

Analysis Of Physical Fitness And Psychological Well- Being Among National Cadet Corps (Ncc) And Non-National Cadet Corps (Non-Ncc) Students

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ABSTRACT

BACKGROUND: Physical well-being refers to the ability of an individual to perform daily activities efficiently with strength, endurance, flexibility, and minimal risk of injury or fatigue. It is a pivotal component in maintaining overall health, especially in students who are in a critical phase of growth and development. On the other hand, psychological well-being involves emotional stability, mental clarity, and the ability to cope with academic and social pressures.

Together, these aspects contribute to a person's overall quality of life. The National Cadet Corps (NCC) provides structured training in physical fitness, discipline, co-ordination organizational skills and team management, potentially impacting both physical and psychological well-being.

OBJECTIVE: To determine the physical fitness of NCC and non-NCC students.

To determine the psychological well-being of NCC and non-NCC students.

To compare the physical fitness and psychological well-being between NCC and non- NCC students.

METHOD: The study involved NCC and Non-NCC students both boys and girls. Physical fitness was examined using the 6-minute walk/run test (endurance), 1-minute push-up test (strength), sit-and-reach test (flexibility), and anthropometric measurements. Psychological well-being was obtained using the General Health Questionnaire (GHQ). Data analysis was performed using mean, standard deviation, significance of t value and p value.

RESULT: Among 120 students there were 60 NCC students and 60 Non-NCC students. Endurance: NCC (mean = 1.88 km) > Non-NCC (1.64 km), $t = 4.55$, $p < 0.0001$ Strength: NCC (mean = 37.91 reps) > Non-NCC (34.07 reps), $t = 7.80$, $p < 0.0001$

Flexibility: NCC (mean = 29.55 cm) > Non-NCC (29.1 cm), $t = 9.05$, $p < 0.0001$

In terms of psychological well-being, both groups showed similar GHQ scores with no statistically significant difference ($t = 0.177$, $p > 0.8$), although Non-NCC students had a slightly better mean score (mean = 24.66 vs 25.09), indicating mildly better psychological well-being

CONCLUSION: NCC training appears to have a significant positive impact on physical fitness, enhancing endurance, muscular strength, and flexibility among students. However, no notable impact was detected in psychological well-being, as both NCC and Non-NCC students reported similar levels of mental health. Further studies with a larger sample size and deeper psychological profiling are recommended to explore this relationship in more depth

KEYWORDS: Cardiovascular Endurance, Comparative Study, Flexibility, Physical Fitness Modified General Health Questionnaire (GHQ), Muscular endurance, Muscular Strength, NCC Students, Non-NCC Student, Psychological Well-being .

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INTRODUCTION

Physical fitness and psychological well-being are two essential components of overall health that are intricately connected and are of great importance, particularly during the college years, a period marked by significant personal, academic, and social transition [1]. For college students, the pressure of academic workload, social challenges, and the need for independence can impact both physical health and mental well-being [2]. Physical fitness is a state of well-being that enables individuals to perform daily activities efficiently, with enough energy and endurance to handle physical and mental challenges [3]. It involves a combination of components, encompassing cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition [4].

Routine physical activity contributes to cardiovascular well-being, builds strength in muscles, enhances flexibility, and supports overall bodily functions [2]. In addition to physical benefits, fitness also acts as an essential contributor to mental well-being by reducing stress, improving mood, and boosting cognitive function [5]. Maintaining physical fitness through exercise, proper nutrition, and a healthy lifestyle is essential for overall health and longevity [3].

Psychological well-being refers to a state of optimal mental and emotional health in which an individual feels balanced, resilient, and able to cope with life's challenges [6]. It involves experiencing positive emotions, having a sense of purpose, maintaining good relationships, and effectively managing stress [7]. Psychological well-being is not just the absence of mental illness but also the presence of factors like self-acceptance, autonomy, personal growth, and life satisfaction [6]. It serves as a critical determinant of well-being, shaping individual's cognitive processes, emotional states, and behavioral patterns in daily life [7]. Psychological well-being is sustained through self-care, social connections, effective coping strategies, and a balanced lifestyle [2].

For college students, maintaining physical fitness is vital as it contributes to both optimal physical health and positive mental functioning [5]. Consistent participation in physical activity mitigates psychological stressors by stimulating endorphin production, leading to improved mood states and enhanced cognitive capacities [3]. It also boosts energy levels, improves concentration, and enhances memory, leading to better academic performance [1]. Staying active strengthens the immune system, reducing the risk of illness and absenteeism [2]. Additionally, exercise promotes better sleep, helping students feel more rested and focused [3]. Developing healthy fitness habits in college encourages long-term wellness, while participation in sports or group activities fosters social connections and teamwork [1]. Overall, maintaining physical fitness contributes to a healthier, more productive college experience [5].

These two factors share a complex and mutually beneficial relationship. Physical activity offers dual benefits, fostering physiological well-being and enhancing mental health by reducing psychological distress, including anxiety and depression [2]. In turn, good psychological well-being can increase motivation, enhance self-esteem, and foster resilience, encouraging individuals to maintain a physically active lifestyle [6]. Exercise also improves cognitive function, concentration, and memory, which can enhance academic performance and reduce academic stress [1].

Additionally, staying physically active promotes better sleep, which is essential for emotional regulation and mental clarity [3]. Engaging in fitness activities also fosters social connections, reducing feelings of loneliness and promoting a sense of belonging [1]. Overall, maintaining physical fitness contributes to better psychological well-being, creating a balanced and healthier college experience [5].

Evaluating physical fitness and psychological well-being among National Cadet Corps (NCC) and Non-National Cadet Corps (Non-NCC) college students is essential in understanding the impact of structured physical training and discipline on overall student health [8]. NCC cadets undergo rigorous physical activities, leadership training, and disciplined routines, which likely contribute to better physical fitness and mental resilience [9]. Comparing them with Non-NCC students helps assess the effectiveness of NCC training in enhancing endurance, strength, stress management, and emotional well-being [8]. The evaluation may yield meaningful understanding of the advantages associated with the structured physical and psychological development programs, helping educators and policymakers design better fitness and mental health initiatives for all students [1]. It can also highlight the importance of integrating fitness and psychological well-being initiatives in academic settings to foster a healthier, more resilient student population [3]. Additionally, identifying gaps in well-being can lead to targeted interventions, ensuring that both groups receive the necessary support to thrive academically and personally [5]. Although previous studies have evaluated either physical fitness or mental health independently, there is limited comparative evidence focusing simultaneously on both dimensions among NCC and Non-NCC college students. Moreover, most studies emphasize adolescent or school-level participants, whereas college-level data remain sparse.

This study was designed to fill that gap by evaluating and comparing both physical fitness and psychological well-being in NCC and Non-NCC college students. Understanding this relationship is essential for developing institution-based health programs that enhance student wellness holistically.

MATERIAL AND METHODS

A total of 120 students were selected. Out of 120 students, 60 students are NCC Cadets appearing for B and C certificate examination and 60 Non- NCC students comprising of 30 boys and 30 girls each. This study consisted students aged between 19-22years. NCC students are undergoing regular training and the Non-NCC students were not involved in any physical activity. The tests were conducted at Krishna Vishwa Vidyapeeth, Karad. Anthropometric parameters, health-specific aspects of physical fitness and psychological general health questionnaire were assessed and compared.

Anthropometric measurements of the participants were collected following standardized methods. Height, weight, BMI, waist circumference, hip circumference, waist-hip ratio were assessed. BMI was calculated to classify participants into underweight, overweight or obese as per the WHO classification.

Physical fitness consisted of four components they are as follows- Muscular strength and endurance was assessed using treadmill/ 1minute push -ups, cardiovascular endurance using 6min walk-run test and flexibility using 1minute sit and reach test. Psychological well-being was tested using Modified Goldberg and Hillier scaled version of General Health questionnaire.

Sampling Technique :

A purposive sampling method was used to ensure inclusion of both trained (NCC) and non-trained (Non-NCC) groups for comparison. This technique was chosen for its suitability in comparative behavioral and physiological studies.

Sample Size Rationale :

The sample size of 120 (60 per group) was determined based on previous similar studies reporting moderate effect sizes between physically trained and untrained students. This number was sufficient to detect significant group differences at a 95% confidence interval and 5% margin of error.

Inclusion criteria :

60 NCC Students appearing for B and C certificate examination.

60 NON-NCC Students of same age that of NCC students.

Both boys and girls between 19-22years.

Students those who are willing to participate.

Exclusion criteria :

Any medically unfit student.

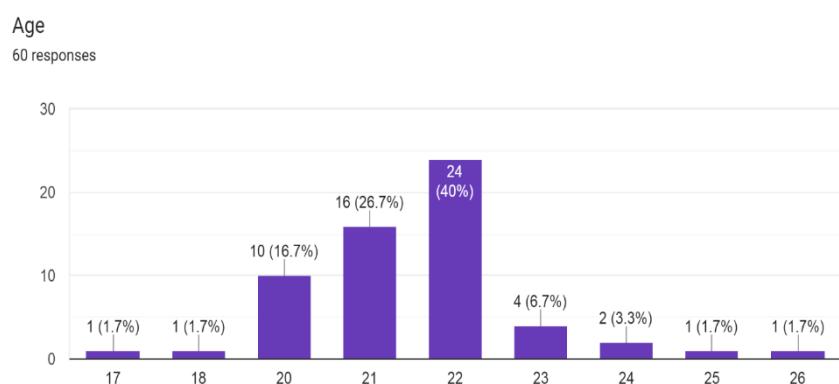
Students those who are not willing to participate.

Data were analyzed using mean, standard deviation, and independent t-tests to determine group differences. Significance was set at $p < 0.05$.

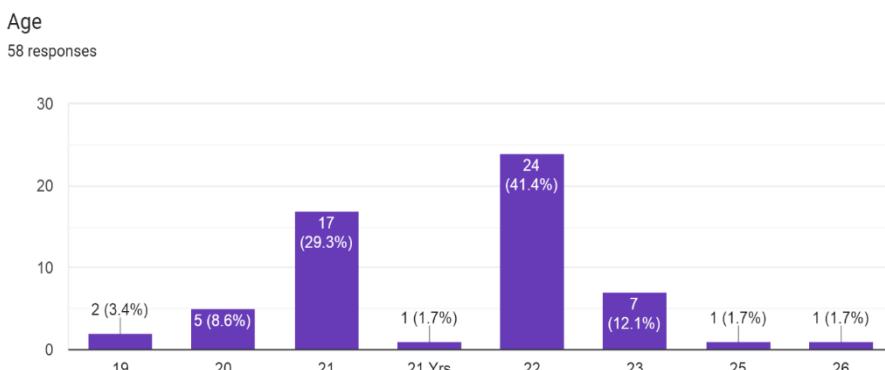
STATISTICAL ANALYSIS

PSYCHOLOGICAL WELL-BEING ASSESSMENT USING MODIFIED GENERAL HEALTH QUESTIONNAIRE OF GOLDBERG AND HILLER.

NCC STUDENTS AGE:



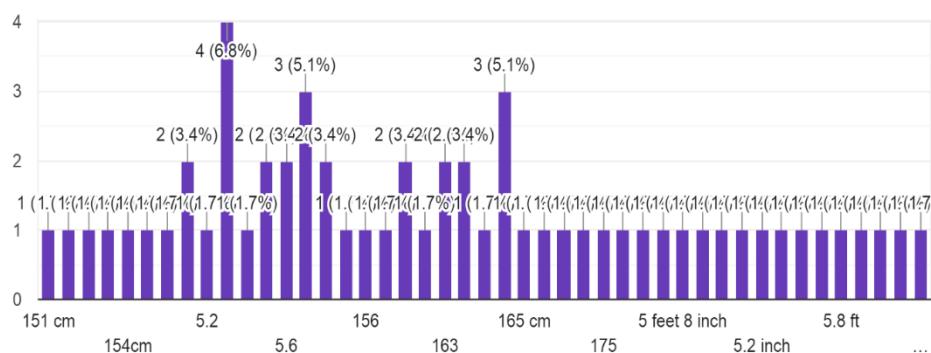
Non-NCC STUDENTS AGE :



HEIGHT OF NCC STUDENTS

Height

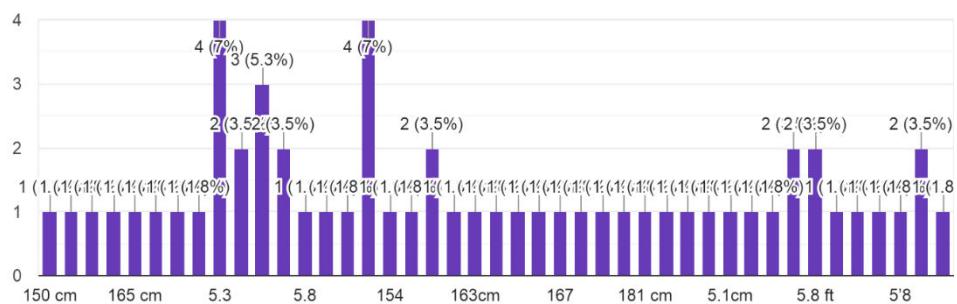
59 responses



HEIGHT OF Non-NCC STUDENTS

Height

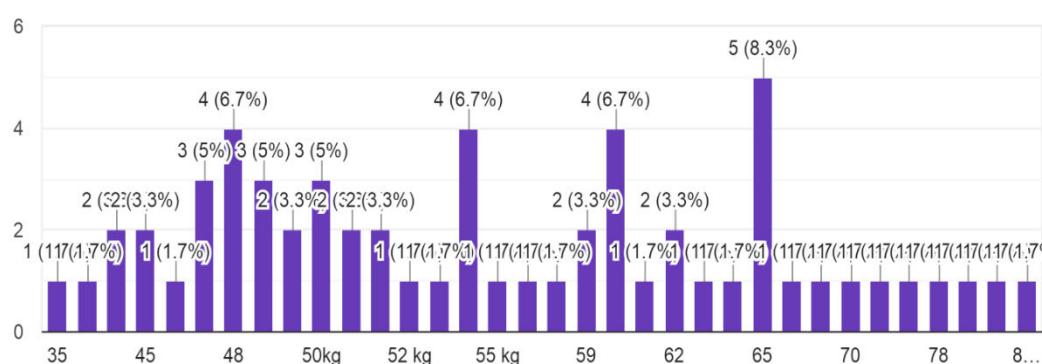
57 responses



WEIGHT OF NCC STUDENTS

Weight

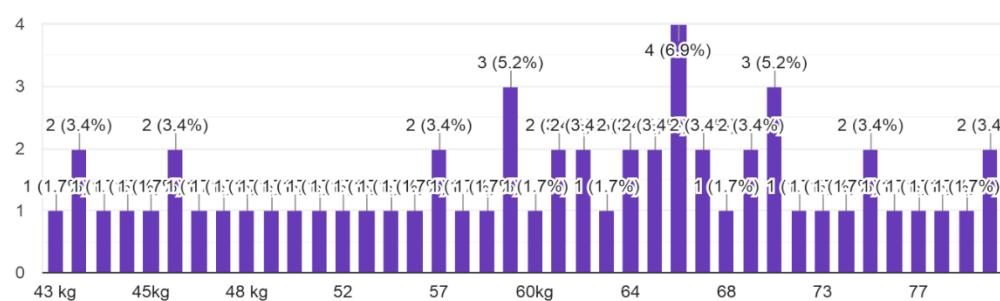
60 responses



WEIGHT OF Non-NCC STUDENTS

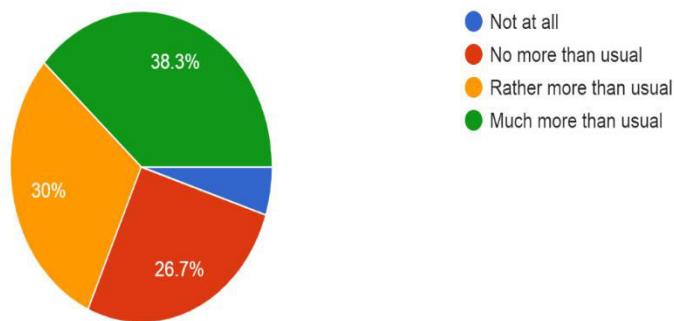
Weight

58 responses



HAVE YOU RECENTLY 1. Been feeling perfectly well and in good health?

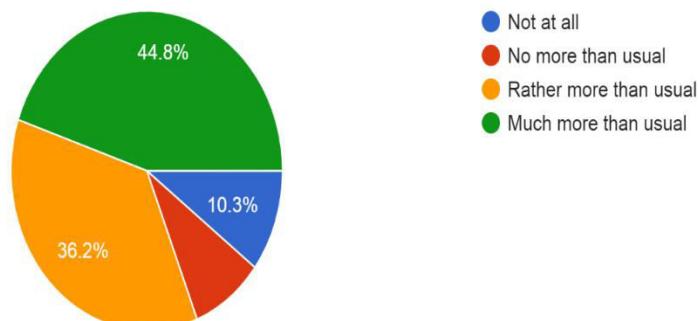
60 responses



Non-NCC STUDENTS

HAVE YOU RECENTLY 1. Been feeling perfectly well and in good health?

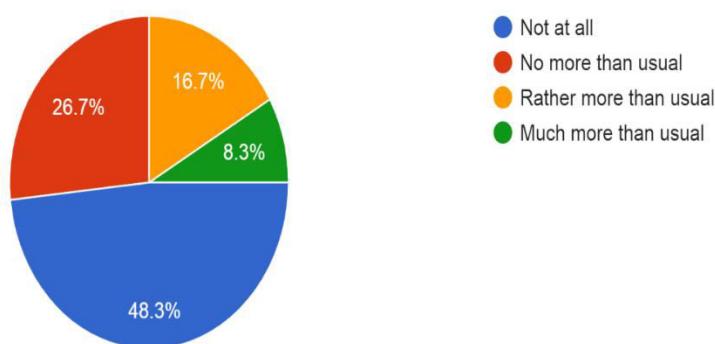
58 responses



NCC STUDENTS

2. Been feeling slightly ill or slightly unhappy?

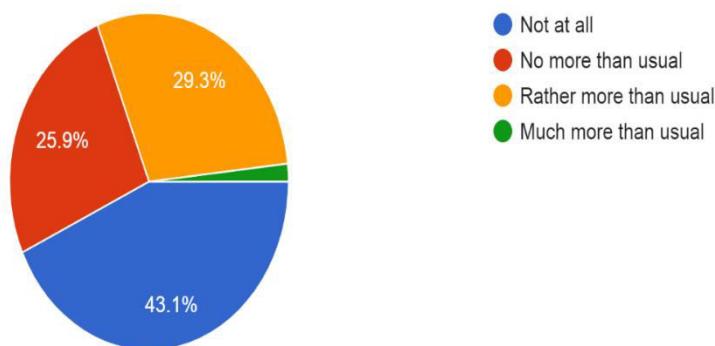
60 responses



Non-NCC STUDENTS

2. Been feeling slightly ill or slightly unhappy?

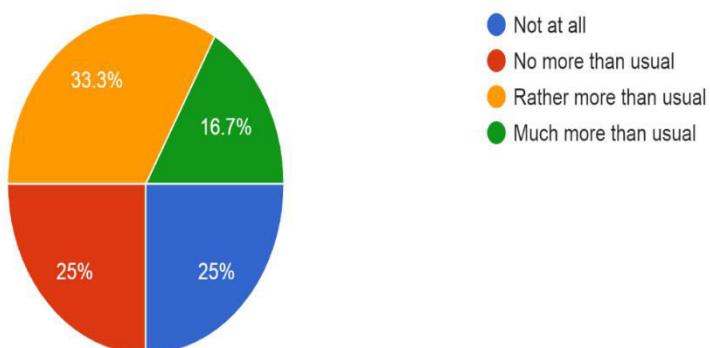
58 responses



NCC STUDENTS

3. Been feeling in need of something that makes you feel better?

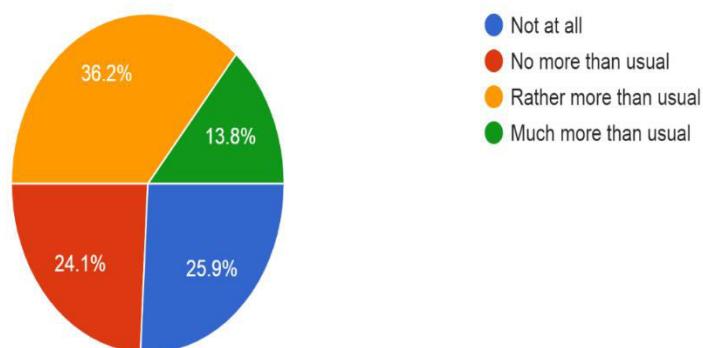
60 responses



Non-NCC STUDENTS

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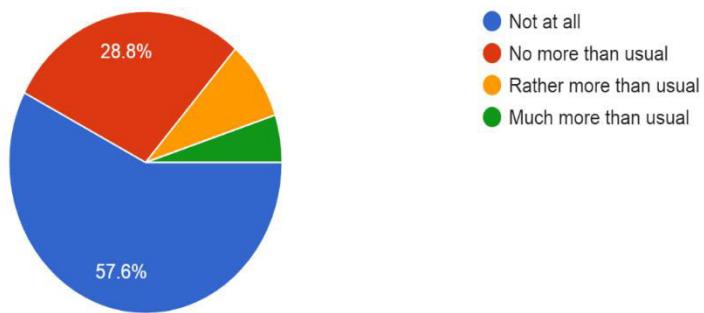
58 responses



NCC STUDENTS

4. Felt that you are ill ?

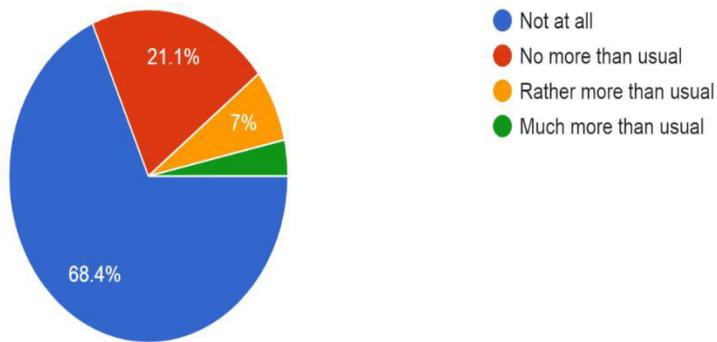
59 responses



Non-NCC STUDNETS

4. Felt that you are ill ?

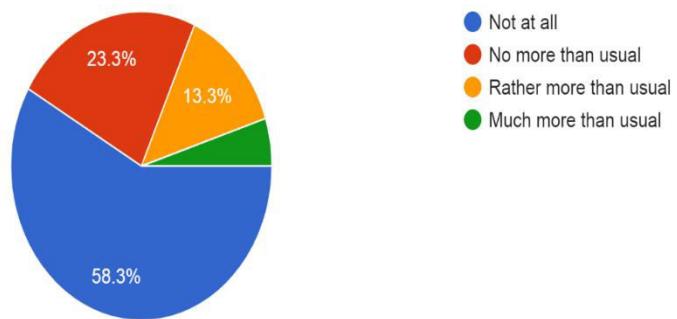
57 responses



NCC STUDENTS

5. Been getting any pains, tightness or pressure in your head?

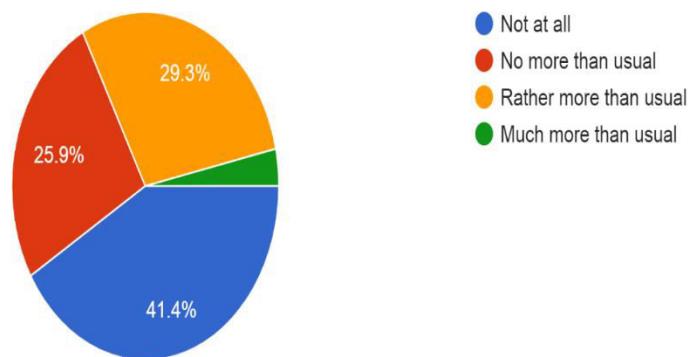
60 responses



Non-NCC STUDENTS

5. Been getting any pains, tightness or pressure in your head?

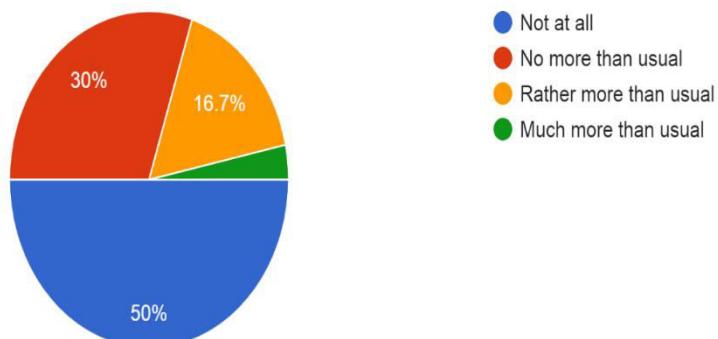
58 responses



NCC STUDENTS

6. Been having hot and cold spells?

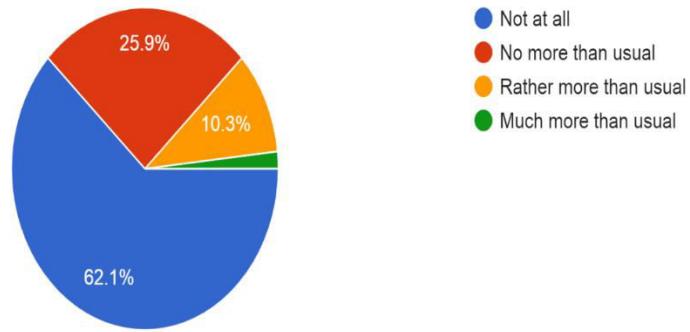
60 responses



Non-NCC STUDENTS

6. Been having hot and cold spells?

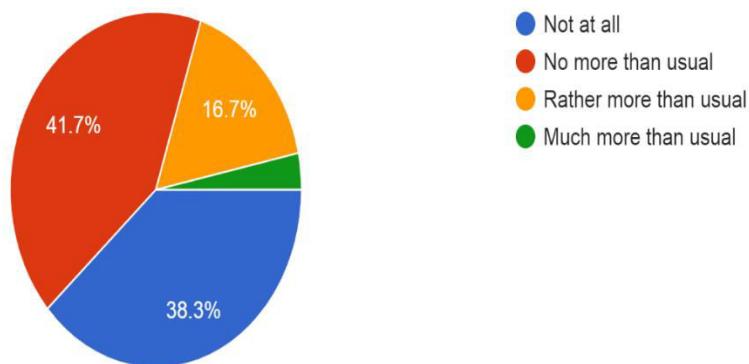
58 responses



NCC STUDENTS

7. Lost much sleep over worry?

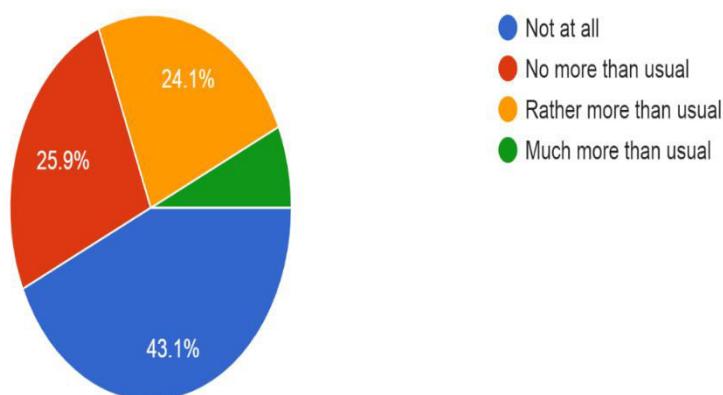
60 responses



Non-NCC STUDENTS

7. Lost much sleep over worry?

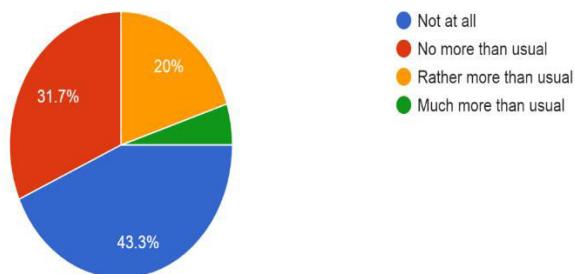
58 responses



NCC STUDENTS

8. Had difficulty in staying asleep once you are off ?

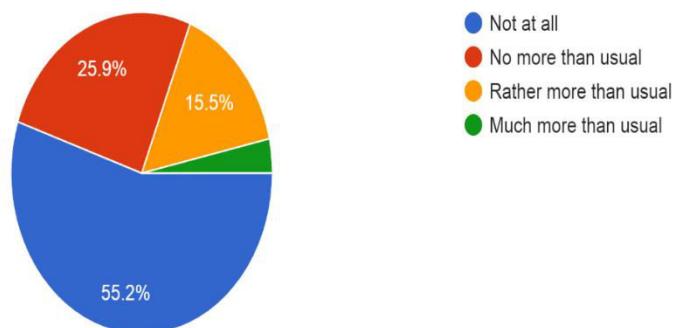
60 responses



Non-NCC STUDENTS

8. Had difficulty in staying asleep once you are off ?

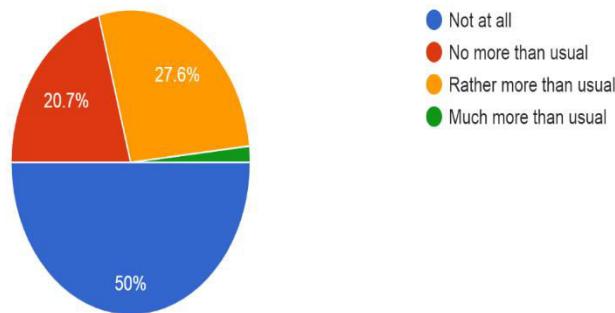
58 responses



NCC STUDENTS

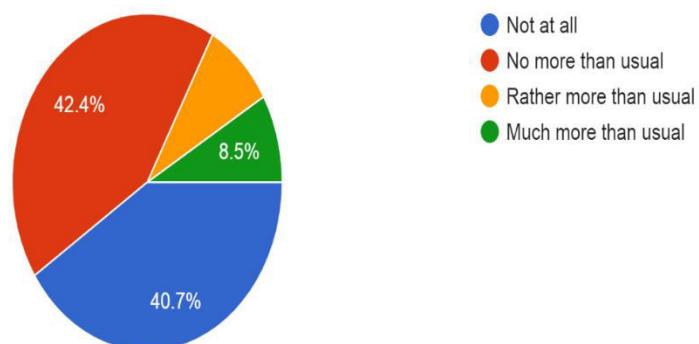
9. Felt constantly under strain?

58 responses



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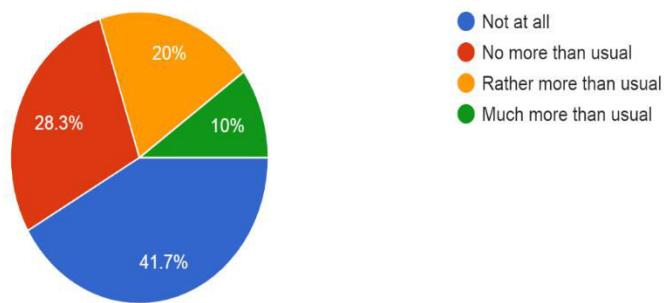
59 responses



Non-NCC STUDENTS
NCC STUDENTS

10. Been getting edgy and bad-tempered ?

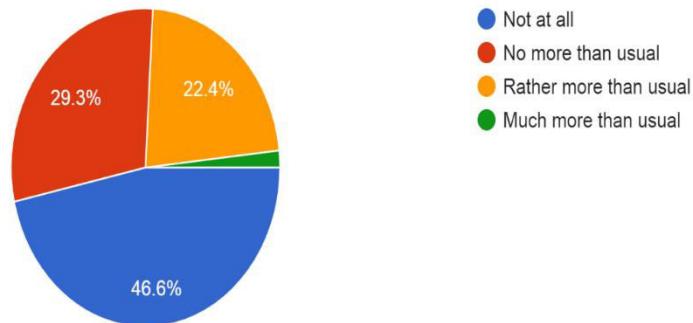
60 responses



Non-NCC STUDENTS

10. Been getting edgy and bad-tempered ?

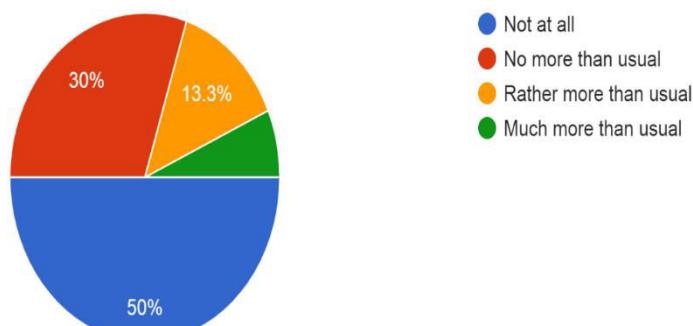
58 responses



NCC STUDENTS

11. Been getting scared or panicky for no reason?

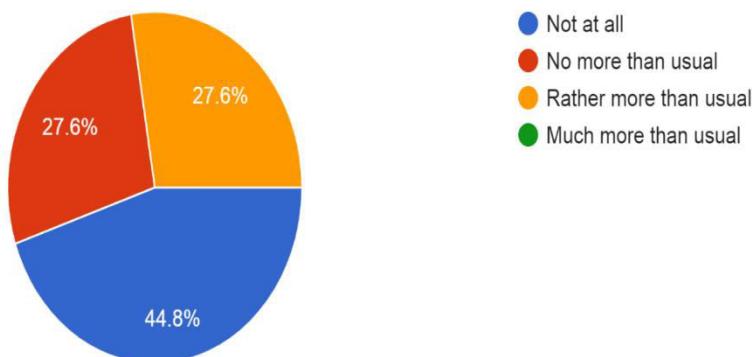
60 responses



Non-NCC STUDENTS

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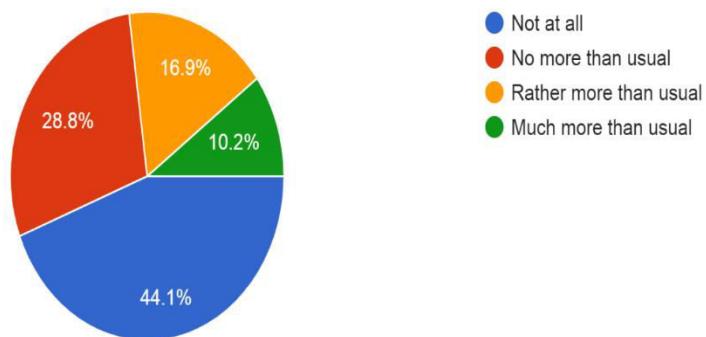
58 responses



NCC STUDENTS

12. Found everything getting on top of you?

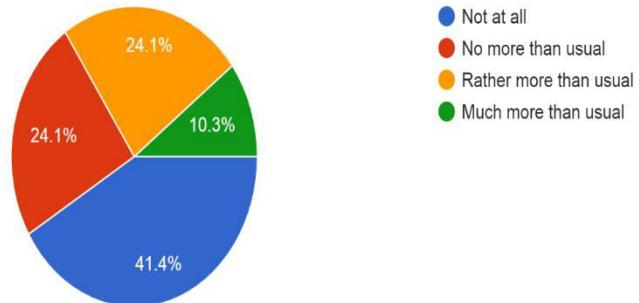
59 responses



Non-NCC STUDENTS

12. Found everything getting on top of you?

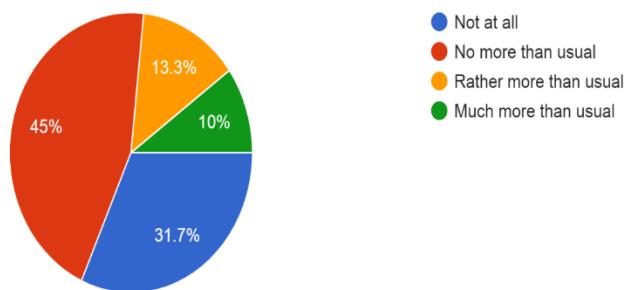
58 responses



NCC STUDENTS

13. Been feeling nervous, excited or worried about something?

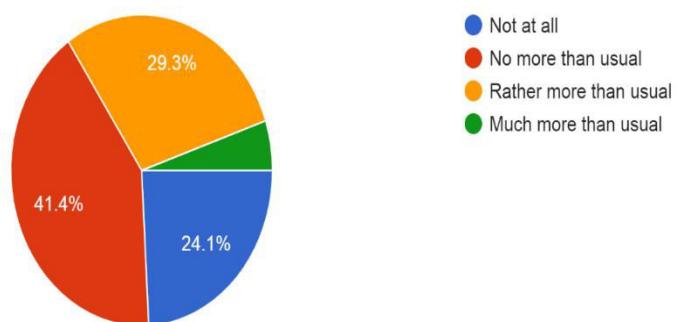
60 responses



Non-NCC STUDENTS

13. Been feeling nervous, excited or worried about something?

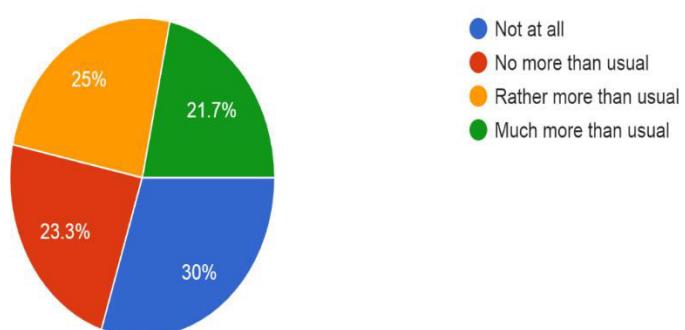
58 responses



NCC STUDENTS

14. Been managing to keep yourself busy and occupied?

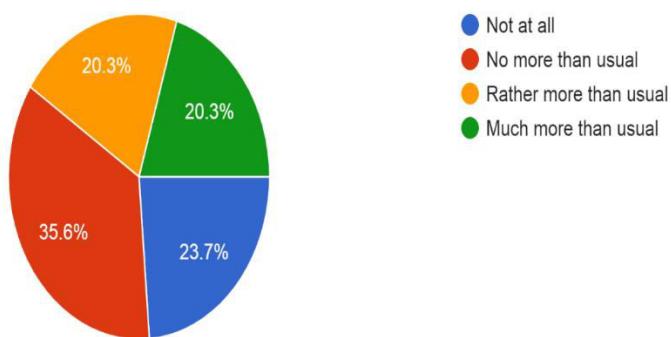
60 responses



Non-NCC STUDENTS

14. Been managing to keep yourself busy and occupied?

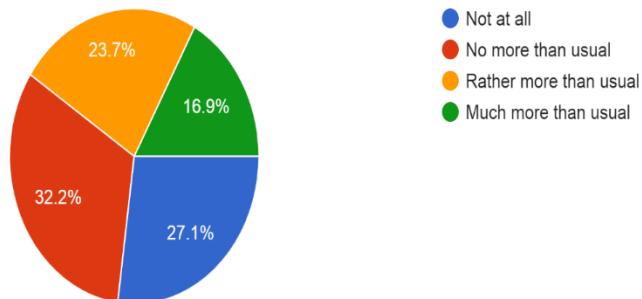
59 responses



NCC STUDENTS

15. Felt on the whole you were doing things well or playing a useful part in things?

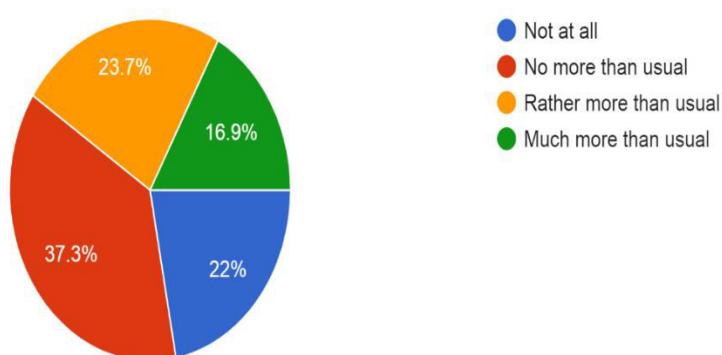
59 responses



Non-NCC STUDENTS

15. Felt on the whole you were doing things well or playing a useful part in things?

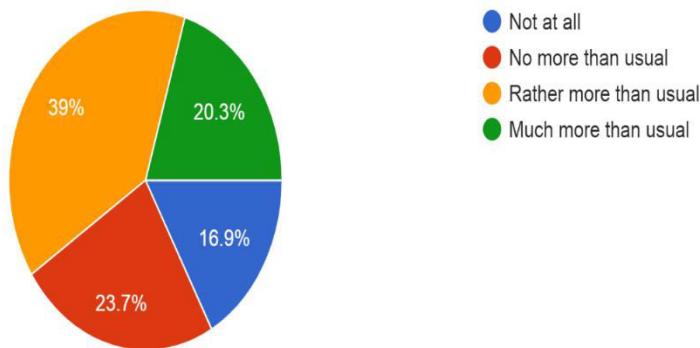
59 responses



NCC STUDENTS

16. Been satisfied with the way you have carried out your task?

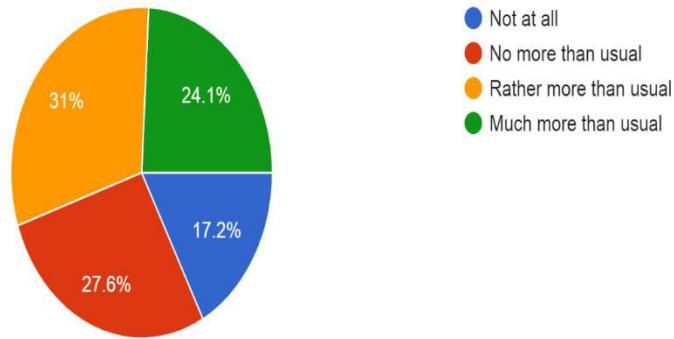
59 responses



Non-NCC STUDENTS

16. Been satisfied with the way you have carried out your task?

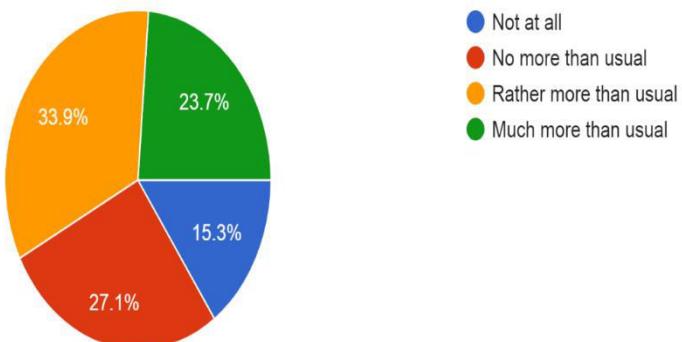
58 responses



NCC STUDENTS

17. Been able to enjoy your day-to-day activities?

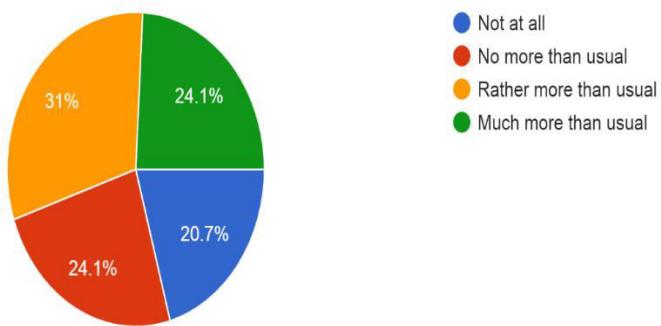
59 responses



Non-NCC STUDENTS

17. Been able to enjoy your day-to-day activities?

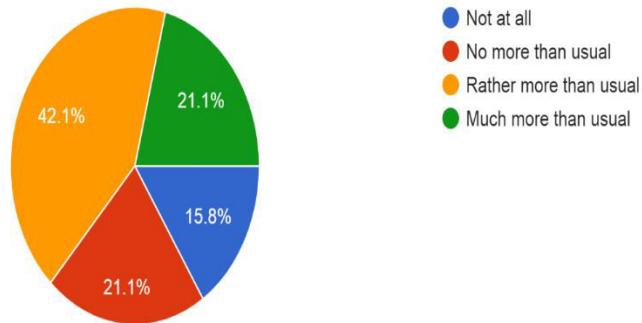
58 responses



NCC STUDENTS

18. Felt capable of making decisions about things?

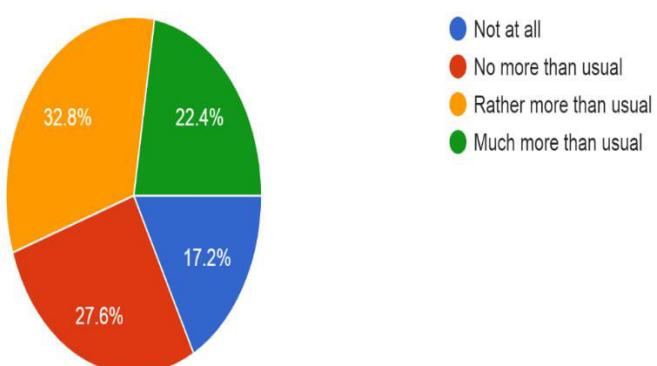
57 responses



Non-NCC STUDENTS

18. Felt capable of making decisions about things?

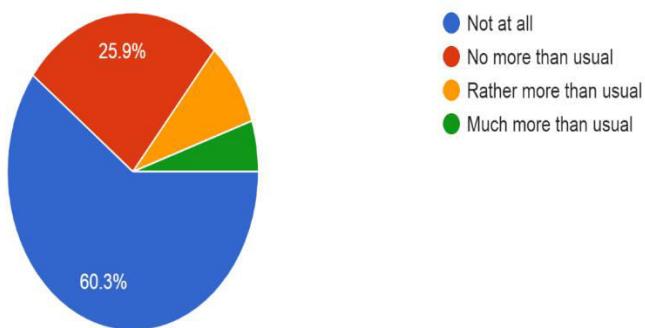
58 responses



NCC STUDENTS

19. Been thinking of yourself as a worthless person?

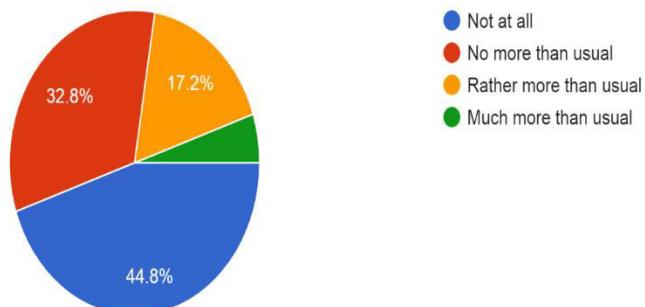
58 responses



Non-NCC STUDENTS

19. Been thinking of yourself as a worthless person?

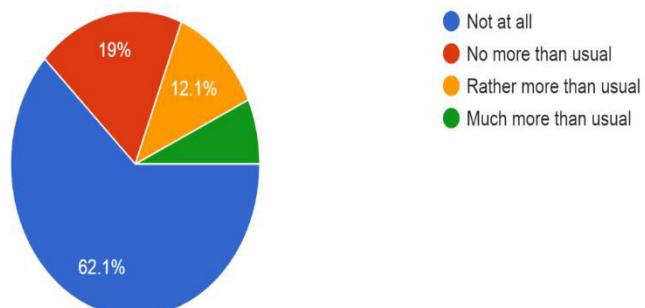
58 responses



NCC STUDENTS

20. Felt that life is entirely of hopeless and isn't worth living?

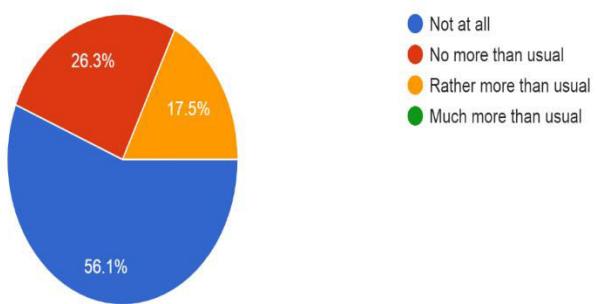
58 responses



Non-NCC STUDENTS

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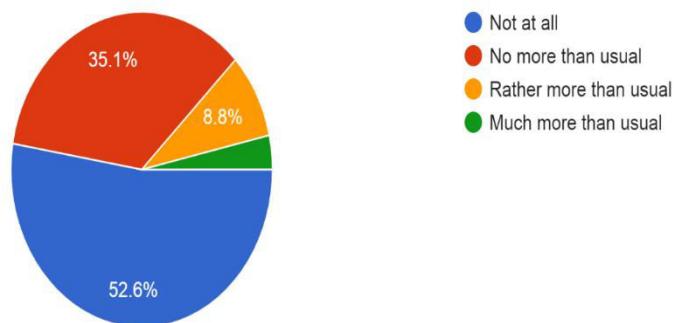
57 responses



NCC STUDENTS

21. Found at time you couldn't do anything because your nerves were too bad?

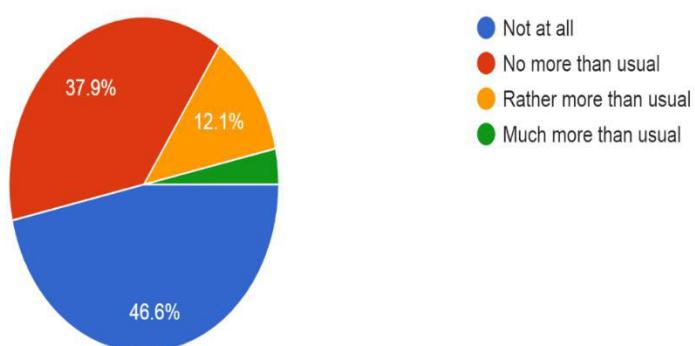
57 responses



Non-NCC STUDENTS

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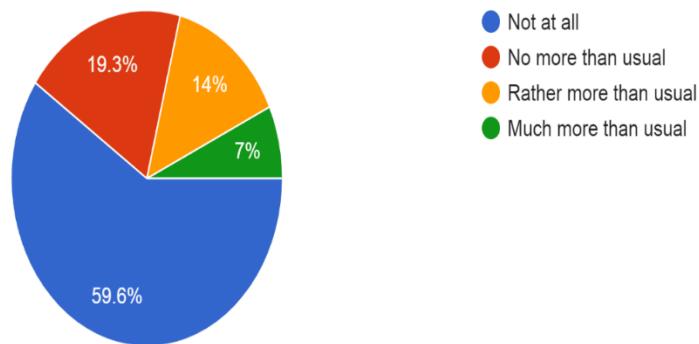
58 responses



NCC STUDENTS

22. Found yourself wishing you were dead and away from it all or the idea of taking your own life kept coming into your mind?

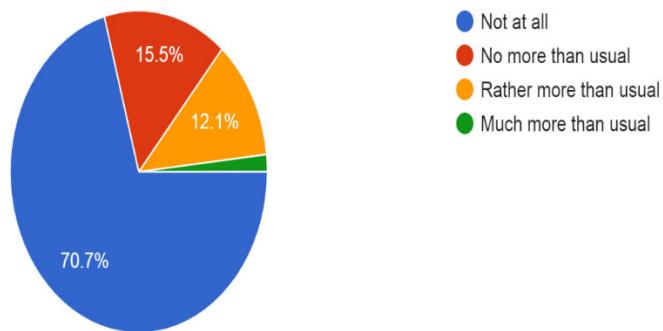
57 responses



Non-NCC STUDENTS

22. Found yourself wishing you were dead and away from it all or the idea of taking your own life kept coming into your mind?

58 responses



NCC STUDENTS – RESPONSES IN PERCENTAGE (%)

QUESTIONS: HAVE YOU NOT AT ALL RECENTLY-	NOT AT ALL	NO MORE THAN USUAL	RATHER MORE THAN USUAL	MUCH MORE THAN USUAL
Q.1	5%	26.70%	30%	38.30%
Q.2	48.30%	26.70%	16.70%	8.30%
Q.3	25%	25%	33.30%	16.70%
Q.4	57.6%	28.80%	8.40%	5.20%
Q.5	58.3%	23.30%	13%	5.40%

Analysis Of Physical Fitness And Psychological Well- Being Among National Cadet Corps (Ncc) And Non-National Cadet Corps (Non-Ncc) Students

Q.6	50%	30%	16.70%	3.30%
Q.7	38.30%	41.70%	16.70%	3.30%
Q.8	43.30%	31.70%	20%	5%
Q.9	40.70%	42.40%	8.40%	8.50%
Q.10	41.70%	28.30%	20%	10%
Q.11	50%	30%	13.30%	7%
Q.12	44.10%	28.80%	16.90%	10.20%
Q.13	31.70%	45%	13.30%	10%
Q.14	30%	23.30%	25%	21.70%
Q.15	27.10%	32.20%	23.70%	16.90%
Q.16	16.90%	23.70%	39%	20.30%
Q.17	15.30%	27.10%	33.90%	23.70%
Q.18	15.80%	21.10%	42.10%	21.10%
Q.19	60.30%	25.90%	8.70%	5.10%
Q.20	62.10%	19%	12.10%	6.80%
Q.21	52.60%	35.10%	8.80%	3.50%
Q.22	59.60%	19.30%	14%	7%

NON-NCC STUDENTS – RESPONSES IN PERCENTAGE (%)

QUESTIONS: HAVE YOU RECENTLY-	NOT AT ALL	NO MORE THAN USUAL	RATHER MORE THAN USUAL	MUCH MORE THAN USUAL
Q.1	10.30%	8.70%	36.20%	44.80%
Q.2	43.10%	25.90%	29.30%	1.70%
Q.3	25.90%	24.10%	36.20%	13.80%
Q.4	68.40%	21.10%	7%	3.50%
Q.5	41.40%	25.90%	29.30%	3.40%

Analysis Of Physical Fitness And Psychological Well- Being Among National Cadet Corps (Ncc) And Non-National Cadet Corps (Non-Ncc) Students

Q.6	62.10%	25.90%	10.30%	1.70%
Q.7	43.10%	25.90%	24.10%	6.90%
Q.8	55.20%	25.90%	15.50%	3.40%
Q.9	50%	20.70%	27.60%	1.70%
Q.10	46.60%	29.30%	22.40%	1.70%
Q.11	44.80%	27.60%	27.60%	0%
Q.12	41.40%	24.10%	24.10%	10.30%
Q.13	24.10%	41.40%	29.30%	2.50%
Q.14	23.70%	35.60%	20.30%	20.30%
Q.15	22%	37.30%	23.70%	16.90%
Q.16	17.20%	27.60%	39%	24.10%
Q.17	20.70%	24.10%	31%	24.10%
Q.18	17.20%	27.60%	32.80%	22.40%
Q.19	44.80%	32.80%	17.20%	5.20%
Q.20	56.10%	26.30%	17.50%	0%
Q.21	46.60%	37.90%	12.10%	3.40%
Q.22	70.70%	15.50%	12.10%	1.70%

INTERPRETATION:

The comparative analysis of psychological health measures did not differ significantly, thereby indicating parallel levels of well-being among NCC and NON-NCC students.

RESULTS:

Comparison of Anthropometric Measurements of NCC and Non- NCC students (girls and girls)

Anthropometric Measurements	Numbers	NCC –students		NON-NCC students		Significance of T value
		Mean	SD	Mean	SD	
Height	60	162.47	74.95	163.6	74.14	5.28
weight	60	56.63	68.58	61.56	10.92	-3.02
BMI	60	21.70	7.78	22.45	6.06	-0.59
Waist circumference	60	88.45	7.08	91.06	7.08	-17.56

Analysis Of Physical Fitness And Psychological Well- Being Among National Cadet Corps (Ncc) And Non-National Cadet Corps (Non-Ncc) Students

Hip circumference	60	95.22	6.38	100.26	6.62	-9.95
W/H Ratio	60	0.93	0.095	0.91	0.093	1.17

The above table shows the comparison of mean values of anthropometric measurements of the selected group. Anthropometric measurements helps to track an individuals physical development and to know whether it is within healthy range. The Non-NCC boys and girls showed a mean height of 163.6 and SD 74.14 when compared to the NCC boys and girls whose mean height was 162.47 and SD 74.95. Significant difference was observed t value: 5.28 in height of both NCC and Non-NCC boys and girls.

Weight is a key factor that reflects and influences Physical capabilities. Optimal body weight supports better strength, endurance, mobility and overall performance. The Non-NCC boys and girls showed mean weight of 61.56 and SD 10.92 when compared to the NCC boys and girls whose mean weight was 56.63 and SD 68.58. Significant difference was observed t value: -3.02 in weight of both Non-NCC and NCC boys and girls.

BMI is a widely used indicator which determines whether a person's weight is appropriate for their height. It gives a general idea of body composition, which affects a person's ability to perform physical tasks. BMI is categorized into underweight, normal weight, overweight and Obese. The Non-NCC boys and girls showed a mean BMI of 22.45 and SD 6.06 when compared with the NCC boys and girls whose mean BMI was 21.70 and SD 7.78. No Significant difference was seen t value: -0.59 in BMI of both NCC and Non- NCC boys and girls.

Waist circumference indicates central fat which is linked to higher risk of heart disease, Type 2 diabetes, hypertension. Hip circumference is taken to assess the fat around the hips and buttocks. The Non-NCC boys and girls showed a mean waist circumference of 91.06 and SD 7.08 and mean hip circumference of 100.26 and SD 6.62 when compared to the NCC boys and girls whose mean of waist circumference was 88.45 and SD 7.08, and hip circumference was 95.22 and SD 6.38. Significant difference was seen waist circumference t value: -17.56 hip circumference t value: -9.95 in waist and hip circumference of both Non-NCC and NCC boys and girls.

Evaluation of physical fitness was conducted using four components they are as follows- Muscular strength and endurance was assessed using 1minute push –ups, cardiovascular endurance using 6min walk-run test and flexibility using 1minute sit and reach test. NCC boys showed mean of 43.89 and SD 3.31 whereas the NON-NCC boys showed mean of 38.15 and SD 3.32 for push-ups. NCC girls showed mean of 32.00 and SD 1.44 whereas NON-NCC girls showed mean of 30.00 and SD 2.64 for push-ups. When 6min walk and run test was taken the NCC boys showed mean of 2.08km and SD 0.163km whereas the NON-NCC boys showed mean of 1.888km and SD 0.317km for. NCC girls showed mean of 1.68km and SD 0.163km whereas NON-NCC girls showed mean of 1.392km and SD 0.204km. On assessing sit and reach the NCC boys showed mean of 3.04 and SD 0.19 whereas the NON-NCC boys showed mean of 3.08 and SD 0.27 and NCC girls showed mean of 3.06 and SD 0.36 whereas NON-NCC girls showed mean of 2.87 and SD 0.57.

Psychological well-being was determined using a modified General health questionnaire of Goldberg and Hiller. In accordance with the responses from the students the NON-NCC students showed a mean of 24.66% and SD 15.04 where as NCC students showed mean of 25.09% and SD 14.81.

DISCUSSION

The focal point of this Observational study aimed to analysis and compare the physical fitness and psychological well-being among National Cadet Corps (NCC) and Non- National Cadet Corps (NON-NCC) students in young college.

Physical fitness is a state of well-being that enables individuals to perform daily activities efficiently, with enough energy and endurance to handle physical and mental challenges. It involves a combination of components, including cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition.

Psychological well-being refers to a state of mental and emotional health in which an individual feels balanced, resilient, and able to cope with life's challenges. It involves experiencing positive emotions, having a sense of purpose, maintaining good relationships, and effectively managing stress. Psychological well-being is not just the absence of mental illness but also the presence of factors like self-acceptance, autonomy, personal growth, and life satisfaction.

Physical fitness was assessed using components of fitness like - cardiovascular endurance by 6min walk run test, muscular strength and endurance by pushups, flexibility by sit and reach test and anthropometric measurements. Psychological well-being was determined using a standard questionnaire of general health. Data were gathered from 120 students out of which 60 where NCC and 60 where Non-NCC students and the response rate was 100%.

According to our research, there was statistical analysis indicated significant difference among NCC and Non-NCC students in physical fitness and no significant difference in psychological well-being. Physical fitness of NCC students is higher than the Non-NCC students and psychological well-being did not show a significant difference indicating similar psychological state among both groups. Through these findings, it is observed that the college students ought to be urged to take part in prestigious activities such as National Cadet Corps (NCC) and National Service Scheme (NSS) from school level itself to mount up positive effects in their adulthood.

SIGNIFICANCE OF T VALUE – PHYSICAL FITNESS:

6 MIN walk run test – 4.55 Push-ups – 7.80

Sit and Reach – 9.05

PSYCHOLOGICAL WELL-BEING: 0.177

SIGNIFICANCE OF P VALUE -

ANTHROPOMETRIC MEASURES MEASUREMENTS:

Height: NCC students are significantly taller than Non-NCC students $p < 0.0001$ Weight: Non-NCC students have significantly higher weight $p < 0.01$

BMI: No significant difference in BMI between two groups $p > 0.05$

Waist circumference: Non-NCC students have a much higher waist circumference, indicating higher central fat deposition.

Hip circumference: Significantly larger in Non-NCC students $p < 0.001$.

Waist-Hip Ratio (W/H ratio): No significant difference observed pattern in WHR, indicating similar body fat distribution.

PHYSICAL FITNESS:

6 min walk-run test – < 0.0001 Push-ups – < 0.0001

Sit and Reach – < 0.0001 PSYCHOLOGICAL WELL-BEING: 0.8

The results align with *Kaur and Kaur (2019)*⁵, who found that NCC cadets scored higher in physical endurance and exhibited better self-regulation compared to Non-Cadets. Similarly, *Hassan et al. (2021)*⁸ reported a strong association between regular physical activity and psychological resilience among university males. However, *Neelam and Meenakshi (2023)*⁴ noted that while NCC participation improved physical and leadership traits, it did not necessarily enhance emotional stability—consistent with the current study's observation of similar GHQ scores in both groups.

The results underscore the significance of structured physical training programs in enhancing the physiological health of students. Regular NCC activities — such as drills, obstacle courses, and group exercises — may foster cardiovascular and muscular development, thereby improving overall physical performance. However, the lack of substantial difference in psychological well-being suggests that mental health is multifactorial and influenced by academic stress, social environment, and personal coping mechanisms beyond physical activity alone.

These insights imply that while NCC contributes effectively to physical development, institutions must also integrate psychological support programs such as stress management workshops, counseling, and mindfulness training to enhance overall student well-being.

CONCLUSION

The present study aimed to compare the psychological well-being and physical fitness of NCC and Non-NCC students. The findings clearly indicate that NCC students exhibit significantly better outcomes in both domains compared to their Non-NCC counterparts. The results suggested that ongoing participation in NCC activities- which include disciplined training, physical exercise, leadership development, and exposure to challenging environments-positively influences both physical health and mental resilience. The higher level of psychological well-being observed among NCC students may be attributed to structured routines, teamwork, stress management training, and goal-oriented tasks that enhance emotional stability and coping mechanisms. Likewise, the improved physical fitness can be linked to regular drills, endurance-building activities, and overall active lifestyle promoted by the NCC framework. Such structured engagement not only facilitates adoption of healthier lifestyle but also encourages psychological strength and adaptability-trait essential for overall student development.

Overall, this study highlights the beneficial role of NCC training in shaping students into healthier, more disciplined, and psychologically resilient individuals. These findings support the inclusion and encouragement of such programs in academic institutions to promote holistic development among collegiate.

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