Comparison of Coping Strategies Used by Adolescents on State and Trait Anxiety

Sitwat Fatima and Sohema Tahir
Quaid-i-Azam University, Islamabad

The current study was designed to investigate the difference in use of coping strategies among adolescents with respect to state and trait anxiety. The study consisted of 200 adolescents, equal number of boys and girls, belonging to different colleges of Rawalpindi and Islamabad. The age limit of these participants was 12-18 years. Two scales were used for this purpose: State and Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch & Lushene, 1970) to measure state anxiety and trait anxiety among adolescents. Brief COPE (Akhtar, 2005) was used to identify different coping strategies that adolescents use to cope with state and trait anxiety. The results of the study concluded that active avoidance and religious/ denial coping strategies are positively associated with state and trait anxiety on the other hand problem-focused and positive coping strategies are negatively associated with state and trait anxiety. Moreover, girls score higher on state and trait anxiety as compared to boys. Results also indicate that girls use more active-avoidance and religious/denial coping strategies whereas boys use more problem-focused and positive coping strategies. The findings of the present study also suggest that state and trait anxiety are positively predicting active avoidance and religious/ denial coping strategies and negatively predicting problem-focused and positive coping strategies. Overall, the result of the present study revealed that there is a difference in the use of coping strategies with respect to state and trait anxiety.

Anxiety is a normal reaction to stress. It is a mood state identify by strong negative emotion and bodily symptoms of tension in which a person apprehensively anticipates future danger (Barlow, 2002). Anxiety is defined as apprehension over an anticipated problem (Neale & Davison, 2007). It is an immediate reaction to perceived threat or danger and this reaction is known as fight or flight response (Mash & Wolfe, 2005). Anxiety can be occurred with different physical effects such as fatigue, heart palpitation, headaches and shortness of breath etc. (Seligman, Walker & Rosenhan, 2001).

The difference between state and trait anxiety has been clarified and operationalized by Spielberger, Spielberger et al. (1970) have published a state-trait inventory which can be used to explore this distinction in different studies.

Anxiety can be long term "trait" and short term "state" (Schwarzer, 1997). State anxiety is a short term emotional condition indicated by tension, apprehension and fear about a specific situation or activity. State anxiety is usually followed by observable behavioral indicators and physiological arousal, such as licking the lips, nervous fidgeting, and rubbing the palms of the hands on a shirt or trousers (Sarason & Sarason, 2002).

According to Spielberger (as cited in Neale & Davison, 2007), state anxiety is a temporary emotional condition or state of an individual that is characterized by subjective consciously perceived feeling of tension, nervousness, apprehension, worry and by heightened autonomic nervous system activity. State anxiety fluctuates over time and may vary in intensity as a function of perceived threat.

Trait anxiety is a stable tendency to respond with state anxiety in the anticipation of threatening situations. It is closely related to the personality trait of neuroticism (Schwarzer, 1997).

Trait anxiety can be defined as a motive, a personality trait or acquired behavioral disposition that predisposes a human organism to perceive a wide range of objectively non dangerous situations and circumstances as threatening, and to react to these threatening stimuli with anxiety state reactions which are not appropriate in intensity to the magnitude of the objective danger (Spielberger, 1972). Young people with high trait anxiety typically experience their world as more dangerous, exhibit more fears, and experience anxiety in a range of situations in comparison to young people with low trait anxiety (Frydenberg, 2008).

Trait anxiety is a comparatively stable individual difference in anxiety proneness i.e. to differentiate between individuals who have the predisposition to react with elevations in state anxiety when a situation is perceived as threatening. Because individuals who are high in trait anxiety tend to identify a wider range of situations as threatening or dangerous they experience elevations in state anxiety more frequently as compared to low trait anxiety individuals (Spielberger, 1982).

High trait anxiety individuals are also more likely to respond with more extreme elevations in state anxiety in situations that involve interpersonal relationships which pose some threat to self esteem. But regardless of circumstances individuals who differ in trait anxiety will present

Correspondence concerning this article should be addressed to Sitwat Fatima, Quaid-i-Azam University, Islamabad Email: sitwat17@yahoo.com

corresponding differences in state anxiety. It depends upon the extent to which a certain situation is perceived by a particular person as threatening and this will be profoundly influenced by past experience (Spielberger, 1982).

According to Goldstein (1986) anxiety is nameless and formless uneasiness and defines as the apprehension of a threat. The threat may be physical or to the psychological existence (as cited in Neale & Davison, 2007).

Coping refers to the cognitive and behavioral efforts used by human beings to handle the demands of a person-environment relationship (Frydenberg, 2008). Coping constitutes continually changing cognitive, behavioral, and emotional efforts to handle particular internal and external demands that are exceeding the resources of the individual (Carson, Butcher & Mineka, 2003). Coping skills are characteristics or ways of dealing with difficulties. It refers to **a person's ability to deal with different types of situations** (Sarason & Sarason, 2002).

Coping strategies are used to handle or manage situations in which there is a perceived difference between stressful demands and available resources to fulfill that demands (Zeidner & Endler, 1996). The term coping refers to individual**'s active efforts to resolve stress and to handle** stress related situations. (Erickson, as cited in Riaz, 2002).

Coping strategies are linked with the regulation of emotions especially anxiety. Many studies indicated that problem focused coping strategies are associated with less anxiety on the other hand emotion focused ones are associated with more anxiety. However, the adaptive characteristics of various coping strategies must be evaluated in the specific context in which they occur (Carson, Butcher & Mineka, 2003).

Hastings, Kovshoff, Brown, Ward, Espinosa and Remington (2005) through factor analysis of Brief COPE (Carver, 1997) identified and reported four types of coping namely:

Active avoidance coping. These coping strategies reflect individual active attempts to avoid the stressor or escape from its effects. Active avoidance coping included the items of substance use (turn to substance abuse helps a person to cope with the feelings of distress), behavioral disengagement (means lessen **one's efforts to deal with the** stressor), self blame (self blame is an avoidance coping skill which hinders the healing process), venting of emotions (means that an individual try to ventilate the feelings of discomfort or distress), and one item from the distraction scale (in distraction an individual engage himself in alternate activities to take one's **mind off the problem.** It occurs via a wide variety of activities that serve to distract the person from thinking about the stressor).

Problem- focused coping. This type most certainly represented problem-focused coping strategies. The focus is attempting to deal effectively with the stressor or circumstances. People commonly use problem- focused coping to deal with potentially controllable problems such as work related problems and family related problems. Problem-focused coping included the items of planning (involves thinking about how to cope with the stressor, what measures to take, and how best to handle or tackle the problem), active coping (a process of taking initiative to try to remove the stressor and its stressful effects), seeking instrumental social support (means seeking assistance, information or advice from others), and one item from seeking emotional social support scale (means getting moral support, sympathy or understanding from others).

Positive coping. Positive coping included the items of positive reframing (means handling distressed emotions), the use of humor (it is believed to act as a coping mechanism to improve self-esteem and reduce stress and psychological symptoms related to negative life events) and one item each from the acceptance (a person accepts the reality of a stressful situation and he is engaged in different actions to deal with the situation) and emotional social support scales. This type of coping seemed to be best characterized by attempts to adopt positive coping strategies.

Religious/ denial coping. It included the items for religious coping (an individual might turn to religion when he/she is under stress) and denial (refusal to believe that the stressor exists).

Different researches indicate significant gender differences in coping. Prakash and Bhogle (1994) carried out a study to identify gender differences in coping styles of female and male students and the relationship between coping and psychological distress. Female students notably use more emotion oriented coping strategies. And on the contrary psychological distress was significantly related to the use of emotion oriented coping strategies. Another study revealed that girls are more oriented towards social support, tension reduction and use non- productive coping style while ignorance and relaxation are more used by boys (Frydenberg, 2008).

Anxiety is a feeling of uneasiness (Rachman, 1998). Ejaz (2008) conducted a study and investigate the relationship between test anxiety and coping strategies among college students. The conclusion of the study showed that test anxiety is negatively correlated with coping strategies. Moreover, active avoidance coping strategies are positively correlated with test anxiety whereas problem focused coping strategies are negatively correlated with test anxiety. Female students scored high on Test Anxiety Scale as compared to male students while male students score high on Brief COPE as compared to female students.

Tung, Hunter and Wei (2008) conducted a study to investigate the relationship between ways of coping, anxiety level and quality of life of patients after coronary artery bypass grafting. The findings suggest that better quality of life was related with lower anxiety level and greater use of problem-focused coping strategies. The results also suggested that women scored lower on the physical dimensions of quality of life, used more self-blaming coping strategies and experienced slightly higher levels of anxiety as compared to men.

Another study was conducted by Hudges, Tomlinson, Blumenthal, Davidson, Sketch and Watkins (2004) who examined that whether religiosity and social support are individually or jointly linked with lower anxiety in cardiac patients. The results indicated that higher levels of social support were related to lower levels of state and trait anxiety. Religiosity was related to lower state anxiety but only slightly related to lower trait anxiety. The findings suggest that religiosity and social support provide a shield against anxiety in Cardiac patients.

The present study was designed to measure state and trait anxiety among adolescents. To identify different coping strategies that adolescents frequently use to cope with state and trait anxiety. It explores that whether there are any gender differences with respect to state and trait anxiety among adolescents. It also explores that whether there are any gender differences with respect to the use of coping strategies among adolescents.

Hypotheses

The present study aims at investigating the following hypotheses:

- Active avoidance and religious/ denial coping strategies are positively associated with state and trait anxiety.

- Problem-focused and positive coping strategies are negatively associated with state and trait anxiety.

- Girls score higher on state and trait anxiety as compared to boys.

- Girls use more active avoidance and religious/denial coping strategies as compared to boys.

- Boys use more problem-focused and positive coping strategies as compared to girls.

- State and trait anxiety are positively predicting active avoidance and religious/ denial coping strategies.

- State and trait anxiety are negatively predicting problem-focused and positive coping strategies.

Method

Sample

A sample of 200 adolescents was selected from Islamabad and Rawalpindi. The sample consists of both boys and girls (100 boys and 100 girls).The age range of adolescents will be 12-18 years (Newman & Newman, 2003). Subjects will be selected by employing purposive sampling. The participants were approached individually by visiting different schools and colleges of Rawalpindi and Islamabad. The participants were very cooperative and were very much engaged in filling the questionnaire.

Measures

State Trait Anxiety Inventory (STAI; Spielberger, Gorsuch & Lushene, 1970) is the finest instrument for measuring anxiety in adolescents. It clearly differentiates between the **temporary condition of "state anxiety" and the habitual** and **long standing quality of "trait anxiety".** The state anxiety scale measures how an individual feels at a particular time or condition whereas the trait anxiety scale measures how a person generally feels irrespective of the situation or condition the person is in. It is a self-report instrument which includes separate measures of state and trait anxiety. Scores on the STAI have direct interpretation high scores on their respective scales mean more state and trait anxiety and low scores mean less.

The inventory has a total of 40 items, divides in to two scales each of which consists of 20 items. 20 items measure state anxiety and 20 items measures trait anxiety. It is a four point likert rating scale. In responds to ranking items, **person's** expressed feelings and behaviors are marked according to their intensity as (1) not at all, (2) somewhat, (3) moderately so, (4) very much so. There are some reverse code items. In state anxiety inventory items 1, 2, 5, 8, 10, 11, 15, 16 19 and 20 have reverse coding. And in trait anxiety inventory items 21, 26, 27, 30, 33, 36 and 39 have reverse coding. The minimum score on both state anxiety subscale and trait anxiety subscale is 20 and maximum score is 80. Cut-off score was calculated to interpret scores on state anxiety, trait anxiety and overall STAI. Spielberger et al. (1970) has reported substantial evidence for the concurrent and construct validity of the scale. The alpha reliability of A-State scale is .94 and A-Trait is .86. The researches proved this inventory as a valid measure of state and trait anxiety. Ajmal (2002) used STAI as a measure of anxiety to find the relationship of career indecision making with anxiety among university students.

Brief COPE (Akhtar, 2005), originally by Carver (1997) and translated into Urdu by Akhtar (2005), is used to identify the coping strategies used by adolescents. Brief COPE

consisted of 28 items. Items are arranged in a 4-point Likert format (1= Never, 2= Very less, 3= Sometimes and 4= A lot).

In the present research factor structure of Hastings et al. (2005) for Brief COPE (Carver, 1997) is used. He reported four subscales for Brief COPE namely: active avoidance coping, problem-focused coping, positive coping and religious/ denial coping. Active avoidance coping include all the items from the original brief-COPE subscale for substance use, self-blame, behavioural disengagement, venting of emotions, and one item from the distraction scale (items no. 1, 4, 6, 9, 11, 13, 16, 19, 21 and 26). Problem-focused coping included all the items from the original brief-COPE subscales active coping, planning, seeking instrument social support, and one item from seeking emotional social support scale (items no. 2, 5, 7, 10, 14, 23 and 25). Positive coping included items from the subscales of brief COPE for the use of humour and positive reframing, and one item each from the acceptance and emotional social support scales (items no.12, 15, 17, 18, 20, 24 and 28). Religious/ Denial coping is a mixed factor that included all the brief-COPE items for religious coping and denial (items no. 3, 8, 22 and 27). The items are summed for each subscale separately to get a total score on all four categories. The high score on each subscale indicates more use of that particular coping strategy and low score indicates less use of that coping strategy.

Procedure

Research is conducted in to three phases. The first phase is try out, to check the cultural relevance of STAI. Try out phase comprised of 8 adolescents. It was conducted to check whether there were any words or statements that were difficult for the participants to understand. In try out phase subjects pointed towards few words that were difficult to understand as the questionnaire was in English language. After try out, the next step was to modify some of the words which were difficult to understand for adolescents. Modification of the items was done after committee approach. After modification in STAI the next phase was the main study. For the purpose of collection of data, participants were approached individually by visiting different schools and colleges of Rawalpindi and Islamabad. They were assured that the information provided by them would be kept confidential and would only be used for research purpose. After getting their consent they have were informed about the research purpose and then the STAI was handed over to them. After completing the STAI there was a break of 5 minutes after that the brief COPE was handed over to them. The instructions were given verbally to the participants, and written instructions were also available. They were asked to attempt all the statements. The participants were allowed to ask if there was any confusion. They were instructed that there was no time limit to answer these statements and there were no right and wrong responses. After getting responses on the questionnaires, they were carefully checked if there were any statements where response is missing. The recorded data was then organized for the statistical analysis for research findings.

Results

The present study was conducted to investigate the difference in use of coping strategies by adolescents with respect to state and trait anxiety. Regression analysis, t-test, correlations were also computed to find out differences and relationship between variables. The results are as follows:

Table 1
Correlation between State Trait Anxiety Inventory (STAI) and scores on subscales of Brief COPE

Subscales of Brisef COPE	Active Avoidance Coping	Problem Focused Coping	Positive Coping	Religious / Denial Coping	State Anxiety	Trait Anxiety	State Trait Anxiety
Active Avoidance Coping	-	-	-	-	.03	.08	.07
Problem Focused Coping	-	-	-	-	-.24**	-.33**	-.35**
Positive Coping	-	-	-	-	-.22**	-.33**	-.34*
Religious / Denial Coping	-	-	-	-	.08	.16*	.15*
State Anxiety	.03	-.24**	-.22**	.08	-	-	-
Trait Anxiety	.08	-.33**	-.33**	.16*	-	-	-
State Trait Anxiety	.07	-.35**	-.34*	.15*	-	-	-

*p < .05, **p < .01

Table 1 shows the correlation matrix of subscales of brief COPE and State Trait Anxiety Inventory (STAI). The table shows that active avoidance coping is positively correlated with state anxiety (r = .03), trait anxiety (r = .08) and overall with State Trait Anxiety Inventory (STAI) (r = .07). However, active avoidance coping has been found to have non-significant relationship with state anxiety, trait anxiety and overall state trait anxiety. The table indicates a significant negative correlation between problem focused coping and state anxiety (r = -.24), trait anxiety (r = -.33) and overall state trait anxiety (r = -.35) at p <.01 level of significance. Furthermore a significant negative correlation also exists between positive coping and state anxiety (r = -.22), trait anxiety (r = -.33) and overall state trait anxiety (r = -.34) at p <.01 level of significance. The table indicates that religious/ denial coping is positively correlated with state anxiety (r = .08), trait anxiety (r = .16) and overall state trait anxiety (r = .15) at p <.05 level of significance.

Table 2
Mean, Standard Deviation and t-value of boys and girls on total State Trait Anxiety Inventory (STAI) and subscales of State Trait Anxiety Inventory (STAI) (N=200)

Subscales of State-Trait Anxiety Inventory (STAI)	Boys (n =100)		Girls (n =100)			
	M	SD	M	SD	t	p
State Anxiety	48.87	8.14	52.23	9.03	2.76	.006
Trait Anxiety	47.98	9.12	54.58	8.70	5.23	.000
State and Trait Anxiety	96.83	14.20	106.58	13.60	4.60	.000

df =198, **p<.01,***p<.001

Table 2 shows the comparison between boys and girls on overall State Trait Anxiety Inventory (STAI). Significant gender differences were found between boys and girls. The result indicates that girls are more anxious than boys. There are considerable difference in mean score of boys and girls on State Trait Anxiety Inventory. Girls scored higher than boys on state anxiety (M = 52.23, SD = 9.03) as well as on trait anxiety (M = 54.58, SD = 8.70), subscales of State Trait Anxiety Inventory (STAI). The mean score of girls on overall state trait anxiety is also higher (M = 106.58, SD = 13.60) than the mean score of boys (M = 96.83, SD = 14.20) with t = 4.60.

Table 3
Mean, Standard Deviation and t-value of boys and girls on subscales of Brief COPE (N=200)

Subscales of Brief COPE	Boys (n=100)		Girls (n=100)			
	M	SD	M	SD	t	p
Active Avoidance Coping	11.48	4.27	16.12	3.64	8.26	.000
Problem-focused Coping	16.43	4.91	10.14	2.31	11.58	.000
Positive Coping	16.14	4.96	9.13	2.51	12.61	.000
Religious/Denial Coping	8.82	3.41	10.44	2.48	3.841	.000

df =198,***p<.001

Table 3 shows difference in the mean scores of boys and girls on the subscales of brief COPE. Significant differences were found between boys and girls. The results indicate that girls score high on state trait anxiety use more active avoidance coping strategies. The mean score of girls on active avoidance coping is higher (M = 16.12, SD = 3.64) than the mean score of boys (M = 11.48, SD = 4.27). There is considerable difference in mean scores of boys and girls on problem-focused coping. Boys scored higher than girls on problem-focused coping (M = 16.43, SD = 4.91) and with t = 11.58. Significant difference was also found on positive coping among the mean scores of boys and girls. Boys scored higher (M = 16.14, SD= 9.13) on positive coping than girls (M = 9.13, SD = 2.51). The results also indicate that girls use more Religious/ Denial coping strategies than boys. The mean score of girls on religious/ denial coping (M = 10.44, SD = 2.48) and the mean score of boys (M = 8.82, SD = 3.41).

Table 4
Regression Analysis of State Anxiety and Active Avoidance Coping (N=200)

	B	S.E	B
Constant	12.91	1.91	
State Anxiety	.02	.04	.03

R=.03, R²=.001, **p<.01

Table 4 shows regression analysis between state anxiety and active avoidance coping. The table shows that state anxiety is a predictor variable on the other hand active avoidance coping is a criterion variable. The results indicated that state anxiety has a positive prediction trend towards active avoidance coping (R = .03, R^2 = .001 at p <.01).

Table 5
Regression Analysis of State Anxiety and Problem focused Coping (N=200)

	B	S.E	B
Constant	20.21	2.00	
State Anxiety	-.14	.04	-.24

R=.24, R²=.058, **p<.01

Table 5 shows regression analysis between state anxiety and problem-focused coping. The table shows that state anxiety is a predictor variable on the other hand problem-focused coping is a criterion variable. The results indicated that state anxiety has a negative prediction trend towards problem-focused coping (R = .24, R^2 = .058 at p <.01).

Table 6
Regression Analysis of State Anxiety and Positive Coping (N=200)

	B	S.E	B
Constant	19.38	2.14	
State Anxiety	-.13	.04	-.22

R=.22, R²=.049, **p<.01

Table 6 shows regression analysis between state anxiety and positive coping. The table shows that state anxiety is a predictor variable on the other hand positive coping is a criterion variable. The results indicated that state anxiety has a negative prediction trend towards positive coping (R = .22, R^2 = .049 at p <.01).

Table 7
Regression Analysis of State Anxiety and Religious/ Denial Coping (N=200)

	B	S.E	B
Constant	8.19	1.28	
State Anxiety	.09	.03	.08

R=.08, R²=.007, **p<.01

Table 7 shows regression analysis between state anxiety and religious/denial coping. The table shows that state anxiety is a predictor variable on the other hand religious/denial coping is a criterion variable. The results

indicated that state anxiety has a positive prediction trend towards religious/denial coping ($R = .08$, $R^2 = .007$ at $p < .01$).

Table 8
Regression Analysis of Trait Anxiety and Active Avoidance Coping (N=200)

	B	S.E	B
Constant	11.74	1.79	
State Trait Anxiety	.04	.03	.08

$R=.08$, $R^2=.007$, **$p<.01$

Table 8 shows regression analysis between trait anxiety and active avoidance coping. The table shows that trait anxiety is a predictor variable on the other hand active avoidance coping is a criterion variable. The results indicated that trait anxiety has a positive prediction trend towards active avoidance coping ($R = .08$, $R^2 = .007$ at $p <.01$).

Table 9
Regression Analysis of Trait Anxiety and Problem Focused Coping (N=200)

	B	S.E	B
Constant	22.10	1.83	
State Trait Anxiety	-.17	.04	-.33

$R=.33$, $R^2=.108$, **$p<.01$

Table 9 shows regression analysis between trait anxiety and problem-focused coping. The table shows that trait anxiety is a predictor variable on the other hand problem-focused coping is a criterion variable. The results indicated that trait anxiety has a negative prediction trend towards problem-focused coping ($R = .33$, $R^2 = .108$ at $p <.01$).

Table 10
Regression Analysis of Trait Anxiety and Positive Coping (N=200)

	B	S.E	B
Constant	22.15	1.94	
State Trait Anxiety	-.19	.04	-.33

$R=.33$, $R^2=.112$, **$p<.01$

Table 10 shows regression analysis between trait anxiety and positive coping. The table shows that trait anxiety is a predictor variable on the other hand positive coping is a criterion variable. The results indicated that trait anxiety has a negative prediction trend towards positive coping ($R = .33$, $R^2 = .112$ at $p <.01$).

Table 11
Regression Analysis of Trait Anxiety and Religious/ Denial Coping (N=200)

	B	S.E	B
Constant	6.96	1.19	
State Trait Anxiety	.05	.02	.16

$R=.16$, $R^2=.026$, **$p<.01$

Table 11 shows regression analysis between trait anxiety and religious/denial coping. The table shows that trait anxiety is a predictor variable on the other hand religious/denial coping is a criterion variable. The results indicated that trait anxiety has a positive prediction trend towards religious/denial coping ($R = .16$, $R^2 = .026$ at $p <.01$).

Discussion

The purpose of conducting the present study was to explore the difference in use of coping strategies among adolescents with respect to state and trait anxiety. To explore the differences, comparative design was used. The study employed two scales namely State Trait Anxiety Inventory (STAI) devised by Spielberger, Gorsuch and Lushene (1970) and brief COPE devised by Akhtar (2005). The sample comprised of 200 adolescents (100 boys and 100 girls). The objectives of the study were to measure state and trait anxiety among adolescents. Moreover, identify different coping strategies that adolescents frequently use to cope with state and trait anxiety. Gender differences were also explored with respect to state trait anxiety and coping strategies.

The first hypothesis states that active avoidance and religious/ denial coping strategies are positively correlated with state and trait anxiety. The results indicate that positive correlation exists between active avoidance coping and state anxiety ($r = .03$), trait anxiety ($r = .08$) and overall state trait anxiety ($r = .07$). Thus, the results verified the hypothesis. These findings are quite in line with previous empirical evidence. Ejaz (2008) also found that active avoidance coping strategies are positively correlated with anxiety. Similarly Zeidner (1995) suggested that emotion focused and active avoidance coping had been found to be associated with higher levels of anxiety. The findings of the present study also indicates that religious/ denial coping is positively correlated with state anxiety ($r = .08$), trait anxiety ($r = .16$) and overall state trait anxiety ($r = .15$) at $p <.05$ level of significance. Literature review also shows that seeking religious support is positively associated with anxiety (Matos, Barrett, Dadds and Short, 2003).

The second hypothesis states that problem-focused and positive coping strategies are negatively associated with state and trait anxiety. The results indicate significant negative correlation exists between problem focused coping and state anxiety ($r = -.24$), trait anxiety ($r = -.33$) and overall state trait anxiety ($r = -.35$) at $p <.01$ level of significance,

hence proving the hypothesis. This is also supported by Ejaz (2008) that problem focused coping strategy is negatively correlated with anxiety. Similarly, according to Whatley, Foreman and Richard (1998) problem focused coping strategy was associated with lower levels of anxiety in stressful situations. Lewensohn, Sagy and Roth (2009) conducted a study which also revealed that adolescents who use problem focused coping strategies reported relatively lower level of psychological distress that shows that problem focused coping strategies are negatively associated with psychological distress such as anxiety and stress. The findings of the present research are consistent with past researches. The findings of the present study also suggest that significant negative correlation also exists between positive coping and state anxiety ($r = -.22$), trait anxiety ($r = -.33$) and overall state trait anxiety ($r = -.34$) at $p < .01$ level of significance. Like according to Sabih (2006) positive coping is associated with lower level of anxiety.

It was also hypothesized that girls score high on state anxiety and trait anxiety as compared to boys. Table 2 illustrates the gender differences on state anxiety, trait anxiety and state trait anxiety. Significant gender differences were found, hence proving the hypothesis. The results indicated girls scored higher than boys on state anxiety ($M = 52.23$, $SD = 9.03$), trait anxiety ($M = 54.58$, $SD = 8.70$) as well as State Trait Anxiety Inventory (STAI) ($M = 106.58$, $SD = 13.60$). Hence, proving that girls are more anxious than boys. Nijkamp et. al., (2004) also shows similar results i.e. women with higher trait anxiety were more likely to experience higher levels of state anxiety and women are more anxious as compared to men. The literature review also reports difference in experiencing anxiety between males and females. Such as according to Ferreira, Borges and Manso (2008) girls are more anxious than boys. Moser et. al., (2003) also conducted a study related to gender differences in anxiety and the result showed that girls have higher anxiety level than boys. Hishinuma, Miyamoto, Nishimura and Nahulu (2000) also found that female students scored significantly higher on State Trait Anxiety Inventory than male students. Similarly, Chiemi et.al., (2005) conducted a study which showed that female scored significantly higher on state anxiety and trait anxiety.

A possible explanation for this finding that people with high trait anxiety typically experience their world as more dangerous, exhibit more fears, and experience anxiety in a range of situations in comparison to people with low trait anxiety (Frydenberg, 2008). Spielberger (1982) states that persons who are high in trait anxiety tend to perceive a wider range of situations as dangerous or threatening, they experience elevations in state anxiety more frequently than low trait anxiety individuals. This shows that high trait anxiety persons are also more likely to respond with more intense elevations in state anxiety in situations. And experiencing anxiety depends upon the extent to which a specific situation is perceived by a particular individual this **will also be greatly influenced by individual's past experience**

Similarly, Goodwin (1986) also found that a person low in trait anxiety may occasionally experience high state anxiety, but someone who is highly trait anxiety will experience more an intense movements of anxiety.

The fourth hypothesis states that girls use more active avoidance and religious/ denial coping strategies as compared to boys. Table 3 illustrates the gender differences on use of active avoidance and religious/ denial coping. The results verified our hypothesis. Significant gender differences were found on active avoidance coping and religious/denial coping strategies. Girls were found to be using more active avoidance and religious/ denial coping as compared to boys. Already existing research evidence also supports the finding. Porter and Stone (1999) analyzed the gender differences in coping. They have concluded that men use more instrumental coping, active coping while women tend towards more emotion focused and avoidance coping. Myers and Thompson (2002) also found that female tend to use more active avoidance coping as compared to males. Endler and Parker (1990) found that women are more likely to use avoidance coping processes than men. Moos (1992) conducted a study and found that women reported more reliance on avoidance coping as compared to men. Frydenberg (2008) also found that girls are more likely to report their increased inability to cope and use more avoidant coping strategies than boys.

Significant gender differences were also found on use of religious/ denial coping. The findings suggest that girls use more religious/ denial coping strategies as compared to boys. The results of the study are consistent with previous literature. Newton and Houle (1993) found that females demonstrated higher levels of denial as compare to males. Similarly, Rokach (1999) stated that women use more denial than men. Other studies have shown a gender difference in attitudes toward religion e.g. Levitt (1995) explained that women seek more religious support as compared to men. Similarly, Plancherel & Bolognini (1995) reported that turning to religion as a coping strategy is more used by girls than boys.

The fifth hypothesis states that boys use more problem-focused and positive coping strategies as compared to girls, was proved from the results of the study. Table 3 illustrates the gender differences on use of problem-focused and positive coping. Significant gender differences were found on problem-focused coping and positive coping strategies. The findings suggest that boys use more problem-focused coping strategies as compared to girls. The findings of the present study are consistent with the previous researches. Ejaz (2008) suggests that men use more problem-focused coping strategies whereas women use more active avoidance coping strategies. Ptacek, Smith and Zanas (1992) also found more problem-focused coping in men and more support seeking and emotion-focused responses in women. Some other studies also indicate that males use problem-focused strategies more often than females (e.g., Brem & Johnson,

1989; Stone & Neale, 1984). Likewise, earlier researches suggest that boys use more problem-focused coping strategies while girls more often use emotion focused coping strategies (Myers & Thompson, 2002).

Significant gender differences were also found on positive coping. The findings suggest that boys use more positive coping strategies than girls. Likewise earlier researches also suggested that women use less positive coping strategies as compared to men (Kelly, Tyrka, Price & Carpenter, 2007). The findings of the present study are consistent with the previous researches.

The sixth hypothesis states that state and trait anxiety are positively predicting active avoidance and religious/ denial coping strategies. Similarly, the seventh hypothesis states that state and trait anxiety are negatively predicting problem-focused and positive coping strategies. The results verified both the hypothesis. Regression analyses shown in Table 4 to Table 11 reveals that both state and trait anxiety has a positive prediction trend towards active avoidance coping and religious/denial coping on the other hand both state and trait anxiety has a negative prediction trend towards problem-focused coping and positive coping. This shows that there is a difference in the prediction trend of coping strategies. These findings are consistent with the findings of correlational analysis. Table 1 illustrates comparison in relation of state and trait anxiety with coping strategies. The findings of correlational analysis also indicates that active avoidance coping and religious/ denial coping are positively associated with both state anxiety and trait anxiety whereas problem focused coping and positive coping are negatively associated with state and trait anxiety individually. Therefore, the results of the present study suggest that there is a difference in use of coping strategies with respect to state and trait anxiety.

Limitations and Suggestions

Study was purely quantitative, i.e. using scales to measure anxiety and explore coping strategies. It would have been more useful if coping strategies are explored qualitatively as well as it might have provided information about other possible coping mechanisms.

In order to make study more effective, the following suggestions are given:
1. To take large number of sample from different colleges of Pakistan for generalizability of the results.
2. Study should also explore these variables qualitatively.

Conclusion

The present study explored the differences in use of coping strategies among adolescents with respect to state and trait anxiety. The study concluded that active avoidance and religious/ denial coping strategies are positively

associated with state and trait anxiety on the other hand problem-focused and positive coping strategies are negatively associated with state and trait anxiety. Moreover, girls scored higher on state and trait anxiety as compared to boys.

Results also indicate that girls use more active-avoidance and religious/denial coping strategies whereas boys use more problem-focused and positive coping strategies. The findings of the present study also suggest that state and trait anxiety are positively predicting active avoidance and religious/ denial coping strategies and negatively predicting problem-focused and positive coping strategies. Overall, the findings of the present research suggested that there is a difference in the use of coping strategies with respect to state and trait anxiety.

References

Ajmal, S. (2002). *Relationship of career indecision making with anxiety among university students.* Unpublished M.Sc Thesis, National Institute of Psychology, Quaid-i-Azam University, Islamabad.

Akhtar, M. (2005). *Coping strategies and its relationship with stress and time demands among university students.* Unpublished M.phil Thesis. National Institute of Psychology, Quaid-e- Azam University, Islamabad.

Barlow, D. H. (2002). *Anxiety and its disorder: The nature and treatment of anxiety and panic.* (2nd edition). NewYork: Guilford Press.

Brems, C., & Johnson, M.E. (1989). Problem solving appraisal and coping style: The influence of sex and role orientation and gender. *Journal of Psychology, 123,* 187-194.

Carson, R. C., Butcher, J. N., & Mineka, S. (2003). *Abnormal Psychology and Modern Life.* (11th edition). Singapore: Pearson Education, Inc.

Carver, C. S. (1997). You want to measure coping but your protocols too long: Consider the brief Cope. *International Journal of Behavioral Medicine, 4*(1), 92-100.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56,* 267-283.

Chiemi, H. et al. (2005). An Investigation of State-Trait Anxiety Inventory (STAI) in Dizzy Patients. *Journal of Health Psychology, 64* (4), 225-232. Retrieved Oct 12th, 2009 from http://sciencelinks.jp/j-east/article/200602/000020060205A1013346.php

Ejaz, F. (2008). *The relationship between test anxiety and coping strategies among college students.* Unpublished M.Sc Thesis, National Institute of Psychology, Quaid-i-Azam University, Islamabad.

Endler, N. S., & Parker, J. D. (1990). Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology, 58,* 844-854.

Ferrari, L., Nota, L., Soresi, S. & Frydenberg, E. (2007). The best of coping: A training to improve coping strategies. In *Emerging thought and research on student, teacher and administrator stress and coping*, 49-75. Greenwich: Information Age Publishing.

Frydenberg, E. (2008). *Adolescent Coping: Advances in Theory Research and Practice.* USA: Psychology Press.

Goodwin. (1986). *Anxiety.* USA: Oxford University Press.

Hastings, R. P. et al., (2005). Coping strategies in mothers and fathers of preschool and school-age children with autism. *The National Autistic Society, 9*(4), 377-391.

Hishinuma, E. S, Miyamoto, R. H., Nishimura, S. T., & Nahulu, L. B. (2000). Differences in State-Trait Anxiety Inventory scores for ethnically diverse adolescents in Hawaii. *Cultural Diversity and Ethnic Minority Psychology, 6*(1), 73-83.

Hughes, J. W., Tomlinson, A., Blumenthal, J. A., Davidson, J., Sketch, M. H., & Watkins, L. L. (2004). Social support and religiosity as coping strategies for anxiety in hospitalized cardiac patients. *Journal of Personality Psychology. 28* (3), 179-85. Retrieved Dec 07th, 2009, from http://www.ncbi.nlm.nih.gov/pubmed/15576256

Kelly, M. M., Tyrka, M. D., Price, L. H., & Carpenter, L. L. (2007). Sex differences in the use of coping strategies: predictors of anxiety and depressive symptoms. *Anxiety and Depression, 25*(10), 839-846. Retrieved Dec 07th, 2009, from http://www3.interscience.wiley.com/journal/1142 85937

Lewensohn, O. B., Sagy, S., & Roth, G. (2009). Coping strategies among adolescents: Israeli Jews and Arabs facing missile attacks. *Anxiety, Stress & Coping: An International Journal*, 1477-2205. Retrieved on 5th July, 2009 from http://www.informaworld.com/smpp/content~con tent=a909925097~db=all~jumptype=rss.

Levitt, M. (1995). Sexual identity and religious socialization. *British Journal of Sociology*, *46*(3), 529-536. Retrieved Oct 18th, 2009, from http://www.down-syndrome.org/reports/132/

Mash E. J., & Wolfe D. A. (2005). *Abnormal Child Psychology.* (3rd edition). Vicki Knight Publishers.

Matos, M. G., Barrett, P., Dadds, M., & Shortt, A. (2003). Anxiety, depression, and peer relationships during adolescence: Results from the Portuguese national health behaviour in school-aged children survey. European *Journal of Psychology of Education, 18*(1), 3-14.

Moos, R. (1992). *Coping Resources Inventory manual.* New York: Center of Health Care Evaluation.

Moser, D. K. et al. (2003). An International Perspective on Gender Differences in Anxiety Early After Acute Myocardial Infarction. *Psychosomatic Medicine, 65,* 511-516. Retrieved Oct 8th, 2009 from http://www.psychosomaticmedicine.org/cgi/conte nt/abstract/65/4/511

Myers, M. G. & Thomson, P. (2002). Child and parent reports of childhood anxiety: Differences in coping styles. *Depress Anxiety, 6*(2), 62-69.

Neale. J. M., & Davison, G. C. (2007). *Abnormal Psychology.* (10th edition). Newyork: John Wiley & Sons, Inc.

Newman, B. M., & Newman, P. R. (2003). *Development through life: A Psychosocial approach.* (8th ed.). USA: Wadsworth/ Thomson.

Newton, C., & Houle, M. (1993). Gender differences in psychological response to infertility treatment. *Canadian Journal of Human Sexuality, 2*(3), 129-139. Retrieved Oct 8th, 2009 from http://www.down-syndrome.org/reports/132/

Nijkamp, M. D., Kenens, C. A., Dijker, A. J., Ruiter, R. A., Hiddema, F., & Nuijts, R.M. (2004). Determinants of surgery related anxiety in cataract patients. *Journal of Health Education and Promotion, 88,* 1310-1314.

Prakash, I. J., & Bhogle, S. (1994). Coping Strategies: Factor Structure, sex differences, and relationship with psychological distress. *Journal of the Indian Academy of Applied Psychology, 20*(1), 31-8.

Plancherel, B., & Bolognini, M. (1995). Coping and mental health in early adolescence. *Journal of Adolescence, 18*(4), 459-474. Retrieved Oct 18th, 2009 from http://www.down-syndrome.org/reports/132/

Porter, L. S., & Stone, A. A. (1999). Are there really gender differences in coping?: a reconsideration of previous data and results from a daily study. *Journal of Social and Clinical Psychology, 14*(2), 184-202. Retrieved Oct 8th, 2009 from http://cat.inist.fr/?aModele=afficheN&cpsidt=3615593

Ptacek, J., Smith, R., & Zanas, J. (1992). Gender appraisal and coping: A longitudinal analysis. *Journal of Personality, 60*(4), 747-770. Retrieved Oct 18th, 2009, from http://www.down-syndrome.org/reports/132/

Rachman, S. (1998*). Anxiety.* Hove, East Sussex: Psychology Press Ltd.

Riaz, A. S. (2002). *The relationship of coping strategies with family relations.* Unpublished M.Sc Thesis, National Institute of Psychology, Quaid-i-Azam University, Islamabad.

Rokach, A. (1999). Cultural background and coping with loneliness. *Journal of Psychology, 133*(2), 217-229. http://www.down-syndrome.org/reports/132/

Sabih, F. (2006*). The relationship between coping strategies and psychological well-being among parents having children with autism and down syndrome.* Unpublished M.Sc Thesis, National Institute of Psychology, Quaid-i-Azam University, Islamabad.

Sarason, I. G., & Sarason, B. R. (2002). *Abnormal Psychology.* (10th edition). Singapore. Pearson Education, Inc.

Schwarzer, R. (1997). *Anxiety.* Retrieved on May 14, 2009 from http://www.macses.ucsf.edu/Research/Psychosocial/notebook/anxiety.html.

Seligman, M. E., Walker, E. F., & Rosenhan, D. L. (2001). *Abnormal psychology.* (4th edition). New York: W.W. Norton & Company, Inc..

Spielberger, C. D. (1982). *The State Trait Anxiety Inventory: A Comprehensive Bibliography.* Palo Alto, Calif: Consulting Psychologists Press.

Spielberger, C. D. (1972). Conceptual and methodological issues in anxiety research. In Spielberger, C. (Ed.), *Anxiety: Current trends in theory and research, 2,* London: Academic Press.

Spielberger, C. D., Gorsuch, R. L. & Lushene, R. E. (1970). *Manual for the State Trait Anxiety Inventory.* Palo Alto: California, Consulting Psychologists Press.

Stone, A. A., & Neale, J. M. (1984). New measure of daily coping: Development and preliminary results. *Journal of Personality & Social Psychology. 46,* 892-906.

Tung, H. H., Hunter, A., & Wei, J. (2008). Coping, anxiety and quality of life after coronary artery bypass graft surgery. *J Adv Nurs, 61*(6), 651-63. Retrieved on May 01st, 2009 http://www.ncbi.nlm.nih.gov/pubmed/18302606

Whatley, S. L., Foreman, A. C., & Richard, S. R. (1998). The relationship of coping style of dysphoria, anxiety and anger. *Psychological Reports, 83,* 783-791.

Zeidner, M. (1995).Coping with stress examination: Resources, strategies, outcomes. *Anxiety, Stress and Coping, 8,* 279-298.

Zeidner, M., & Endler, N. (1996). *Handbook of Coping: Theory, Research, Application.* New York: Wiley.