are significant and the B value specifies that 1 unit increase in Planful Problem Solving will lead to 2.35 units increase in Resilience, 7.92 units increase in Positive Emotional Reactivity and 6.10 units decrease Negative Emotional Reactivity.

It is clear from the Table 4 that 9% of the variation in Positive Appraisal can be attributed to Resilience and Positive Emotional Reactivity each, and 5% of the variation can be explained by Negative Emotional Reactivity.

The t values came out to be significant for each and from the B values it can be obtained that 1 unit increase in Positive Reappraisal will result in 1.96 units increase in Resilience, 5.69 units increase in Positive Emotional Reactivity and 5.72 units decrease in Negative Emotional Reactivity.

**Table 5:** Regression Analysis for Perceived Stress, Coping Strategies, Resilience and Emotional Reactivity (Females)

Independent Variable	Dependent Variable	B	Std. Error	Beta	t-value	Adj. R Sq.
	Resilience	-0.29	0.06	-0.43	-4.52**	0.18
Perceived Stress	Positive Emo React	0.17	0.14	0.13	1.23	0.01
	Negative Emo React	0.48	0.21	0.23	2.26*	0.04
PP	Resilience	1.91	0.63	0.31	3.03**	0.08
Pos Re		2.52	0.74	0.34	3.39**	0.10
PP	Positive	1.16	1.28	0.10	0.90	-0.002
Pos Re	Emo React	1.39	1.53	0.10	0.90	-0.002
PP	Negative	1.39	2.06	0.07	0.68	-0.01
Pos Re	Emo React	-7.34	2.34	-0.32	-3.15**	0.09

\*. Significant at 0.05 level.

\*\*.. Significant at 0.01 level.

(Perceived Stress, Con Coping – Confrontative Coping, Distancing, Self Con. – Self Controlling, Social – Seeking Social Support, Acc Resp – Accepting Responsibility, Esc Avd – Escape Avoidance, Planful PS – Planful Problem Solving, Pos Re – Positive Reappraisal, Resilience, Positive Emo React - Positive Emotional Reactivity, Negative Emo React – Negative Emotional Reactivity)

Table 5 shows the regression analysis for females. It is clear from the table that 18% of the variation in Perceived Stress is can be explained by Resilience, while Positive Emotional Reactivity and Negative Emotional Reactivity explain in 1% and 4% of the variation respectively.

The t values of Perceived Stress with both Resilience and Negative Emotional Reactivity came out to be significant. It can be seen that Resilience causes 8% of variation in Planful Problem Solving and 10% of the variation in Positive Reappraisal. While, Positive Emotional Reactivity explains 0.2% of the variation in both Planful Problem Solving and Positive Reappraisal, Negative Emotional Reactivity causes 1% variation in Planful Problem Solving and 9% in Positive Reappraisal.

The t test value for Planful Problem Solving and Positive Reappraisal with Resilience came out to be significant as did the t value for Positive Reappraisal and Negative Emotional Reactivity.

The B values indicate that 1 unit increase in Perceived Stress will result in 0.29 units decrease in Resilience, 0.17 units increase in Positive Emotional Reactivity and 0.48 units increase in Negative Emotional Reactivity. 1 unit increase in Planful Problem Solving will lead to 1.91 units increase in Resilience, 1.16 units increase in Positive Emotional Reactivity and 1.39 units increase in Negative Emotional Reactivity and 1 unit increase in Positive Reappraisal will bring about 2.52 units increase in Resilience, 1.39 units increase in Positive Emotional Reactivity and 7.34 units decrease in Negative Emotional Reactivity in females.

## Chapter 6

### DISCUSSION

The present research had been designed to study the effect of Perceived Stress and Coping Strategies on Resilience and Emotional Reactivity. The results obtained after data analysis indicate that Perceived Stress is negatively correlated with Resilience. Sin Tung et al. (2014) conducted a study to test the degree of perceived stress, quality of life and emotional syndromes among student and reported that students with better resilience generally exhibit lower stress and stress related symptoms while with better health and quality of life. Resilience and Perceived Stress are two contrasting concepts. The greater the presence of one the lower will be the presence of the other. This leads to accepting the first hypothesis.

Resilience is the tendency to revert back from stressors and traumas to one's normal routine. Emotional Regulation and Resilience have been positively associated, it is believed that if an individual can regulate their emotions they can better deal with their life stressors than if their emotions are all over the place. This is exactly what happens in Emotional Reactivity. Due to this reason it is possible to infer that Resilience and Emotional Reactivity are negatively related while Resilience and Emotional Regulation are positively correlated. In 2011, Christian, Renee & Ian found that individuals who exhibit higher levels of resilience have more control over their emotions from situation to situation, they can adapt to their changing environment readily while people low on resilience may find it difficult to manage their impulsive emotions. The second hypothesis was made in this context and the results were significant stating that Resilience and Emotional Reactivity are negatively related which is parallel to the results obtained from this study, so the second hypothesis is accepted. Emotional Reactivity can be of two kinds; positive and negative, Positive Emotional

Reactivity may be slightly better than its counterpart when correlated with Resilience. The results obtained also indicate the same. Consequently, the third and the fourth hypotheses are accepted.

Emotional Reactivity is a strong emotional reaction to any event that triggers emotions. But this reaction is out of proportion from what one would expect for the trigger event. From this it is easy to draw the conclusion that this sort of a reaction would give rise to feelings of stress in an individual. This study also found results that are corresponding to this notion. The alleviated levels of Perceived Stress have been linked to higher levels of negative emotions (Inez, Jim, Joseph et al., 2001). Therefore, the 5<sup>th</sup> hypothesis is also accepted.

Resilience and Coping Strategies have been said to be interlinked. The results obtained by the means of this study state that Resilience is positively related to problem-focused Coping Strategies that require a person to actively try to resolve the issue rather than trying to avoid problematic situations and the emotional turmoil that accompanies them. Garcia-Secades et al. (2016), suggested that, “Resilience scores correlated positively to task oriented coping and negatively to disengagement and distraction-oriented coping.” The results found are similar to this study. Hence the 6<sup>th</sup> hypothesis is accepted.

The intensity of the emotions when one emotionally reacts to a situation is so great that an individual may feel victimized by them and show avoidance behaviour to situations that demand high Emotional Regulation. The results found suggest that higher Emotional Reactivity will cause an individual to use Coping Strategies like Distancing, Escape Avoidance and Accepting Responsibility, which can be seen as blaming oneself for one's troubles. The 7<sup>th</sup> hypothesis had been formulated to test this notion and the results were significant, so the hypothesis has been accepted.

Various Coping Strategies are used by individuals to try to cope with demanding situations. The kind of coping strategy one uses depends on a number of factors, personality, age, gender and temperament being a few. It has been reported in the existing literature that there are statistically significant differences in males and females with respect to utilizing these mechanisms. Two major categories of coping strategies have been suggested; Problem-Focused and Emotion-Focused (Weiten and Lloyd, 2008). While problem-focused strategies include tackling the problem directly, emotion-focused is more focused on dealing with the emotions related to the problematic situation. Males have been found to employ problem-focused coping strategies which are said to be more effective in dealing with most troublesome events in one's life. Females on the other hand make more use of emotion-focused coping mechanisms. Hemispheric lateralization may also play a role. Right hemisphere of the brain is said to be more dominant in females and they are reported to be more emotional as compared to males. Males make use of the left hemisphere more, this side deals with logical and rational thinking. This can be the reason why the two genders differ so much in relation to the coping mechanisms they use. Although it has been reported in most studies that Problem-Focused Coping Styles are more effective but this is not the case for every situation. In certain situations, Emotion-Focused Coping Strategies may be more useful. The results found suggest that males make more use of problem focused strategies as compared to females but the results were only significant for Planful Problem Solving, hence, hypothesis 9 is accepted but hypotheses 8 and 10 are rejected. Hypothesis 11 was formulated to test whether females use coping mechanisms 'Seeking Social Support' and 'Escape Avoidance' more than males. The results suggest that females do utilize these strategies more but the difference was not significant, so the hypothesis has been rejected.

Boardman, Blalock & Button (2009) reported sex differences in the heritability of resilience. They found the heritability of resilience to be higher among males as compared to

females. The genetic influences play an important role in resilience against the environmental stressors. The findings of the present study also indicate that males are more resilient as compared to females; therefore, the 12<sup>th</sup> hypothesis is accepted. Self acceptance and environmental mastery were discovered to be notable heritable factors for the heritability of resilience. Environmental mastery was reported to be a significantly less important variable for women than men. The reason for this could be the fact that men tend to have more occasions to display resilience and are more likely to be rewarded for it.

The 13<sup>th</sup> hypothesis was formulated to see if there were any gender related differences in perceived stress. Hampel and Petermann (2006) studied perceived stress, coping and adjustment in adolescents and found that females scored higher on perceived stress. The results of the present study also show significant differences among males and females with respect to perceived stress. Therefore the hypothesis is confirmed. Xu, Bao, et al. (2015) reported female patients to have greater levels of perceived stress as compared to male patients. Rudolph (2002) reported that females experience more perceived stress as compared to males, which leads them to show greater negative emotional responses. Charbonneau, Mezulis and Hyde (2009) found adolescent girls to be more emotionally reactive than boys. The findings of this study also suggest the same. Hence, hypothesis 14 is also accepted.

## **Chapter 7**

# **CONCLUSION, IMPLICATION, LIMITATIONS AND FUTURE SCOPE**

### **7.1 Conclusion**

The findings of this study indicate that people with high levels of Resilience have low level of Perceived Stress. Greater levels of Perceived Stress have also been linked to higher Emotional Reactivity. Coping Strategies that are linked to high level of Resilience are Confrontative Coping, Planful Problem Solving and Positive Reappraisal, while the ones linked to high Emotional Reactivity are Distancing, Accepting Responsibility and Escape Avoidance. Resilience and Emotional Reactivity are inversely related. Perceived stress and emotional reactivity were higher in females while males were more resilient. The coping strategies confrontative coping, self controlling, accepting responsibility, planful problem solving and positive reappraisal were used more by males and females used distancing, seeking social support and escape avoidance more.

### **7.2 Implications**

Implications of this study:

This study has implications for counselors, mental health professionals and caregivers.

### **7.3 Limitations**

Limitations of this study:

The sampling techniques used for this study was purposive sampling, which makes it difficult to generalize the results to the population.

## **7.4 Scope for Future Research**

Identifying determinants of Perceived Stress and Resilience can help in lowering the level of Emotional Reactivity as Perceived Stress and Emotional Reactivity are highly correlated, while Resilience is negatively related to Emotional Reactivity.

A research in this area on children will help in enhancing Resilience from a young age and they will be able to cope better when they grow up. A comparison across different age groups can also be made.

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# **APPENDIX**

# APPENDIX A

## CONSENT FORM

### THAPAR UNIVERSITY SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

Name: \_\_\_\_\_

Age: \_\_\_\_\_ Gender: \_\_\_\_\_

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The following Forms inquire about your thoughts and feelings in a variety of situations. Read each item carefully and respond according to what describes your experience appropriately. There are no right or wrong responses, answer as honestly as possible. *Thank You.*

I, \_\_\_\_\_, give my consent for participating in this study.

Signature

## APPENDIX B

### BRIEF RESILIENCE SCALE

**SD** - Strongly Disagree

**D** - Disagree

**N** - Neutral

**A** - Agree

**SA** - Strongly Agree

Put a tick mark in the appropriate box.

<i>Statements</i>		<i>SD</i>	<i>D</i>	<i>N</i>	<i>A</i>	<i>SA</i>
1.	I tend to bounce back quickly after hard times.					
2.	I have a hard time making it through stressful events.					
3.	It doesn't take me long to recover from stressful events.					
4.	It is hard for me to snap back when something bad happens.					
5.	I usually come through difficult times with little trouble.					
6.	I tend to take a long time to get over set-backs in my life.					

## APPENDIX C

### PERCEIVED STRESS SCALE

The questions in this scale ask about your feelings and thoughts during the last month. In each case, you will be asked to indicate *how often* you felt or thought in a certain way. Tick the appropriate box.

**0 = Never    1 = Almost Never    2 = Sometimes**

**3 = Fairly Often**

**4 = Very Often**

<b><i>Statements</i></b>		<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1.	In the last month, how often have you been upset because of something that happened unexpectedly?					
2.	In the last month, how often have you felt that you were unable to control the important things in your life?					
3.	In the last month, how often have you felt nervous and stressed?					
4.	In the last month, how often have you felt confident about your ability to handle your personal problems?					
5.	In the last month, how often have you felt that things were going your way?					
6.	In the last month, how often have you found that you could not cope with all the things that you had to do?					
7.	In the last month, how often have you been able to control irritations in your life?					
8.	In the last month, how often have you felt that you were on top of things?					
9.	In the last month, how often have you been angered because of things that were outside of your control?					
10.	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

## APPENDIX D

### PERTH EMOTIONAL REACTIVITY SCALE

1 – Very Unlike Me

2 – Somewhat Unlike Me

3 – Neutral

4 – Somewhat Like Me

5 – Very Like Me

<i>Statements</i>		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
1.	I tend to get happy very easily.					
2.	I tend to get upset very easily.					
3.	When I'm happy, the feeling stays with me for quite a while.					
4.	When I'm upset, it takes me quite a while to snap out of it.					
5.	I think I experience happiness more intensely than everyone else.					
6.	If I'm upset, I feel it more intensely than everyone else.					
7.	My emotions go automatically from neutral to positive.					
8.	I tend to get disappointed very easily.					
9.	When I'm feeling positive, I can stay like that for a good part of the day.					
10.	It takes me longer than other people to get over an anger episode.					
11.	When I'm joyful, I tend to feel it very deeply.					
12.	I experience the feeling of frustration very deeply.					
13.	I tend to get enthusiastic about things very quickly.					
14.	I tend to get frustrated very easily.					
15.	I can remain enthusiastic for quite a while.					
16.	It's hard for me to recover from frustration.					

17.	I experience positive mood very strongly.					
18.	Normally, when I'm unhappy I feel it very strongly.					
19.	I feel good about positive things in an instant.					
20.	My emotions go from neutral to negative very quickly.					
21.	I stay happy for a while if I receive pleasant news.					
22.	Once in a negative mood, it's hard to snap out of it.					
23.	When I'm enthusiastic about something, I feel it very powerfully.					
24.	When I'm angry I feel it very powerfully.					
25.	I react to good news very quickly.					
26.	I tend to get pessimistic about negative things very quickly.					
27.	If someone pays me a compliment, it improves my mood for a long time.					
28.	When I'm annoyed about something, it ruins my entire day.					
29.	I experience positive feelings more deeply than my relatives and friends.					
30.	My negative feelings feel very intense.					

## APPENDIX E

### WAYS OF COPING QUESTIONNAIRE

Identify a stressful encounter that occurred recently, where it took place and what happened next. Read each statement below and indicate, by using the following rating scale, to what extent you used it in this situation.

**0 – Not Used    1 – Used Somewhat    2 – Used Quite A Bit    3 – Used A Great Deal**

<i>Statements</i>		<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>
1.	I just concentrated on what I had to do next- the next step.				
2.	I tried to analyze the problem in order to understand it better.				
3.	I turned to work or another activity to take my mind off things.				
4.	I felt that time would have made a difference- the only thing was to wait.				
5.	I bargained or compromised to get something positive from the situation.				
6.	I did something that I didn't think would work, but at least I was doing something.				
7.	I tried to get the person responsible to change his or her mind.				
8.	I talked to someone to find out more about the situation.				
9.	I criticized or lectured myself.				
10.	I tried not to burn my bridges, but leave things open somewhat.				
11.	I hoped for a miracle.				
12.	I went along with fate; sometimes I just have bad luck.				
13.	I went on as if nothing had happened.				

14.	I tried to keep my feelings to myself.				
15.	I tried to look for a silver lining, so to speak; I tried to look on the bright side of things.				
16.	I slept more than usual.				
17.	I expressed anger to the person(s) who caused the problem.				
18.	I accepted sympathy and understanding from someone.				
19.	I told myself things that helped me feel better.				
20.	I was inspired to do something creative about the problem.				
21.	I tried to forget the whole thing.				
22.	I got professional help.				
23.	I changed or grew as a person.				
24.	I waited to see what would happen before doing anything.				
25.	I apologized or did something to make up.				
26.	I made a plan of action and followed it				
27.	I accepted the next best thing to what I wanted.				
28.	I let my feelings put somehow.				
29.	I realized that I had brought the problem on myself.				
30.	I came out of the experience better than when I went in.				
31.	I talked to someone who could do something concrete about the problem.				
32.	I tried to get away from it for a while by resting or taking a vacation.				
33.	I tried to make myself feel better by eating, drinking, smoking, using drugs or medications, etc.				
34.	I took a big chance or did something very risky to solve the problem.				
35.	I tried not to act too hastily or follow my first hunch.				
36.	I found new faith.				

37.	I maintained my pride and didn't show any emotions.				
38.	I rediscovered what is important in life.				
39.	I changed something so things would turn out all right.				
40.	I generally avoided being with people.				
41.	I didn't let it get to me; I refused to think too much about it.				
42.	I asked advice from a relative or friend I respected.				
43.	I kept other from knowing how bad things were.				
44.	I made light of the situation; I refused to get too serious about it.				
45.	I talked to someone about how I was feeling.				
46.	I stood my ground and fought for what I wanted.				
47.	I took it out on other people.				
48.	I drew on my past experiences; I was in a similar situation before.				
49.	I knew what had to be done, so I doubled my efforts to make things work.				
50.	I refused to believe that it had happened.				
51.	I promised myself that things would be different next time.				
52.	I came up with a couple of different solutions to the problem.				
53.	I accepted the situation, since nothing could be done.				
54.	I tried to keep my feeling about the problem from interfering with other things.				
55.	I wished that I could change what had happened or how I felt.				
56.	I changed something about myself.				
57.	I daydreamed or imagined a better time or place than the one I was in.				

58.	I wished that the situation would go away or somehow be over with.				
59.	I had fantasies or wishes about how things might turn out.				
60.	I prayed.				
61.	I prepared myself for the worst.				
62.	I went over in my mind what I would say or do.				
63.	I thought about how a person I admire would handle this situation and used that as a model.				
64.	I tried to see things from the other person's point of view.				
65.	I reminded myself how much worse things could be.				
66.	I jogged or exercised.				