

Stressors in Defence Academy

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ABSTRACT

The study was conducted to examine the differences in the stressors of the defence trainees among the three wings of defence (Army, Air force and Navy). An inventory of stressors was constructed to be used in the study. Inventory was constructed through three stages. In the first stage, interviews were conducted with three generals and a panel of 7 members to collect information on stressors during defence training to formulate questionnaire for the conduction of Focussed Group Discussions (FGDs). During the second stage, 8 FGDs were conducted, where in each FGD consisted of 8 trainees; total sample was randomly selected, 64 male trainees aged between 17.6 years to 18.6 years. In addition to this, 27 instructors of the academy were interviewed to collect relevant information to formulate inventory of stressors during defence training period. In the third stage, 34 items inventory of stressors was constructed. These 34 items were classified into 3 categories, (1) Physical training and its impact (2) Process and systems of training (3) Social and Psychological stressors. This inventory was standardized on randomly selected N = 100 male trainees (male aged between 17.6 years to 18.6 years) belong to three wings of defence. Cohen's perceived stress scale was administered to find content validity and content validity was found at 0.705 and Chronbach reliability was found at 0.957 and split half reliability was found at 0.937.

Keywords: *Stressors, Defence Training, Focus Group Discussions.*

The word “stress” reminds, one of the “pressures” placed upon us. The well known quite often referred definition of stress is Selye's (1936), where he states that “stress” as the non-specific (i.e., common) result of any demand upon the body; be it a mental or somatic demand for survival and the accomplishment of our aims. Stress irrespective of any other specific changes that may occur after exposure to one or the other “stressor” or “stress-producing agent”.

The term ‘Stress’ originated in the field of Engineering, to the engineer; it means every external force will be directed towards some physical object. This external force causes Strain that can be

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temporary or permanent alteration in the structure of the object. This engineering connection is adopted in psychology and physiology referring stress as the external agent or stimulus and strain being the resultant effect.

Another simplified definition of 'Stress' is by Arnold (1966) where he considered Stress as "Any condition that disturbs normal functioning." According to Lazarus (1966) & Selye (1956) the term 'Stress' refers to a state of imbalance within an organism that a) is elicited by an actual or perceived imbalance between environmental requirements and the organism's ability to cope with these demands, and b) is manifested through a variety of physiological, emotional and behavioural responses. This response syndrome occurs due to excessive environmental demands, or stressors, that the organism is exposed to. Conditions of the social and physical environment act as stressors that tax & exhaust the organism's resources for adaptation.

Stress situation can occur due to several factors. They could be physical (extra heat or cold), chemical (ex. Intoxication, dehydration), viral (ex. bacteriological infection), inter human (ex. conflict, deprivation, frustration), social stress (social circumstances or cultural rules that are frustrating), occupational stress (demands work environment) or natural calamities (ex. Flood, earthquake, landslip)

Stress as term has gained lot of attention since it has been used as a substitute for several concepts like anxiety, conflict, emotional distress, extreme environmental conditions, ego-threat, frustration, insecurity feelings (threat to security), tension, arousal, and thus has gained special status in the field of research in Biological, physiological, clinical, psychosomatic, psychological, experimental research and unusual environments like military and space operations.

In the field of stress, it has become important to differentiate between "Stress" and "A Stressor". Stress is the feeling we have when we are under pressure, while Stressors are the conditions of the environments that creates pressure upon us. Perception of an event's occurrence is necessary if it is to be called as a "Stressor", people do react differently to a "Stressor", depending on their defence mechanisms at conscious or unconscious level. Lazarus (1975) indicated that a stimulus might be a physiological stressor without being a psychological stressor and stress either physiological or psychological is not necessarily unpleasant. The pleasant kinds of stress are considers as "Eustress" unpleasant kinds of stress are considered as distress. Kagan (1975) claimed that a given stimulus may be a stressor for one subject but not for another. Further, another important aspect to note is that the same stressor that has caused a state of stress in a particular subject on a particular occasion may have a stranger or weaker effect in a subsequent occasion.

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According to Adler et al (2004) Military stressors occur in three major environments, a) Garrison b) Training exercises and c) Deployment. Some of the Stressors are similar to those found in non-military work settings, but some are unique to military set up. Some of the Stressors unique to military set up are work overload, unpredictability, role stressors, traumatizing event like threat to one's safety like human suffering or death, inflicting harm on others and certain stressors related with deployment like austere living conditions, boredom and family separation. In the process of preparing trainees for these stressors during deployment, trainees are definitely exposed to these stressors, especially, threat to one's safety, health, different living conditions, some amount of boredom, physical exertion and family separation.

In the program aimed by Walter Reed Army Inst of Research (WRAIR) 2004, to address soldier's stress, health and performance they found stressors in a variety of environments of military service like:-

- i) Military stressors across several tasks across operations and environments.
- ii) Identification of mission-specific stressors.
- iii) Occupational stressors associated with military service within a multidimensional framework in military environment.

The stressors experienced by military personnel can be classified under two categories.1) General work stressors. 2) Stressors specific to military.

1) **General work stressors:**

- a) Work overload: the number of military missions has increased while the number of military personal has decreased.
- b) Predictability: the predictabilities of the duration of deployment are uncertain. Day-to-day work load and work schedule will be unpredictable and stressful non congruency. Military personnel will not be aware of the duration of their deployment, which create lot of stress to both soldiers and their families.
- c) Role stressors: arise due to the job training and the mission of the soldiers where he is deployed. When soldiers lack proper training relevant to their job or when their mission is not appreciates to their professional identity (trade) their morale and performed often suffered.
- d) Interpersonal conflict and organizational constraints: in a survey conducted by WRAIR in 373 U.S. soldiers deployed in Europe in 2001, these two stressors of operational readiness and positively relates to depression and general psychological distress.

2) **Specific to military training stressors:** The training stress in military training occupies a unique place in military environment. Several studies conducted by WRAIR with Reserve Officer Training Corps (ROTC) cadets indicate that key stressors for cadets are:

- a) Role stress: cadets may be lacking capabilities to undergo physical training.
- b) Performance concern
- c) Workload. They found each of these stressors demonstrated negative relationship with cadet's well being and performance outcomes.
- d) Within group conflict: refers to disagreements, differences or in congruencies within groups.

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The cadets are trained together but are evaluated on their potential to be future officers. This within group conflict was negatively related to group performance and also to cadet's psychological well-being and overall performance.

- 3) **Deployment stressors:** these stressors were due to both non-traumatic and potentially traumatic events. They are:
- a) Austere living conditions
 - b) Boredom
 - c) Family separation
 - d) Transitioning between deployment and home'
 - e) Uncertainty about mission's objectives and army policies.
 - f) Threat to their safety and psychological well-being
 - g) Post deployment stressors. After the deployment also soldiers are affected by reduced sleep hours, increased use of conflict based tactics and excessive consumption of alcohol.

A military training, basically trains the cadets to acquire the skill and develop technical proficiency, discipline, strength, endurance and teamwork. Several studies have shown that (Evans et al, 2008), stress fractures develop when bone is exposed to repetitive, cyclical, high intensity or intense exercise, when an individual significantly increases activity levels over a short period of time, particularly in military training. Trainees also have to undergo several physical and psychological stressors like mandatory physical training, group living, and peer pressure and competition (Lieberman, et al, 2008).

In a study conducted by Busko and Kulenovic (2000), on 449 Army recruits during military basic training. They administered a set of self-report instruments to measure stressors during military service, cognitive appraisals and the ways of coping with stressors at two points of times. 1) Within first 7 – 12 days of their services and 2) Last but one week of their military basic training.

They designed a 43 – item self-report problem scale to measure the incidence and the intensity of scientific sources of problems during military service. Each item was assessed on a 4 – point scale (1 = not at all a problem; 4 = bothers me a lot). In addition to examine the content of stressful events, a list of potential stressors was also administered. They classified these stressors into 6 categories; housing, relationships with other recruits, military regime, and relationship with super ordinates, disconnection of civilian life and unclear situations during military service. There are several studies conducted in other countries to study stress in military environment. They have developed and administered stress measuring instruments in their study. Examinations of such stress measuring instruments revealed that the items in the scales reflect some cultural elements that are uncommon in Indian context. A strong need was felt to identify the stressors that are experienced by the Indian defence trainees, during their military training. Hence an attempt was made to construct an inventory of stressors experienced by trainees in defence training academy, in this study.

METHOD

At the preliminary stage of the construction of the inventories of stressors, informal/ unstructured interviews were conducted with three major Generals of the army who served as Instructors at the Defence Training Academy. This information was utilized to construct the questionnaire for facilitating Focus Group Discussions (FGD) with trainees to collect more authentic knowledge about the stressors during the training period.

A panel of six members was constituted for standardizing the questionnaire. The panel consisted of two instructors at the Defence Training Academy. Two psychologists who are serving at Services Selection Board, one professor of clinical psychology at NIMHANS and one practicing psychologist. In depth interviews were conducted with each member of the panel and their opinions were collected regarding the questions formulated for focused group discussion with trainees.

Sample:

Constituted of 64 trainees undergoing their second and third year of training belonging to all the three service wings, Army, Navy and Air force who were randomly selected as a representative sample of the Defence Training Academy.

Semi structured interviews were also conducted with 27 instructors at the training academy to collect relevant information on the stressors experienced by trainees during the training period.

Procedure:

Depending on the ratio of induction of trainees into 3 service wings, 4 FGDs were conducted with Army trainees, 2 FGDs were conducted with Navy Trainees and 2 FGDs were conducted with Air-force trainees. Each FGD was conducted with 8 trainees. The transcriptions of all the 8 FGDs were analyzed using qualitative technique. Coding was done separately for each wing of defence. The information collected from the training instructors of the Academy was also coded separately.

RESULTS AND DISCUSSIONS

Deducing from the output of the qualitative analysis of FGDs and instructor's responses, an inventory of stressors of 34 items was constructed. These 34 stressors were further classified into 3 types of stressors on the basis of their sources:-

- 1) Physical Training and its impact (11 Stressors).
- 2) Process and systems of training (13 Stressors).
- 3) Social and psychological stressors (10 Stressors).

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Table No.1 gives the detailed distribution of 34 items into three categories of stressors

1) Physical Training and its impact	2) Process and systems of training	3) Social and psychological stressors
1. Physical activities	2. Time management problem	4. Harsh words from instructors and seniors
3. Muscle stress	6. No relaxation after physical training	7. Made to do funny things by seniors
5. Exhaustive cross-country	10. No holiday	11. No communication with parents
8. Pain	15. Lack of proper sleep	13. No personal time
9. Doing PT after dinner	19. No liberty	16. Continuous check by seniors
12. Injuries	23. Cabin-Cupboard	20. Disturbance by others
14. Games	25. Irritating routine	21. No personal space
17. Fractures	26. Getting up early morning	24. Less social contacts
18. Hard drill	28. Punishments	27. Comparison with other civilian friends
22. Camps	30. No cell phones	34. Communication period reduced
29. Physical exertion	31. Lack of opportunity to learn new things	
	32. Sudden engagements	
	33. Unnecessary activities	

From the above table it is evident that more number of stressors is there in the second category i.e., Process and Systems of training when compared to Physical training and its impact and Social and psychological stressors.

Standardization of the Inventory:

Standardization of the Inventory was carried out on 100 trainees of the first semester in the academy. These 100 trainees were randomly selected out off 245 first semester trainees, who are undergoing training at the Academy. Stratified random sampling procedure was adopted to select the sample. All the first semester trainees were divided into 3 wings according to the ratio of induction, and then randomly selected to get a representative sample of the first semester trainees. Total sample constituted of Army N = 69, Air force N = 21 and Navy N= 10.

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Table 2 showing first category of stressors experienced by three wings of defence training academy

Physical Training and Its impact	Army		Navy		Air force		Total
	N	%	N	%	N	%	
1. Physical activities	68	98.5	10	100	21	100	99
3. Muscle stress	69	100	10	100	21	100	100
5. Exhaustive cross-country	33	47.8	6	60	16	76.2	55
8. Pain	67	97.1	10	100	20	95.2	97
9. Doing PT after dinner	66	95.6	10	100	21	100	97
12. Injuries	57	82.6	6	60	17	80.9	80
14. Games	69	100	8	80	19	90.5	96
17. Fractures	11	15.9	2	20	1	4.7	14
18. Hard drill	69	100	9	90	21	100	99
22. Camps	13	18.8	1	10	8	38.1	22
29. Physical exertion	30	43.5	10	100	21	100	61
Total	552		82		186		820
Mean	50.18		7.45		16.91		
Median	66		9		20		
SD	23.62		3.33		6.56		

From the above table, it is evident that Physical activities (Army - 98.5%, Air force and Navy - 100%) and Muscle stress (100%, 100% and 100%) were experienced by all the trainees belonging to three wings. All the Navy cadets experienced Pain, Doing PT after dinner and Physical exertion. All the Army cadets experienced Games, Hard drill. Majority of Army cadets experienced Pain (97.1%) and doing PT after dinner (95.6%). All the Air force cadets experienced Doing PT after dinner, hard drill and Physical exertion. Lowest stressful activities experienced by all the three wings are Camps and Fractures.

Table No.3 showing the second category of stressors experienced by three wings of defence training academy

Process and systems of Training	Army		Navy		Air force		Total
	N	%	N	%	N	%	
2. Time management problem	67	97.1	10	100	20	95.2	97
6. No relaxation after physical training	64	92.8	9	90	20	95.2	93
10. No holiday	53	76.8	9	90	20	95.3	82
15. Lack of proper sleep	50	72.5	9	90	21	100	80
19. No liberty	56	81.1	7	70	19	90.5	82
23. Cabin-Cupboard	64	92.7	10	100	20	95.2	94
25. Irritating routine	61	88.4	8	80	17	81	86
26. Getting up early morning	63	91.3	10	100	21	100	94
28. Punishments	62	89.9	8	80	18	85.7	88
30. No cell phones	58	84.1	10	100	17	80.9	85

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Process and systems of Training	Army		Navy		Air force		Total
	N	%	N	%	N	%	
31. Lack of opportunity to learn new things	49	71	6	60	15	71.4	70
32. Sudden engagements	66	95.6	9	90	21	100	96
33. Unnecessary activities	55	79.7	9	90	19	90.5	83
Total	768		114		248		1130
Mean	59.1		8.8		19.1		
Median	61		9		20		
SD	6.02		1.23		1.84		

All the three wings felt time management problem (Army – 97.1%, Navy – 100% and Air force – 95.2%), No relaxation after training (92.8%, 90% and 95.2%), Cabin cupboard (92.7%, 100% and 95.2%) AND getting up early morning (Army - 91.3%, 100% for both Navy and Air force) most stressful. Army cadets on comparison felt, No holiday (Army - 76.8%, Navy – 90% and Air force – 95.3%) and Lack of proper sleep (Army – 72.5%, Navy – 90% and Air force – 100%) less stressful to Air force and navy cadets.

Table No.4 showing the third category of stressors experienced by three wings of defence training academy

Social and psychological stressors	Army		Navy		Air force		Total
	N	%	N	%	N	%	
4. Harsh words from instructors and seniors	64	92.7	8	80	21	100	93
7. Made to do funny things by seniors	51	73.9	5	50	15	71.4	71
11. No communication with parents	54	78.3	6	60	16	76.2	76
13. No personal time	67	97.1	10	100	21	100	98
16. Continuous check by seniors	68	98.6	10	100	20	95.2	98
20. Disturbance by others	53	76.8	8	80	16	76.2	77
21. No personal space	59	85.5	9	90	21	100	89
24. Less social contacts	64	92.8	9	90	19	90.5	92
27. Comparison with other civilian friends	61	88.4	9	90	18	85.7	88
34. Communication period reduced	68	98.5	10	100	20	95.2	98
Total	609		84		187		880
Mean	60.9		8.4		18.7		
Median	62.5		9		19.5		
SD	6.4		1.7		2.3		

The above table shows that, all the Navy cadets felt No personal time, Continuous check by seniors and Communication period reduced as most stressful. And Air force cadets felt harsh words from instructors and seniors, No personal time and No personal space as most stressful. Majority of Army cadets felt, harsh words from instructors and seniors (92.7%), No personal time (97.1%), Continuous check by seniors (98.6%) Less social contacts (92.8%) and Communication period reduced (98.5%) as most stressful.

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Busko and Kulenovic (2000) have given the details of some of the measures on selected 13 items out of their 43 items self-report problem scale. They are listed in the table no.5.

Table No. 5

Item	Experienced by the present sample
1. Missing family and friends	Yes
2. Time passes too slowly	No
3. Feeling tired, no sleep	Yes
4. No sex in a while	No
5. Losing too much time in forming and waiting	No
6. Punishing all due to mistake of just one soldier	Yes
7. Lack of freedom of movement	Yes
8. Problems with maintenance of hygiene	No
9. Not enough time for hygiene and meals	Yes
10. Insufficient amount or poor food	No
11. Cannot help the family to overcome problems	Yes
12. Not enough free time	Yes
13. Poor toilet rooms	No

It is noted that out of 13 items reported the six items of problems, i.e., (2) Time passes too slowly (4) No sex in a while (5) Losing too much time in forming and waiting (8) Problems with maintenance of hygiene (10) Insufficient amount or poor food and (13) Poor toilet rooms, were not experienced by the trainees at the academy in the present study. Remaining other 7 items i.e., (1) Missing family and friends (3) Feeling tired, no sleep (6) Punishing all due to mistake of just one soldier (7) Lack of freedom of movement (9) Not enough time for hygiene and meals (11) Cannot help the family to overcome problems and (12) Not enough free time, were also endorsed by Indian defence trainees as stressors. The difference noted between both groups in rating stressors during military training may be attributed to socio-cultural differences between the two samples.

Busko and Kulenovic (2000) found in their study the six categories of stressors i.e.

1) Housing	Nil
2) Relationships with other recruits	(20) Disturbance by others
3) Military regime	(1) Physical activities (3) Muscle stress (5) Exhaustive cross-country and (8) Pain
4) Relationships with super ordinates	(4) Harsh words from instructors and seniors (7) Made to do funny things by seniors and (16) Continuous check by seniors
5) Disconnections of civilian life	(11) No communication with parents (24) Less social contacts (27) Comparison with other civilian friends and (34) Communication period reduced
6) Unclear situations during military service.	(32) Sudden engagements and (33) Unnecessary activities

We can note that except the first category i.e., Housing, other five categories are similar to the three categories found in the present study.

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Reliability and Validity:

Perceived Stress Scale by Cohen (1983) was administered to establish content validity. Pearson Correlation was calculated. Correlation coefficient was found at 0.705 significance at 0.01 level (2-tailed) and reliability was calculated using Chronbach and split half methods. Chronbach reliability was 0.957 and split half was found at 0.937.

CONCLUSION

The inventory of stressors is found to be an exhaustive valid tool to tap the stressors encountered by the trainees at the defence academy.

IMPLICATIONS

- 1) The stress measuring instruments used in other countries to study stress and stressors in military environment revealed the cultural elements that are uncommon to Indian trainees. Under these circumstances, the present scale of stressors that are developed on Indian defence trainees is more appropriate and valid tool. This can be adopted in future research studies in Indian defence trainees.
- 2) This scale of stressor can be utilized by the training instructors at the defence training academy to understand trainee's physical and psychological stress level. The knowledge will help the instructors to modify their training mode and schedule to make their training more effective.
- 3) The information obtained from these stressors will guide instructors and counsellors at the academy to guide trainees to adopt suitable stress management programs to handle the stress during the training period, as per the requirement of the individual.

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