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## Analysis of the selected psychological variables of adolescent school boys with different geographical regions of Karnataka

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### Abstract

The purpose of this study is to compare the selected psychological variables which are stress and anxiety levels among the adolescent school boys under different geographical regions of Karnataka. To achieve this purpose, three hundred adolescent school boys of the private schools from different regions (plain, coastal and hills) of Karnataka with age ranging 13-15 years were selected. The psychological variables selected for the study are stress and anxiety. Perceived Stress Scale (PSS-14) developed by Sheldon Cohen Kamarck T, Mermelstein R. was used to assess the stress level among the school boys and Trait Anxiety Inventory (STAI) (Adaptation of Spielberg's Trait Anxiety Inventory) was used to find out the anxiety level among the school boys. To find out the significant differences among the groups One-way, Analysis of Variance (ANOVA) was used. Further, the Scheffe's Post Hoc test was used to find the significant difference in the paired mean scores. This study is concluded that there was significant difference in the stress and anxiety level of the adolescent boys under different regions of Karnataka. The school boys from plain area had less stress and anxiety when compared with hills and coastal regions.

**Keywords:** Psychology, Stress, Anxiety, Adolescent, Plain, Coastal, Hills, Region

### 1. Introduction

Childhood is considered one of the most important stages in every man's life. During this stage, a child's abilities develop his talents by nature and it gets convenient and submissive. The study on the analysis of psychological concepts of children is most important criteria for recognizing health of children at adolescent age.

Anxiety is a feeling of worry, nervousness, or unease about something with an uncertain outcome. It is a normal part of childhood, and every child goes through the same phases. A phase is temporary and usually harmless. But children who suffer from an anxiety disorder experience fear, nervousness, and shyness, and they start to avoid places and activities. Anxiety symptoms are common to children, with 10-20% of school-aged children experiencing anxiety symptoms. A larger number of children experience stress that does not qualify as an anxiety disorder.

Stress is the body's reaction of physical or emotional situation that causes imbalance in person's life. Occasional stress is normal and predictable in daily life. Normal stress instigates to fate challenges for greater learning and opportunity. Children react in different ways to stress. Some children become ill. Some may be withdrawn and nervous while others show anger and demand attention. Some children who do not seem bothered by stress. Some researchers conducted on stress and anxiety among various age groups show importance of stress and anxiety.

Cheng Kai-Wen (2010) [2] determined stress sources among college students in Taiwan and findings suggested that male students feel stronger stress from family factor than female students. The students in higher grades feel more stress from physical/mental, school and emotional factors. Kar (2013) [5] measured the competition anxiety of college level athletes by using SCAT and concluded that the anxiety level of the athletes was increased with the level of participation as well as decreased with the increment of participation year in sports. Mitra and Gayen (2014) [6] studied on sports competition anxiety level among the selected ballgame players and found significant differences among the selected three ballgame players.

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Chaudhary and Jain (2014) [1] studied to find out the level of anxiety among male and female adolescents and the result showed that male adolescents had higher anxiety when comparing female adolescents. Dolenc (2015) [3] examined the self-esteem, anxiety level and coping strategies among secondary school students in relation to their involvement in the organized sports and it concludes that differences identified between the two groups with respect to the use of certain coping strategies. Sport participants reported more productive coping than non-sport participants, which represents an active and the problem-focused approach to deal with everyday problems. Sivasankar and Ravindranadan (2016) [8] studied to find out anxiety difference between adolescent boys and girls and the results indicate that there was no significant mean difference in general anxiety and academic anxiety between boys and girls. The above studies show the research gap of the study.

Studies relating to physical and performance variables of the school students from hill, plain and coastal areas. Studies of the psychological variables of the school students of the hill, plain and coastal area are one of the new approaches to identify and improve the inherent physical fitness of an individual (Zeigler and Earle, 1982) [9]. The human fitness may influence from born and it can be changed by their heredity, living environment, life style and so on.

Karnataka is a rich and beautiful state with varied geographical environment and natural resources. Karnataka is the eighth largest state in India, having different geographical region such as coastal, plain and altitude. In that, different area people are survived and their lifestyle also changes according to their environment. Population explosion and employment dynamics in the modern times have lead to large scale mobility of population from one type of habitual place to another type of habitual place. Thus, it is not uncommon to find men of the hill area (altitude), plain and coastal. Hills area, the area where the narrow piece of land on the eastern border, close to the Western Ghats, which encompasses precipitous hills, deep valleys and gorges are covered with thick woods and all the rivers of the state are originated in the plain. The Plain areas which lie along central Karnataka, are located in the west of the hills and mountains. The coastal areas, where the narrow belt of coastal land along the Arabian Sea is characterized by broad paddy fields, rows of swaying coconut trees and serene, backwaters internally linked by rivers and inland waterways. This coastal belt has valleys and hills in the northern and southern parts.

## 2. Purpose and objective

The purpose of the study is to know the psychological fitness of the school boys and the objective of the study is to compare the psychological fitness of the adolescent school boys under plain, coastal and hills area of Karnataka region.

## 3. Hypothesis

It is hypothesized that there is no significant difference in the

selected psychological variables (Stress and Anxiety) of the adolescent school boys under plain, coastal and hills regions of Karnataka.

## 4. Methodology

**4.1 Selection of Subjects:** To achieve the purpose of the study, three hundred adolescent school boys studying in secondary schools of plain, coastal and hills of different regions of Karnataka with the age ranging 13-15 years were randomly selected.

### 4.2 Selection of variables and criterion measures

The following variables were selected for the purpose of the study:

1. Stress level measured by Perceived Stress Scale developed by Sheldon Cohen Kamarck T, Mermelstein R.
2. Anxiety was assessed by Spielberg's Trait Anxiety Inventory.

**1. Perceived Stress Scale:** It was developed by Cohen S, Kamarck T, Mermelstein R. It constitutes 14 questions that ask about one's feelings and thoughts during the last year. The study group was advised not to count up the number of times they felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

**2. State Trait Anxiety Scale:** It was constructed and standardized by was used to measure the trait anxiety of the subjects. The scale comprised of two separate self report scales for measuring State Anxiety (S-Anxiety) and Trait Anxiety (T-Anxiety). The English version of the STAI was used in this study. Spielberger's Trait Anxiety questionnaire was given to all the subjects. Twenty items were adopted from Spielberger's Trait Anxiety questionnaire for this investigation. It is widely used in standardized scale for measuring the state and trait form of anxiety. This self-reporting instrument consists of 20 short statements. It allows participants to evaluate how they feel "right now, at this moment" and rate the intensity of their feeling of anxiety by rating themselves on four point rating scale with 1. Not at all, 2. Some what, 3. Moderately so and 4. Very much so. The complete questionnaire scores as follows:

### 4.3 Statistical Technique

The One-way Analysis of Variance (ANOVA) was used to find the significant difference among the three groups (plain, coastal and hills region areas of Karnataka). The Scheffe's Post Hoc test was used to find the significant difference in the paired means.

## 5. Results of the study

The One-way ANOVA (F test) results on the selected Psychological Variable scores of the adolescent school boys with different geographical areas.

**Table 1:** Table shows One-Way ANOVA Analysis on Stress and Anxiety of adolescent school boys with different geographical areas.

Physical Fitness Variables	Groups	Sum of Squares	df	Mean Squares	F Value	Level of Sig.
Stress	Between Groups	965.327	2	482.663	14.66**	Significant at 0.01
	Within Groups	9775.660	297	32.915		
	Total	10740.987	299			
Anxiety	Between Groups	89.807	2	44.903	9.46**	Significant at 0.01
	Within Groups	1410.380	297	4.749		
	Total	1500.187	299			

Groups: Plain, Coastal and Hills (Each N=100)

Table value at 0.05(df-2, 297); 3.03; Table value at 0.01(df-2, 297)=4.68

The table-1 shows that the obtained 'F' ratios of 14.66 and 9.46 for the stress and anxiety are greater than the table value of 4.88 for df '2 and 297' required for the significance at 0.01 level of confidence. The results of the study indicate that there is significant difference in the Stress and Anxiety among the adolescent boys with different geographical regions of Karnataka (Plain, Coastal and Hills area). To determine the significant difference in the criterion variables among these paired means, the Scheffe's test was applied as the Post hoc analysis and the results are presented in Table-2.

**Table 2:** Scheffe's Post Hoc Analysis on Stress and Anxiety scores of the adolescent school boys with different geographical areas.

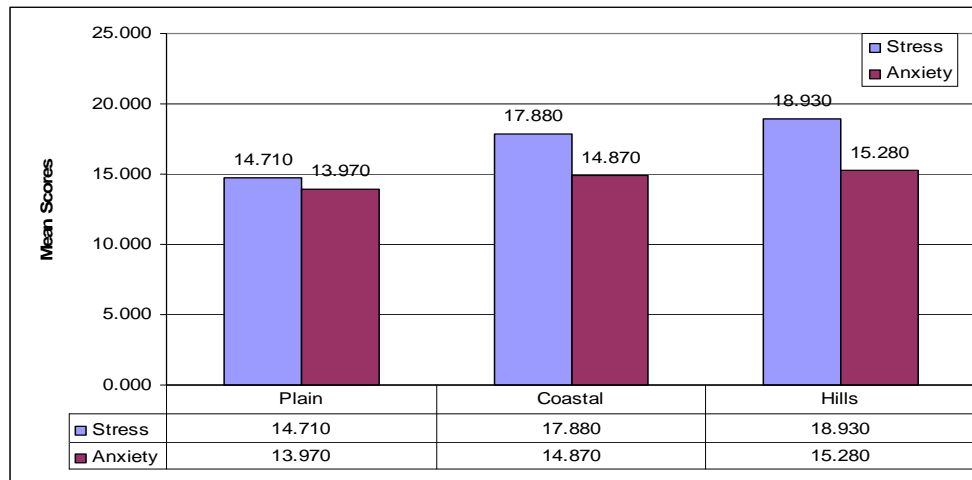
Psychological Variables	Different Regions			Mean Difference	Critical Difference
	Plain	Coastal	Hills		
Stress	14.710	17.880		3.170*	1.997
	14.710	17.880	18.930	4.220*	
Anxiety	13.970	14.870		0.900*	0.758
	13.970	14.870	15.280	1.310*	

\*Significant at 0.05 level of confidence.

The table also shows significant paired mean differences on the stress between plain & coastal areas; and plain & hills areas and the values are 3.170 and 4.220 respectively which are greater than the critical difference value 1.997 at 0.05 level of confidence. It is concluded that there is a significant difference in the stress between the plain & coastal areas; and plain & hills areas and no difference exist between the coastal & hills area. The adolescent boys of hills area have more stress level when compared with the coastal and hills area.

The table also shows significant paired mean differences on the anxiety between the plain & coastal areas; and the plain & hills areas and the values are 0.900 and 1.310 respectively which are greater than the critical difference value 0.758 at 0.05 level of confidence. It is concluded that there is a significant difference in the anxiety between the plain & coastal areas; and the plain & hills areas and no difference exist between the coastal & hills area. The adolescent boys of the hills area have more anxiety when compared with the coastal and plain areas.

The following bar graph shows the comparison of mean scores on the stress and anxiety of the adolescent school boys with different geographical regions of Karnataka.



**Fig 1:** Comparison of mean scores on Stress and Anxiety of the adolescent school boys with different geographical regions of Karnataka.

**6. Findings of the study**

The findings of the study as follows

1. There is a significant difference in the stress level among the adolescent boys with different geographical regions of Karnataka. The adolescent boys of the areas have more stress level when compared with coastal and plain areas.
2. There is a significant difference in the anxiety among the adolescent boys with different geographical regions of Karnataka. The adolescent boys of hills areas have more anxiety level when compared with coastal and plain areas.

**7. Conclusion**

The result shows that there was significant difference in the stress and anxiety levels among the adolescent school boys with different geographical regions of Karnataka. The school boys from plain areas had less stress and anxiety when compared with hills and coastal regions. This implies that from the coastal and hill areas children facing some sort of stress and anxiety and they are likely to have mental health problems later on in life. Parents and teachers need to be aware of what is happening in the child's life and this may affect the child's behavior. A sudden change in a child's

behavior may be related to stress. The daily exercise helps the children feel good and maintain health and control the anxiety level. The children need time to relax. Unfortunately, sometimes even physical activities like sports, can become more about success than they are about fun. Instead, it is important to ensure the child be engaged in playing purely for the sake of fun. This may involve children in scheduling time for each day to play with toys, play game, doing yoga and paint.

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