

Effect of stress on social behaviour of expedition members of ISEA

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Antarctica is symbolized with physical harshness, extreme cold, winds and unpredictable weather. The social environment rather than physical environment is known to have increased stress in Antarctica. (Lantis, 1968). All over the world it is agreed that besides the physical hardships, social adjustments by the expedition members are equally important for the success of any expedition. The social environment is characterised by prolonged isolation, limited space, difficulty in communicating with family members and close associates, limited activities, expression of emotional and sexual needs, boredom with lack of environmental stimulation. These environmental conditions produce marked stress in the expedition members. Stress can produce different kinds of psychological reactions. In Antarctica expeditions the study of such psychological reactions is merited as it effects the overall functioning of the expeditioner.

Some understanding about the social problems in Antarctica was gained while interviewing members of previous expeditions soon after their return. For comprehensive understanding it was necessary to obtain the first hand information of the stressful events and their impact on social behaviour of the expedition members. This would go a long way in psychological preparation of the future expedition members with this aim the present study was undertaken.

Objectives:

The present study was proposed to find significant stress factors (stressors) experienced by Indian expedition members during voyage and stay in Antarctic continent and to determine the impact of stressors on social behaviour.

Methodology:

Sample:

46 expedition members participated in this study. All the members of the 15th Winter over expedition and volunteers of summer team of the 18th expedition were

subjects of this study. The members were both from the scientific and army team. There were 25 male members of the 15th winter over expedition in the age range of 25-55 years of age. In the summer team of 18th expedition one female and 20 males in age range 24-57 years comprised the sample.

Procedure:

To assess stressors and their impact on the social behaviour of the expedition members, following tools were used.

Assessment Tools:

Stress	Checklist-behavioural observations
Personality	Multi-Dimensional Personality assessment, Structured observation
Social behaviour	Structured observation
Interpersonal Problems	Thematic Apperception Test, Interviews and observation
Coping	SelfReport
Performance	Daily Task, Extra-curricular activities
Dreams	Verbal recall

Results and Discussion:

Stressful Events:

The stressful events experienced during the expedition were as following :

Table-1 - Stressful events during expedition

1. Sea sickness
2. Rolling and Pitching after 40° latitude

3. Stop at Mauritius.
4. Injuries, ill health and death news of Pawans Hans Engineer (Late Mr. R. N. Verrna)
5. Halt of ship for repairs
6. Bad weather
7. Helicopter accident
8. Delay in carrying nut work
9. Lack of communication - from their families and other expedition members. between ship and Maitri.
10. Non availability of important items e.g. winter protection materials
11. Living in constrained space and toilet arrangement in summer camp
12. Lack of organization and appropriate planning of activities
13. Differences in scientist and logistics team, lack of cooperation
14. Attitudes towards summer team members

Effect of stress on social behaviour:

Different individual responses were observed during stressful situations. The most common negative behaviours were criticising each other, nagging, passing negative comments, taunting, blaming, crying, withdrawing and in few situations violent behaviour after drinking were observed. However, majority of the expedition members manifested positive behaviours e.g. cooperation, helping others, providing social support, organizing group activities to channelize anxiety

Stress and Personality

The fourteen stressful conditions listed above were perceived differently by various members. The personality of an individual determines how he/she reacts under stress thus personality assessments was done to see which type of personality characteristics were more desirable for such expeditions. Assessment of personality profile in this expedition are presented in the following table-2.

Table -2: Personality Profile

Dimensions	Low	Average	High
Adaptability	100%	100%	80%
Achievement motivation	40%	20%	40%
Boldness	80%	20%	
Competition	70%	10%	20%
Enthusiasm	40%	10%	50%
(General ability	80%	10%	10%

Guilt Proneness	10%		90%
Imagination	70%	30%	-
Innovation	90%	10%	-
Leadership	10%	10%	80%
Maturity	60%	30%	10%
Mental Health	70%	20%	10%
Morality	10%	50%	40%
Self control	50%	10%	40%
Sensitivity	90%	10%	
Shrewdness	10%	-	90%
Self-sufficiency	50%	20%	30%
Suspiciousness	90%	10%	-
Social warmth	40%	40%	20%
Tension	90%		10%

60 % of the wintering members had high enthusiasm, achievement motivation, competition 40 % were high on leadership. Though tension level was low for almost all the expedition members but self control and maturity was also low in 65 % of the members. Sensitiveness, getting emotionally upset was low in 12 expedition members. Symptoms like insomnia, irritability, headache, migraines, anxiety and depression was reported. The post Antarctic evaluation carried out by us for the last three years has also suggested difficulties in work, communication, physiological and psychological problems

Interpersonal problems

There have been instances of excessive drinking of alcohol, smoking, interpersonal conflicts, physical fights, anxiety and depression. Some members become sensitive to trivial issues like celebration of birthdays, personal comments, food and work management. Conflicts and differences between scientific and army groups were observed.

Coping:

The few persons who had low coping skills were repeatedly manifesting negative behaviours. These problems in coping were being observed in both wintering and summer expedition members. Fifteen wintering over members had developed rashes on various parts of the body, which can be physical manifestation of stress.

Performance:

Boredom/fatigue, reduced motivation to work-, impaired memory and concentration were also reported by winter-over expedition members.

Dreams:

Five members had reported disturbed dreams. These were related to not being able to do work according to their plans, and some were related to their family.

Conclusion:

Though various stresses are encountered by the members during the expedition, the responses are different due to individual personality and coping ability. With proper screening and psychological preparation of individuals these problems can be minimized. This will enhance adjustment and productivity of the expedition members.

Reference:

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