

A STUDY SHOWING EFFECT OF FOUR FACTORS OF STRESS ON TOTAL STRESS AMONG FEMALE ATHLETES

Dr. Rekha Bhardwaj,
Director of Physical Education
Government College Srikaranpur,
Sriganganagar, Rajasthan
M.G.S.University, Bikaner
e-mail Id- rkh_2711@yahoo.com

Mrs. Shipra Ckkraborti
Physical Education Teacher
G.D.Goenka public School,
Vasantkunj, New Delhi
ccshipragmail.com

Stress within the context of sports and athletics may be seen from multiple perspectives. It may be seen as a process in which environmental demands are perceived to impact the adjustment of the athlete, or it may be seen as a state of emotional anxiety and heightened physiological arousal. Within this context, sports psychologists and behavioral scientists have addressed the issue mainly from an emotional reaction perspective, and view stress within that context- as an elevated anxiety from the perceived demands of a specific athletic event, expectation or performance. Within this context, sport-specific competitive anxiety arises within the continuum of a sporting event, and may be influenced by personality, biochemistry, or sport-specific trait anxiety.

Stress is defined as an organism's total response to environmental demands or pressures. When stress was first studied in the 1950s, the term was used to denote both the causes and the experienced effects of these pressures. Stress in humans results from interactions between persons and their environment that are perceived as straining or exceeding their adaptive capacities and threatening their well being. The element of perception indicates that human stress responses reflect differences in personality, as well as differences in physical strength or general.²The causes of stress can include any event or occurrence that a person considers a threat to his or her coping strategies or resources. Researchers generally agree that a certain degree of stress is a normal part of a living organism's response to the inevitable changes in its physical or social environment, and that positive, as well as negative, events can generate stress as well as negative occurrences.

Stress is commonly viewed as a frustrated 'fight or flight' response. Basic human survival mechanism left over from our primordial 'roots' when we could best respond to perceived dangers by either fighting or fleeing; seen in this way, stress behavior and emotions are sometimes regarded as problematic inappropriate responses to threatening situations in modern civilized society, however, stress is a) a powerful internal communication to raise awareness, and b) a source of energy, although the raw emotional and physical energies may have to be transformed to a more useful form before they are directly useful.

Stress is characterized by the body's non-specific response varying demands that are placed upon it. Many times it is referred to in a negative light; however stress can help a person to be alert and motivated allowing a person to accept more than they would otherwise. Lack of stress can be as much of a problem as too much stress. The goal in treating stress is not to eliminate it but to manage it and use it to our advantage. As we strive for optimal level of stress in our lives we should see the amount of stress motivate us in our performance.

Stress is an integral part of the natural fabric of life. Some of it occurs because we try to do too much in the time available and some of the difficulties with interpersonal relationships either at home or at work. Coping with stress and anxiety is needed for normal growth and development with any situation in which a person's behavior is evaluated by others can be stressful, even the act of getting in the morning generates enough stress.

Important in understanding the impact of life stress events on the athlete is to realize that sports-specific anxiety has been viewed as a one-dimensional construct and more recently as a multidimensional one with cognitive and somatic components. The multidimensional view argues that cognitive anxiety is associated with expectations of poor performance and is characterized by worry, disturbing imagery, and reduced self-confidence. Somatic anxiety on the other hand is associated with autonomic arousal and includes physiological responses such as symptomatology.

Several studies (DeMeuse, 1985; Hardy and Riehl, 1988) of anxiety and sports performance have produced inconsistent results. One-dimensional anxiety and athletic performance have more frequently been related to a variety of casual events. Cognitive motor demands of various sports also present unique aspects and results in various forms of stress.

Individual differences and expectations of self-efficacy and self-confidence may affect athletic performance and show a casual relationship between stress of sport and resulting performance in the athlete. What is clear is that most athlete encounter the range of psychological stressors that other experiences, therefore, it is likely to expect that athletic performance is sensitive to the effects of general life stressful events as in somatic and psychological well being.

What a lot of people don't know is that athletes have another life outside of their sport. This is what makes it harder for athletes to stay focused. When they're outside life is not going well and they have to perform for their school that is a tough situation. All of this can lead to some emotional problems as well. Emotional stress can be induced by the stimulus of any of the human emotional pressure or response The emotional pattern of anger can be stimulated by such factors as the warring of one's wishes, or cumulative effects of a number of other disappointments and irritations concerning athletes and their grade point average (Humphrey 2000:72).

Since stress is mentally and emotionally disruptive, it can cause some upsetting conditions that start occurring in response to adverse external influences. "This is capable of affecting physical health, which is usually characterized by increased heart rate, rise in blood pressure, muscular tension, irritability, and depression (Haworth 1998:6)." These are some issues that affect both the non-student athletes and the student athletes when stress takes place. The surveys show that a student athlete feels additional stress from fans, media, and friends. After all of this stress is built up in a student athlete, there is yet another factor that comes up in depression. Non-athletes experience these feelings as well, but most of the time, it affects the athletes. College athletes must learn how to balance the competing demands of the academics, developing new social contacts, and being responsible for their own daily lifestyle.

Coping with stressful episode during competitive event is a common occurrence in sport. Surprisingly, attempts to understand the coping process in sport has received only scant attention in the sport psychology literature and are absent with respect to Asian culture. While coping process may be similar between cultures, the cultural differences are more apparent in the preferred selected coping strategies

At an optimum level of stress you will get the benefits of alertness and activation that a good level of stress brings. Excessive levels of stress damage performance and damage your enjoyment of your sport. These excessive levels occur in the following circumstances:

- When you think that what is being asked of you is beyond your perceived abilities
- When too much is asked of you in too short a space of time
- When unnecessary obstacles are put in the way of achieving goals

The negative effects of stress are:

- That it gets in the way of judgment and fine motor control
- It causes when competition is seen as a threat, not a challenge

It damages the positive frame of mind that you need for high quality competition by:

- Promoting negative thinking
- Damaging self-confidence
- Narrowing attention
- And disrupting flow

It consumes mental energy in, for example, worry. This is energy that you could devote to keeping technique good.

Very often stress can be caused by negative thinking as well as being a result of negative thinking: If you interpret a situation saying 'I'm in trouble', then you are much less likely to do well than if you think positively, seeing a new situation as an opportunity to exhibit your skills at a higher level.

Stress is a feeling that's created when we react to particular events. It's the body's way of rising to a challenge and preparing to meet a tough situation with focus, strength, stamina, and heightened alertness. A little stress or the right kind of positive stress can help keep you on your toes, ready to rise to a challenge. The events that provoke stress are called stressors, and they cover a whole range of situations - everything from outright danger to stepping up to take the foul shot.

Sources of frustration may be *internal* or *external*. Internal sources of frustration involve personal deficiencies such as a lack of confidence or fear of social situations that prevent one from reaching a goal.

Conflict can also be an internal source of frustration when one has competing goals that interfere with one another.

External causes of frustration involve conditions outside the person such as a blocked road, lack of money, or lack of sexual activity. Frustration can be a result of blocking motivated behavior. An individual may react in several different ways. He may respond with rational problem-solving methods to overcome the barrier. Failing in this, he may become frustrated and behave irrationally. This argument was proposed by Dollard et al. (1939) to explain that is always caused by some form of frustration. It is claimed that people are motivated to reach goals, but if these goals are blocked then frustration occurs. In this frustration always leads to aggression. The frustration-aggression was originally developed using psychoanalytic ideas. Dollard argued that goal directed behavior involves the arousal of psychic energy and that when we attain these goals the energy is released. Attaining the goal is therefore cathartic. However, if the goal is blocked we experience pent up psychic energy, which must be released through aggression. A psychological state that occurs when the satisfaction of motivated behavior is rendered difficult or impossible.

Frustration

Frustration is an emotion that occurs in situations where one is blocked from reaching a personal goal. The more important the goal, the greater the frustration. It is comparable to anger.

Frustration is a human emotion that occurs in situations where one's goals remain unreachable indefinitely. These goals are important to a person and one holds on to them despite their elusiveness. In terms of psychology, passive-aggressive behavior is a method of dealing with frustration.that could win the game. Stress can also be a response to change or anticipation of something that's about to happen - good or bad. People can feel stress over positive challenges, like making the varsity team, as well as negative ones.

Distress is a bad type of stress that arises when you must adapt to too many negative demands. Suppose you had a fight with a close friend last night, you forgot your homework this morning, and you're playing in a tennis match this afternoon. You try to get psyched for the game but can't. You've hit stress overload! Continuous struggling with too much stress can exhaust your energy and drive.

Eustress is the good type of stress that stems from the challenge of taking part in something that you enjoy but have to work hard for.

Eustress pumps you up, providing a healthy spark for any task you undertaken.

Anxiety

Anxiety is different from stress. Anxiety comes from a concern over lack of control over circumstances. In some cases being anxious and worrying over a problem may generate a solution. Normally, however, it will just result in negative thinking. Anxiety is a normal reaction to stress. It helps one deal with a tense situation in the office, study harder for an exam, keep focused on an important speech. In general, it helps one cope. But when anxiety becomes an excessive, irrational dread of everyday situations, it has become a disabling disorder.

Anxiety disorder is a blanket term covering several different forms of abnormal, pathological anxiety, fears, phobias. It describes nervous system disorders as irrational or illogical worry not based on fact.

Anxiety and fear are ubiquitous emotions. The terms anxiety and fear have specific scientific meanings, but common usage has made them interchangeable. For example, a phobia is a kind of anxiety that is also defined in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV-TR) as a "persistent or irrational fear." Fear is defined as an emotional and physiological response to a recognized external threat. Anxiety is an unpleasant emotional state, the sources of which are less readily identified. It is frequently accompanied by physiological symptoms that may lead to fatigue or even exhaustion.

Several studies have shown a significant relationship between various measures of anxiety and locus of control. Tripathi (1985) found the correlation of .39 between I-E scale and Manifest Anxiety Scale, .24 between I-E Scale and Depth Anxiety Scale and .21 between I-E Scale and Test Anxiety Scale.

These results support various findings of Patton and Freitag (1977) and Krishna (1981) who reported a significant and positive association of locus of control with various measures of anxiety.

CONFLICT

The officiating environment can be challenging and potentially hostile. Dealing with conflict can be tough for a confident official, let alone an inexperienced one. Good officiating relies on dealing with conflict professionally and positively. Conflict is likely to arise in a number of situations.

These include:

- Disagreement from participants over a penalty/infringement
Frustration shown by participants as a result of their level of performance or the competition result
- Misunderstanding of instructions or rulings from an official
- Sledging between participants

There are occasions when conflict in the sporting environment is inevitable, however developing strategies to minimise conflict from arising is vital.

Pressure

Most people play a sport for the thrill of having fun with others who share the same interest, right? But it's not always fun and games. Most student athletes who play competitive sports have had thoughts that go like this at one time or another: "Man, I can't believe I let the ball in the goal, and I know from the look in coach's eyes he wasn't happy."

There can be a ton of pressure in high school sports. A lot of the time it comes from the feeling that a parent or coach expects you to always win. But sometimes it comes from inside, too: Some players are just really hard on themselves. And individual situations can add to the stress: Maybe there's a recruiter from your number one college scouting you on the sidelines. Whatever the cause, the pressure to win can sometimes stress you to the point where you just don't know how to have fun anymore. Perhaps it could even be the reason why you haven't been playing as well lately.

STATEMENT OF THE PROBLEM

The present study entitled “**An exploratory study of psychological factors influencing stress on the performance of female athletes**”, Psychological variables viz. frustration, conflict anxiety, pressure .

DELIMITATION

1. The study was delimited to female athletes
2. The study was further delimited to the following Psychological variables frustration, conflict, pressure, anxiety,
3. The test was administered a night before the competition.

LIMITATION

1. Lack of limited subjects.
2. Lack of motivational devices, training programs, control of food habits etc.

SIGNIFICANCE OF THE STUDY

1. It leads to use of appropriate coping strategies model for stress management technique and understanding cultural differences in sport.
2. Stress management programs will help to reduce the frequency of injury.
3. Recent studies have attempted to increase understanding of the sources of athletes' competitive stress and anxiety, and to identify theoretical perspectives for investigating the underpinnings of competitive stress in sport.

PROCEDURE

SAMPLE SIZE 300 female athletes of age group 18-25 participated in south west zone inter-varsity of athletics, during 2007-2008 was selected as subjects for this study at random.

All these players readily accepted to act as the subjects for this study. The purpose of the study was explained to all and to get familiar with the requirement of the study they were provided opportunity to go through the questionnaire and ask questions if any.

SELECTION OF TOOLS AND TECHNIQUES

BIST BATTERY OF STRESS SCALES by Abha Rani

PURPOSE---It assessed the psychological variables viz frustration, conflict, pressure and anxiety through SCALE OF ACHIEVEMENT STRESS (SachS). It carries 52 items in total covering all required aspects related to competitive situation.

Table 1
Percentiles on the Scale of Stress Battery

S. No.	Scales	P ₁₀	P ₂₀	P ₃₀	P ₄₀	P ₅₀	P ₆₀	P ₇₀	P ₈₀	P ₉₀
1	SAch S	80.06	99.58	101.2 4	126.3 0	130.9 0	134.4 0	140.0 0	148.0 1	161.6 2

- High stress- PH70 or above.
- Average stress-P69 to P31
- Low stress-P30 or below

SCORING

TABLE

The scoring is as follows for the positive statements-

Always	Often	Sometimes	Rarely	Never	Total	Grand Total
Too much	Much	Average	Less	Not at all		
4	3	2	1	0		
4	3	2	1	0		

For negative statements it is just vice versa the total will be separate for frequency and quantity. The grand will be the sum of frequency scores and quantity scores. Thus the scale has

- Frequency of stress
- Quantity of stress
- Total stress score
- Component wise stress

TABLE

For interpretation the scores are arranged in following manner

Frustration		Conflict		Pressure		Anxiety		Total		Grand Total
Frequency	Quantity	Frequency	Quantity	Frequency	Quantity	Frequency	Quantity	Frequency	Quantity	

The total will show the sum of frustration, conflict, pressure, and anxiety scores frequency and quantity wise. The grand totals will be sum of both frequency and quantity scores and will show the total amount of stress.

TABLE**DISTRIBUTION OF ITEMS OF SACHS**

S.NO.	Components	Item Numbers	Total
1	Achievement Frustration	2,4,8,10,15,16,21,25,28, 32 , 3,36,37,40,41,44,46,51,	18
2	Achievement Conflict	7,18,27,29,43	5
3	Achievement Pressure	1,5, 6 ,11,13,14, 17 ,20,24,26 31,34,38,42,45, 47,48,50	18
4	Achievement Anxiety	3,9,12,19, 22 ,23,30,35,39, 49,52	11
		Total	52

ADMINISTRATION OF TEST

The tests were administered during the inter-varsity competitions held by University Sports Board. The subjects were made aware about the study and its significance prior to the administration of test. The Confidentiality of test taken was maintained. The other members involved in administration of test were given a brief training before the test.

The test was administered one night prior to competition. A good rapport was made with the subjects; the desired purpose and instructions were explained to them. When subjects were working independently they were instructed to read and follow directions printed on forms and were again asked if there are any questions about what is to be done. When the subjects

were responding to the questions the researcher went around seeing that subjects were giving their responses as per the instructions. Whenever any doubts aroused it was solved on the spot. However no time limit was given for completing the test batteries. The completed questionnaire was checked and was made sure that no question was left unanswered..

STATISTICAL TECHNIQUE

Multiple Regressions is used to find

- The effect of Frustration, conflict, pressure and anxiety on total stress with respect to quantity, frequency and in total.

Percentile

To find the scores of high and low stress P70 and P70 was computed $P_{30} = \frac{\text{Size of 30 (N+1)}}{100} \text{ Item}$

$P_{70} = \frac{\text{Size of 70 (N+1)}}{100} \text{ Item}$

Bist Battery of Stress Scale

Showing Stress among female players of athletics
Percentile norms were established for scale of the battery .the corresponding grouping of high average and low stress in term of percentile is-

Stress	Percentile	Score
High Stress	P70 and Above	221
Average Stress	P69-P31	170-221
Low Stress	P 30 and Below	221

TABLE

Showing the effect of four factors i.e. frustration, conflict, pressure and anxiety on total stress among athletes

Regression Output:

Constant	10.52105
Std Err of Y Est.	8.91113
R Squared	0.965116
No. Of Observations	50
Degrees of Freedom	45

X Coefficient(s)	0.9952831	0.8809745	0.7249111	1.1998
Std Err of Coef.	0.1049525	0.2471333	0.1267854	0.158646

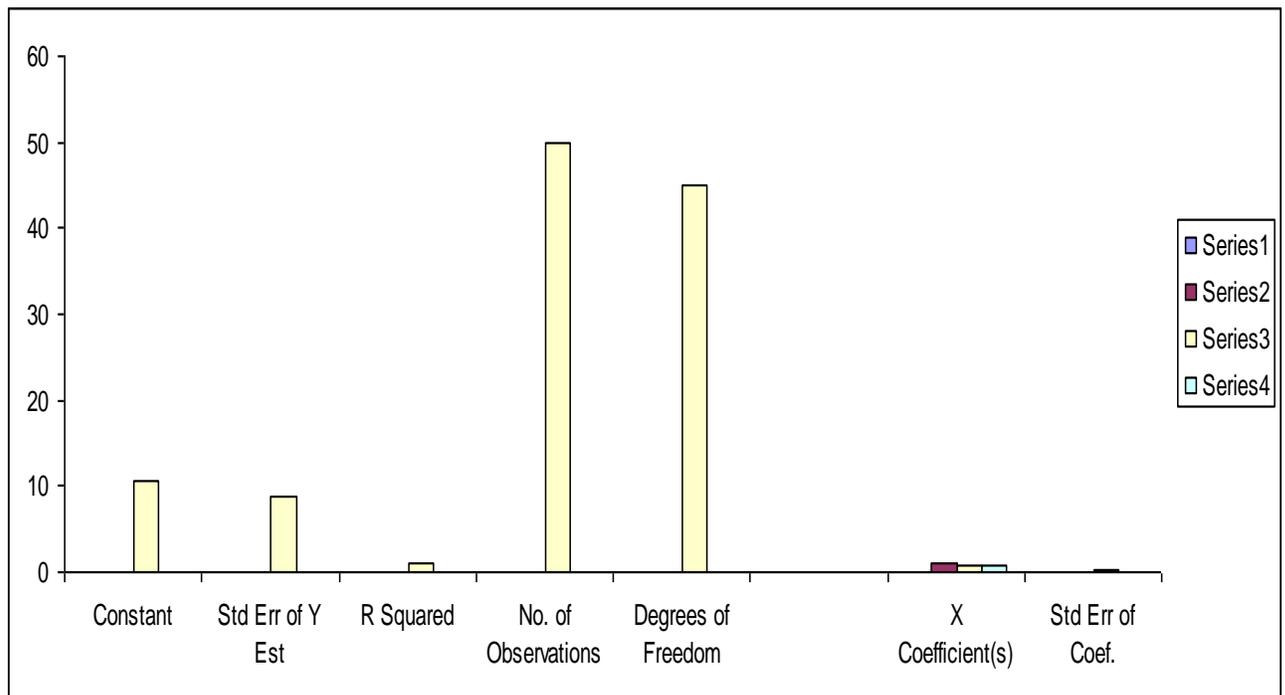
This shows that four factors of stress i.e. frustration has an effect of 0.9952831 on stress with std Error 0.1049525 of 1.7687011.570. Where conflict has 0.8809745 effects with std.error 0.2471333, pressure has effect of 0.7249111 with and std error of 0.1267854 and anxiety has effect of 1.1998 with std. Error of 0.1error of 0.158646.

All the four factors in together have 0.965116 (96.5116%) effect on stress (co-efficient of determination).

All other factors other then these four factors (which are not taken into consideration in this study) have 10.52105 with an std.error of 8.91113 .

GRAPH

Showing the effect of four factors i.e. frustration, conflict, pressure and anxiety on total stress among athletes



DISCUSSION OF FINDINGS ON BIST BATTERY OF SCALE FOR STRESS

Sport	P30 and Below (Low Stress)	P31-P69 (Average Stress)	P 70 and Above (High Stress)
Athletics	170	170-231	231

- In Athletics Anxiety has maximum effect on stress followed by Frustration than Conflict and at last pressure was found to have least effect on stress. It was found that many other factors other than these four factors, which are not taken into consideration in this study, may have much more effect on stress.

SUGGESTIONS

Suggestions for future research on this topic include

- Adding a Liker-type stress scale to the questionnaire to attempt to measure the stress level of student-athletes and non-student athletes.
- As an athlete myself, I was very concerned about how athletes ranked and I believe that by asking the questions that I did, I was able to get a feel for how the student-athlete was doing academically through their grades as well as their type of performance on the court, field, arena, and so forth.

BIBLIOGRAPHY

Bishop G.D ,“Dealing **with stress: Who gets sick and who doesn't.**” In S. Badger (Ed.), Health Psychology Integrating Mind and Body (1994). (Pp. 173-178). Needham Heights, A: Allyn and Bacon.

Clarkson L -Smith, & Hartley A.A, "**Relationships between physical exercise and cognitive abilities in older adults. Psychology & Aging**", (1989), 4, 183-189.

Purdy D.A., Eitzen, D.S. & Hufnagel R “**Are student also athletes?** The educational attainment of college athlete.” Social Problems, (1982) 29, 339-447.

Sharma, R.N. “**Social psychological**”, Ramnath Kedarnath Pub; Meerut”, 1982

Spielerg G, “what is anxiety”, cited by Cratty in Psychology in Contemporary sports.”p.145

Tripathi A. K, (1985); “Locus of control and Anxiety in Harijan Adolescent.” Kashi Vidyapeeth, Varanasi

Anshel,Mark-h; Kim, Kee-Wong; Kim, Byung-Hhun; Chang, Kook-Jin; Eom, Han-joo, “ A model for coping with stressful events in sports: Theory, application, and future direction.” International Journal of sports psychology, Jan-Mar 2001; vol 32 (1): 43-75.

BoKari; Borgen, Journ-Sundgot “prevalence of stress and urge urinary in continence in elite athletes and controls” Nov. 2001; Vol. 33 (11): 1797-1802.

Collen JHaney,”stress-management interventions for female athletes: relaxation and cognitive restructuring.” International Journal of Sports Psychology. Apr-Jun 2004; vol 35(2): 109

Dalaviras Timothy, Joseph “Coping with an academic stressor among college athletes and non-athletes” The-Sciences-and – Engineering. Dec. 2001; Vol 62 (5-B): 2

DeMeuse K.P.T; The life event stress- performance linkage: an exploratory study’, J.Hum. Stress, 4:111-117, 1985

Fletcher,David; Hanton, - Sheldon “Sources of organizational stress in elite sports performers” Jun 2003; Vol 17 (2): 175-195

Hardy C.J and Riehl R.E.An examination of the life stress injury relationship among no contact sport participants’, Behav.Med.14: 113-118, 1988.

Hardy Tim Woodman and Lew, “A case study of organizational stress in elite sports”, Journal of applied sports psychology, Jun 2001; vol [13@2](#)): 207-238.

Humphrey **H James; Deborah A .Yow; William W. Bowden, 1984. "Stress in College Athletics: Causes, Consequences, Coping" New York: Haworth Half-Court Press.**

Kerr, **John-H; Fujiyama, -Hakuei; Campano, - Jessica "Emotion and stress in serious and hedonistic leisure sport activities." Journal-of-Leisure-Research. 2002; Vol 34 (3): 272-289**

Kumar A., Pathak, N. and, Thakur G.P., (1985); "**Locus of Control and depth anxiety in individual team and non-athletes.**" **Proceedings of sixth world congress in sports psychology. Copenhagen, Denmark**

Lamphere Louise, "**Anthropology, sign: Journal of women in culture and society**"(1927), 2,612-627

Liao,Chu-Min; Masters, -Richard-SW "self-focused attention and performance and failure under psychological stress" Sep. 2002; Vol. 24 (3): 289-305

Man,Frantisek; Repka, - Emil "Trait-state anxiety in top athletic competition" Studia-Psychological. 2001; Vol 43 (1): 59-67

McCleod;"Stress Levels among Student Athletes and Non Student"-Athletes Quinton

McGuire, Tracie-Elizabeth "Sports-related stress and coping: Developmental and gender differences" The-Sciences-and-Engineering." Mar 2003; Vol 63 (8-B): 39-58

Meehan Heidi-L; Bull, -Stephen-J; Wood, -Dan-M; James, -David-VB "The Overtraining Syndrome: A Multicontextual Assessment" June 2004; Vol 18(2): 154-171

Miller. Thomas. And Miller M. Jeanine, " Stress: Life Stress and the Athlete", (Psychology ServiceVA and University of Kentucky Medical Centers Lexington, KT Department of Occupational Thera College of Allied Health Eastern Kentucky University Richmond, KTUSA)

Monteleone Brian-Ronald “Cognitive-Affective Stress Management Training to reduce competitive anxiety in athletes” Jul 2001; Vol 62 (1-B): 5-570

Noce , Franco; Samulski, -Dietmar-Martin “Analysis of the psychological stress of Brazilian top level volley ball setters” Revista-de-Psicologia-del- Deporte.2002; Vol 11(1): 137-155

Patton J.F., and Freitag C.B. (1977);“Correlation study of depth anxiety, general anxiety, and locus of control.” Psychological reports vol.40 (1), 51-54.

Park, Jkeon-keun , "The perceived sources of competitive stress in Korean national athletes”, International journal of sports psychology. Jul-Sept 2004; vol 35(3): 207-231.

Raereke, Thomas-D; Smith, Alan-L, ,” Coping Resources And Athletes Burnout: An Examination of Stress mediated and Moderation Hypothesis.” Journal of Sport and Exercise Psychology. Dec 2004; vol 26(4): 525-541

Singh Agyajit; “Competitive Anxiety in Sports “, SNIPES journal July 5 1982 p-41

Smith, -Anne-Elizabeth, “Elite collegiate female athletes: A Comparison between injured and non injured upper and lower division student-athletes on life –stress, competitive trait Anxiety, and coping skills” Humanities -and-social sciences, Jun 2001; Vol 61(11-A)

Stilger, -VG; Etzel, -EF; Lantz, -CD “life-stress sources and symptoms of collegiate student athletic trainers the course of an academic year”: Erratum, Jan-Mar 2002; Vol. 37 (1): 105.

-

