

Assessment of personality trait and learning style among the nursing students

M/s. Supriya Mane¹, Prof. (Dr.) Rita Lakhani²

^{1,2} D. Y. Patil School of Nursing, sector-7, Nerul, Navi Mumbai – 400706

Abstract

Background: Learning focus has shifted from conventional teacher-centered to student-centered; therefore, methods used to support and encourage learners must be considered. Meanwhile, the individual differences between learners should be taken into consideration by medical educators.

The study aims to assess the personality trait of the nursing students and evaluate their learning styles among nursing students.

Methods:

The present study aimed to evaluate the student's personality traits and learning styles. Methods- Descriptive cross-sectional survey with a quantitative approach was utilized. The study was conducted in D Y Patil College of nursing, with 245 students studying their basic post-basic and master in nursing through convenience sampling technique. Ethical approval is obtained from the institutional ethics committee. The Statistical Package for Social Sciences, version 20, was used to analyze data.

Results:

A total of 245 study subjects were included in the present study. Majority of study subjects 49% were in 17-19 Years age group. While 89% were female, it was seen that majority of the subjects that is 58% speak Marathi as their mother tongue, while 38% have an intimate relationship with their mother, majority 72% of the participants presently stay in their own house. All the respondents have replied to good interpersonal relationships among family members. 89% of the respondents have no specific educational history. in the view of spending leisure time 20% spend their leisure time listening music, while spend reading, watching TV, cooking, singing, dancing, sleeping etc. 35% have the habit of sleeping, in relation to their habits 23% reveal to have a habit of craving for food, 22% are on their mobile phones. With regards to fantasy 60% have holiday fantasies, while 26% do daydreaming. 21% of the participants have efficient type of personality, 12% have the friendly type of personality, while 10% have the playful and outgoing type of personality. The minimum type of respondents that is 2% had an innovative intellectual, inventive type of personality. in the view of learning style it was seen that 50% of respondents are visual learners, 23% are kinetic and 22% are auditory learners, remaining 3% show both category of learner as visual and auditory as well, while 1% of both visual and kinesthetic and auditory and kinesthetic respectively.

Conclusion:

Considering with personality trait and learning styles, teachers can help the students to recognize their positive values and help them to overcome their lacunae. this assessment would also help the teachers to understand their students and change the pattern of facilitating the knowledge. In order to toil efficiently with the students its necessary to understand their learning style.

Keywords: personality trait, learning style, nursing students.

Introduction

Academic achievement is a major issue among students, teachers, parents, school administrators, and the community at large. Attempts have been made by researchers to unravel the complexities surrounding academic achievement. Psychologists have put forward a lot of reasons why these disparities in achievement exist. A lot of attention had been paid to external factors such as type of school, teaching methods, school location, instructional materials, teachers' experience, and so on. Many spend lots of money in order to secure good schools either for their children or themselves and those who can afford it even invest in education abroad as they believe this will enhance achievement, and perhaps, in turn, give an added advantage in terms of securing gainful employment. Opinions vary as to why some students excel academically while others appear to be underachievers. Many psychologists have consistently attempted to identify the major predictors of individual academic achievement. Factors such as intelligence, self-concept, gender, study habit, maturation, home background, amongst others, just to mention a few, have been extensively explored as being responsible for academic achievement. Other factors that have been researched in the past include child-rearing patterns, peer group influence, socio-economic background, and learning environment. Another major factor that is believed to be responsible for academic achievement in students is their personality traits. How true is this? Trait Theorists have tried to identify the major traits that characterize personality. Notable among these are Sigmund Freud in the early 1900s, Gordon Allport (1961), Cattell (1967), Hans Eysenck (1985) Feldman (1994), McCrae and Costa (1987), and a host of others.

Personality has been defined in many ways by many psychologists who wrote on the concept. According to Feldman (1994) in Daminabo (2008), Personality is the sum total of the characteristics that differentiate people, or the stability of a person's behavior across different situations. In other words, it means those qualities the individual is noted for. Traits on the

other hand are "enduring dimensions of personality characteristics which differentiates people from one another" (Colman, 2003 in Daminabo 2008). Traits are therefore the sum total of stable characteristics in a person across different times and situations, which make him or her unique or distinct from others. This agrees with the definition by Mischel 1981, (in Agbakwuru, 2000: 23) which refers to personality traits as consistent differences between the behaviors characteristic of two or more people. It is also defined as "any distinguishable, relatively enduring way in which one individual varies from another" (Guliford, 1959 in Agbakwuru 2000: 23).

Thus, all individuals differ in the way that they relate to, or interpret their worlds. The way in which they innately do so, is said to reflect their individual personality. These differences can be identified with various tools of Personality trait assessment; one of the latest developed ones is the Myers Briggs Type Indicator (MBTI). It uses Carl Jung's theory of psychological type to assess and define personality. Jung developed psychological types based on four functions, namely, Feeling (F), Thinking (T), Intuition (N), and Sensing (S), plus four attitudes, namely, Extraversion (E), Introversion (I), Judging (J), and Perceiving (P). The MBTI identifies an individual's preference in four planes. These are Introversion versus Extroversion, Intuitive Perception versus Sensing Perception, thinking versus Feeling and finally Perceiving versus Judging.

The introversion and Extroversion plane concerns a person's mechanism of interacting with the external environment and people. People who are Extroverts are oriented primarily towards the outer world; thus, they tend to focus their energy on people and objects. They enjoy meeting new people, thinking aloud, and being active. Introverts are oriented toward the inner world and tend to focus their energy on concepts, ideas, and internal experiences. Introversion types seek the introspection of ideas, thoughts, and concepts. They prefer to process their thoughts internally before speaking, have few close friends, and often seek conversations that tend to be deeper in nature. Because of these differences, extroverts are more likely to express their ideas freely, and readily seek feedback from others. They also have a tendency to act first and then reflect. Introverts, by comparison, will think things through before acting and are not as expressive of their emotions. As an example, the face-to-face interaction provided by videoconferencing technology may be preferred by extroverts, whereas the introverted learner may prefer asynchronous communication, which enables them to take time to reflect on their ideas and think through a reply or feedback prior to communicating with others.

Judging and Perceiving relate to how we "live our outward life". The Judging/Perceiving concerns essentially lifestyle choices with judging types preferring more order and set deadlines and Perceiving types preferring more flexibility and surprises. In the Judging attitude, one is concerned with seeking closure, planning operations, or organizing activities. They also tend to be self-disciplined, enjoy making decisions, and thrive on order. Perceiving is being attuned to incoming information. They tend to thrive on spontaneity, prefer to leave things open, require more information in order to make decisions, and often get things done at the last minute.

The Sensing and Intuitive plane concern information gathering with sensing types preferring "hard facts" and Intuitive types preferring more abstract concepts. Sensing-type persons collect information through what is happening and by focusing on observable facts, data, and phenomena. Conversely, intuitive-type learners assess information by its possibilities, focusing on the big picture and searching for connections, patterns, relationships, and insightful meaning. Individuals who have a tendency to understand the world through an Intuitive process prefer to live in a world of possibilities and options, often looking toward the future. They also tend to focus on complicated abstract problems, seeing the big picture, sometimes at the expense of the details.

The final plane of Thinking and Feeling are considered the rational processes by which we come to certain conclusions and judgments regarding the information collected. Thinking types prefer to focus on making decisions based on an impersonal objective position. Feeling types have a tendency to respond well and easily to people's values and are adept at assessing the human impact of decisions. Thinking and feeling measure the preference in the area of judging. Thinking is an attitude that tends to come to a decision by linking ideas together through logical connections. The feeling is the function by which one comes to decisions by weighing relative values and merits of the issues and relies on an understanding of personal and group values.

Preferences on the four indices produce sixteen possible combinations which are referred to as 'types' or styles. An individual's type or style is indicated by the four letters of the preferences (eg. ESTF, INFP). The theory suggests that each of the sixteen types has an associated set of preferred processes and attitudes which tend to be utilized more frequently and effectively by persons of that type. Thus, the end result is said to be a best fit to a person's personality traits. It is said to describe the instinctive or innate reaction to one's environment. Detailed descriptions of the type profiles can be found in the appendix.

There are several factors that have made the MBTI so popular. Quite appealing is the simplicity of sorting process which places everyone in one of sixteen categories based on preferences among the four bipolar personality dimensions of extraversion vs introversion, perceiving the world through sensing or intuition, making judgments through thinking vs. feeling, and preferring to relate to the external world through the perception processes. Additionally a variety of MBTI instruments, scoring, and analysis services are available. Training on interpretation and application of scores is readily available.

Personality preferences offer students helpful tools for academic and personal development. Recent research suggests that individual characteristics, such as students' personality traits, can be considered precursors of academic

performance. There is ample literature to support the fact that personality tendencies play an important part in the ultimate success in a major. Depending on their personality traits, people create their own environment, and influence their learning needs through cognitive, affective and behavioural processes. Personality influences the experience of emotionally significant events, which in turn influences professional satisfaction.

NEED OF THE STUDY

Nursing is the largest, the most diverse, and one of the most respected among the health care professions. Nursing is a profession which focuses on protection, promotion, and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human responses, and advocacy while caring for individuals, families, communities, and populations, assuming responsibility for the continuous care of the sick 24X7, the injured, the disabled, and the dying.

Nursing education prepares nurses to practice in a variety of settings. In ancient days' nurses were trained using an apprenticeship model. Long hours at the bedside were supplemented by some pearls of wisdom dispensed by physicians. By the middle of the twentieth century, it became clear that effective nursing practice required a distinctive body of knowledge. Nursing interventions had gradually become independent of the physician's orders, and nursing required integrated knowledge of the physiological, psychological, and social dimensions of the patient. By developing programs of research, nurses asserted ownership over the knowledge required for practice.

Nursing profession, being entirely job-oriented, there is great demand for qualified nurses all over India since many corporate hospitals are being established and many more avenues like medical tourism, home nursing, industrial nursing etc. are available to better qualified and efficient nursing personnel. To fulfil the demand for trained nurses the government and private sectors are taking steps to promote nurses' education in India. The total intake capacity of nurses in India is as follows:

- A.N.M. institutions 1,642 with Admission capacity 46,719
- G.N.M. institutions 2,670 with Admission capacity 109,224
- B.Sc. (N) institutions 1,578 with Admission capacity 80,245
- P.B.B.Sc. (N) institutions 617 with Admission capacity 20,378
- M.Sc. (N) institutions 535 with Admission capacity 10,026

(Adopted from ministry of health and family welfare India)

Though strategies to tackle the human resource crisis depended upon scaling up nursing education provision in a context where the social status and working conditions of nurses are highly variable; several national and regional situation assessments have revealed significant concerns about educational governance, institutional and educator capacity, quality and standards.

A study done on 'Patient's Perception of Nursing Care at a Large Teaching Hospital in India' Mufti Samina, Qadri GJ, SA Tabish, Mufti Samiya, and R Riyaz in 2008 observed that the overall perceptions of the respondents irrespective of any influencing factors was not that encouraging. Almost 1/3rd patients (31.6%) perceived that the nurse did not offer adequate 'explanation and information' about their treatment in the hospital and home care and follow up advice. Regarding 'caring attitude' around 1/10th (11.5%) had a poor perception. The possible reasons for this can be lack of interest of the nurse in profession, unable to get extroverted and communicate with patients and family or any other factor within the individual or the institute.

Academic achievement is a major issue among students, teachers, parents, school administrators, and the community at large. Attempts have been made by researchers to unravel the complexities surrounding academic achievement. Psychologists have put forward a lot of reasons why these disparities in achievement exist. A lot of attention had been paid to external factors such as type of school, teaching methods, school location, instructional materials, teachers experience, and so on (WAEC, 2005) but there are very few attempts to correspond it with personality.

Currently, in India, the selection of the nursing students is done by scores achieved in the various competitive entrance exams, state board exams etc. Some Institutes prefer to have an interview with the candidate to judge the candidate on the individual basis, while some institutes prefer to have an aptitude test done on the candidate to assess the aptitude of the candidate towards nursing. Whereas, personality, the most important internal factor of the individual is consistently ignored not only in nursing education but in almost all the educational programs in India.

Freud has rightly quoted: '*The conscious mind may be compared to a fountain playing in the sun and falling back into the great subterranean pool of subconscious from which it rises*' making the study of personality a long history in psychology, with many different approaches focusing on different aspects of personality with plenty of theories, for example, humanistic approach, psychodynamic approach, and the social learning approach, just to name a few. It also has many different trait theories, the more prominent ones being Cattell's sixteen personality factors, and the Big-Five.

A number of studies have been done on personality type and the academic influence using various scales like Big five factors theory, Psychoanalysis theory etc. but it has been proved over time that MBTI inventory is one of the most

reliable and valid tools for the personality assessment especially for personnel who are working in professional areas, as it is giving an account of possible career pathways in the future to the person.

A study conducted by Terrance P. O'brien, Leonhard E. Bernold, and Duane Akroyd at the North Carolina State University in 1998 found that among the 214 Engineering Mechanics Statics engineering students ISTJ (Introversion, Sensing, Thinking, Judgment) category was the most common amongst the respondents.

A study was done by Mi-Ran Kim¹ and Su-Jeong Han Konyang University, College of Medicine, Department of Nursing, Daejeon, Korea on the personality type and job satisfaction amongst nurses had found that the most common type among the students

was ESFJ. The second most common type was ESTJ. The least common type among the students was INTP and ENTP, which was found among one student, each.

Since all the studies concerning the relationship between effects of personality traits on academic achievement are carried out in other countries than India, the present study aims at contributing to the field. Thus, the researchers wished to investigate if the correlations between personality traits and academic achievement found in the studies above can also be seen in nursing students in nursing colleges in Mumbai, India.

The researcher is therefore out to examine what influence these personality traits have on the academic achievement of students using the 2nd year, 3rd year and 4th year Basic

B. Sc. Nursing students who just wrote their university exams during the previous academic year. Their scores of the personality traits were compared with their achievement scores in the University standardized results, since these traits are not expected to have changed considerably between then and now.

Thus, the aim of the study is to identify which types of personalities are most commonly found in nursing students in Mumbai and whether there are any interrelations between the personality traits measured by the MBTI inventory model and their academics during the course of their B. B. Sc. Nursing studies.

Methodology:

The present study aimed to evaluate the student's personality trait and learning style. Methods- Descriptive cross-sectional survey with a quantitative approach was utilized. The study was conducted in D Y Patil College of nursing, with 245 students studying their basic post-basic and masters in nursing through convenience sampling technique. Ethical approval is obtained from the institutional ethics committee. The Statistical Package for Social Sciences, version 20, was used to analyze data.

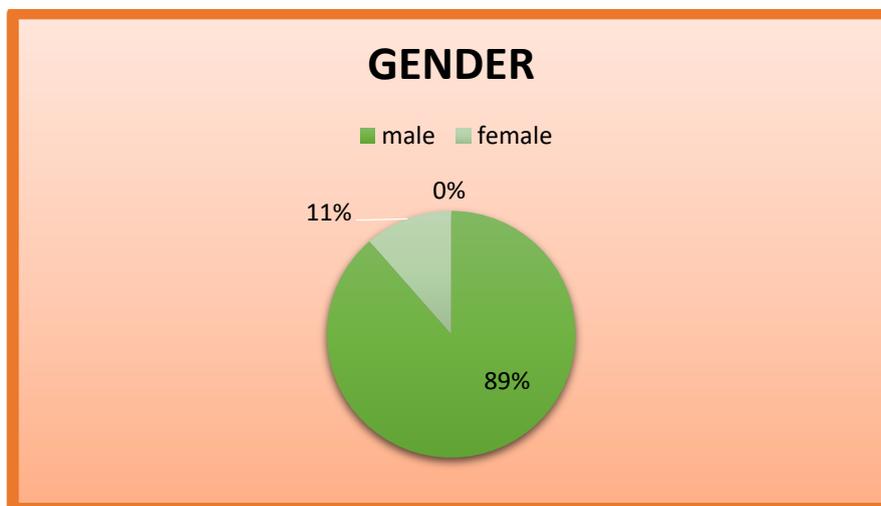
ANALYSIS AND INTERPRETATION OF DATA

Analyzing the data is important to answer the research question and test the hypothesis in an orderly and coherent fashion. Thus, interpretation is the process of making sense of the study results and examining their implication. In this chapter, the investigators have dealt with the analysis and interpretation with an aim to find a correlation between personality type and academic performance of the student.

The result of the respondent's data is analyzed and based on the objectives of the study. The data is analyzed by using the excel sheet and the statistical formula imported into it. To ensure a clearer picture, the results obtained are presented in chart and table form. Lastly, this chapter is concluded with a summary of the supporting hypothesis findings.

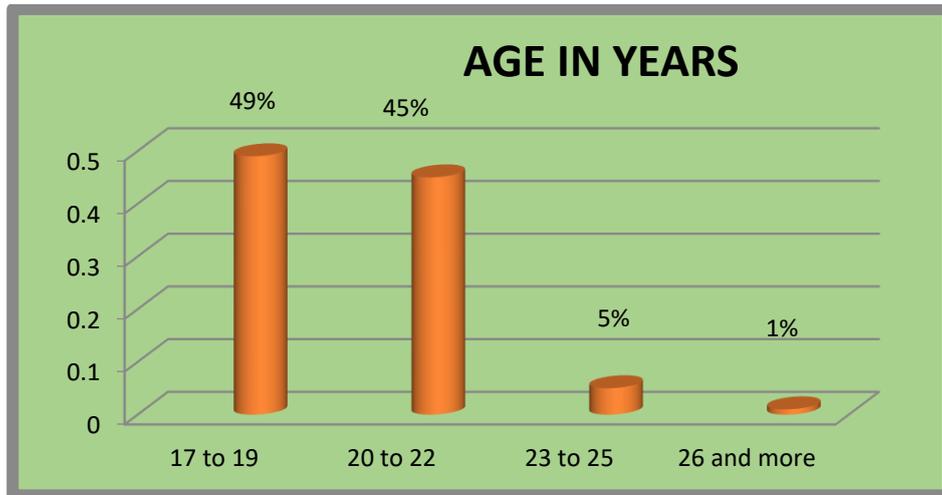
I. Basic Information

- Gender :



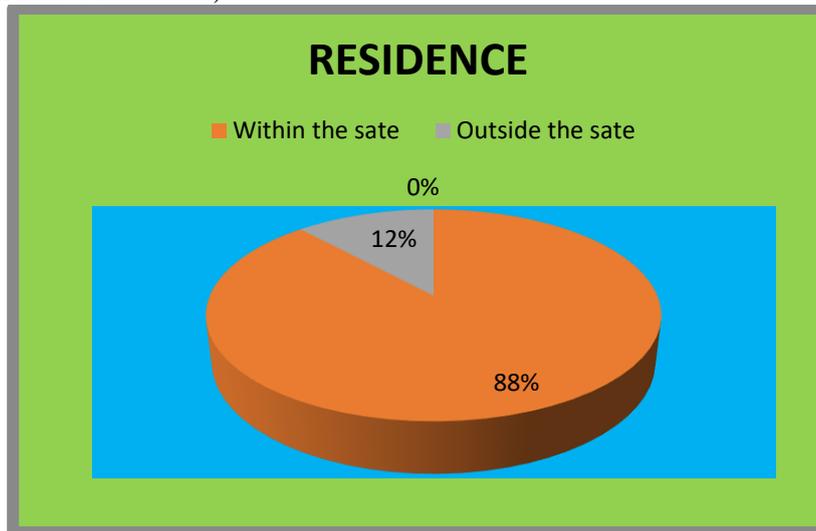
The above data revealed that majority of samples were female (89%) while (11%) were male

- Date of birth and Age in years :



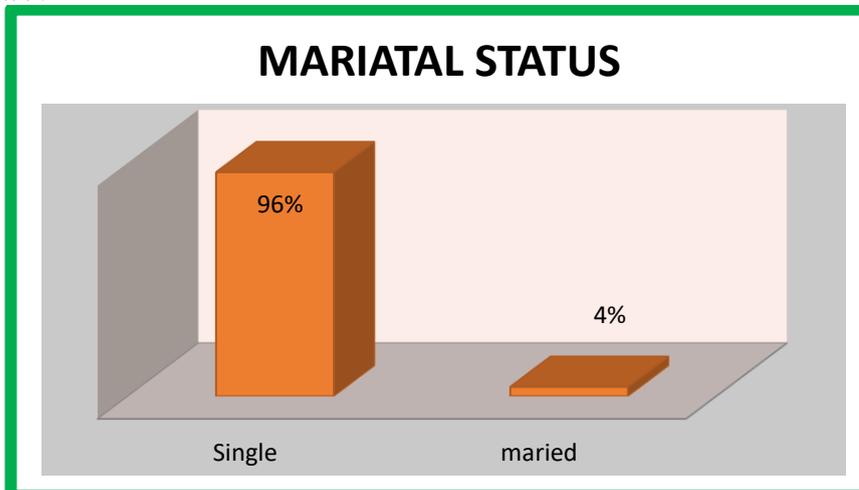
The above graph shows that majority of sample belong to age group of 17 to 19 yrs of age.

- Residence : (within state/ outside state)



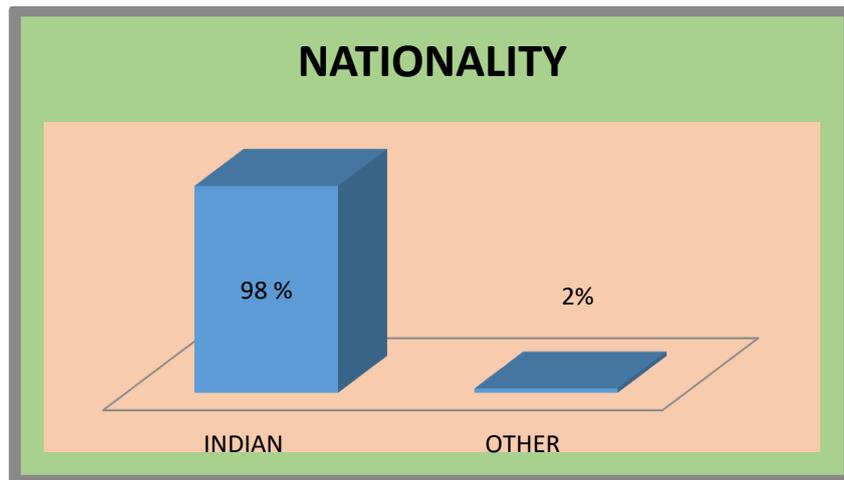
the above pie graph indicates that 88 % of respondents are residing within the state while 12 % are of outside Maharashtra.

- Marital status :



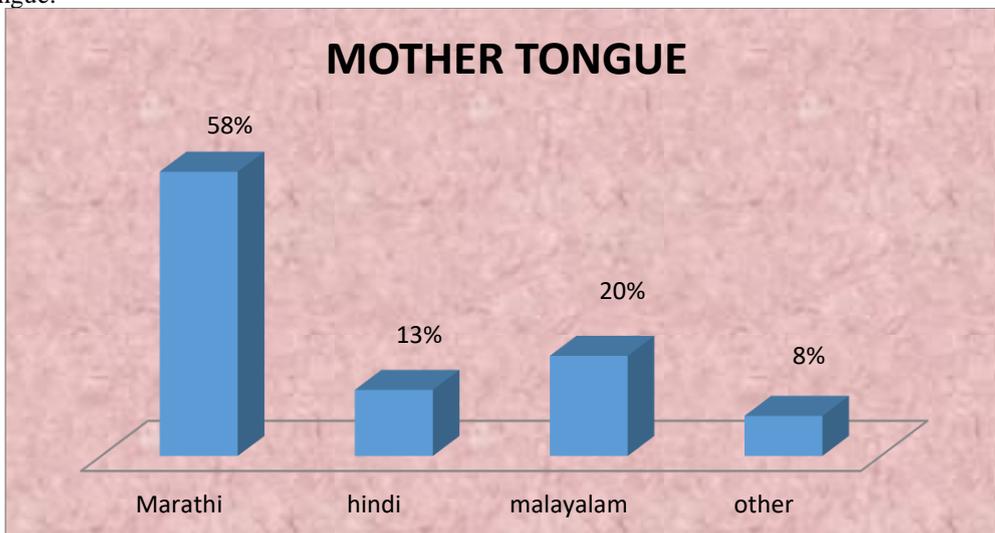
The above graph represents the marital status of the respondents where in 96% are single while 4% are married.

- Nationality :



The above graph shows that 98% have Indians as their nationality while 2% are Nepali, Nigerian.

- Mother tongue:



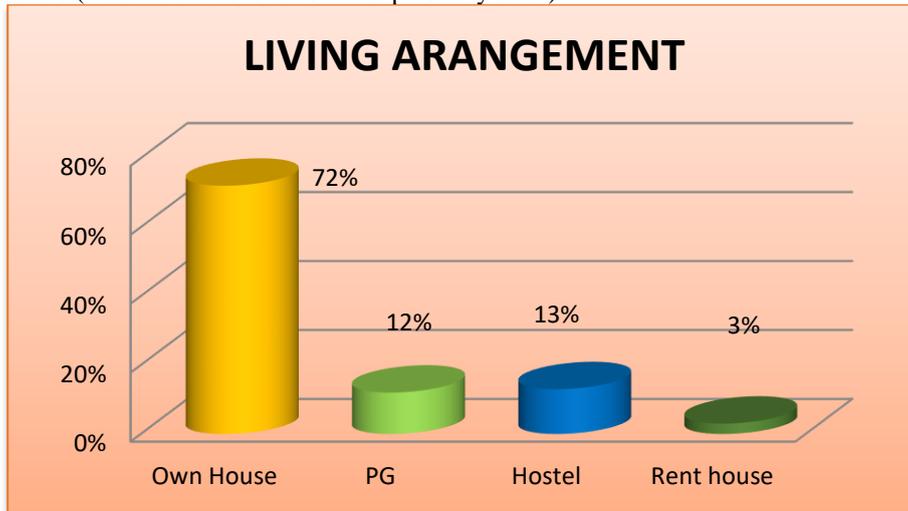
The above data reveals that the majority of the respondents that is 58% speak Marathi while 20% speak Malayalam and 13% belong to Hindi as their mother tongue while 8% speak Punjabi, Tamil, Igbo, Bengali, etc.

- Do you understand regional language (Marathi):



The above graph reveals that 80% of respondents understand regional language while 20% have difficulty in understanding the Marathi language.

- Living arrangements (with whom does the student presently live?)



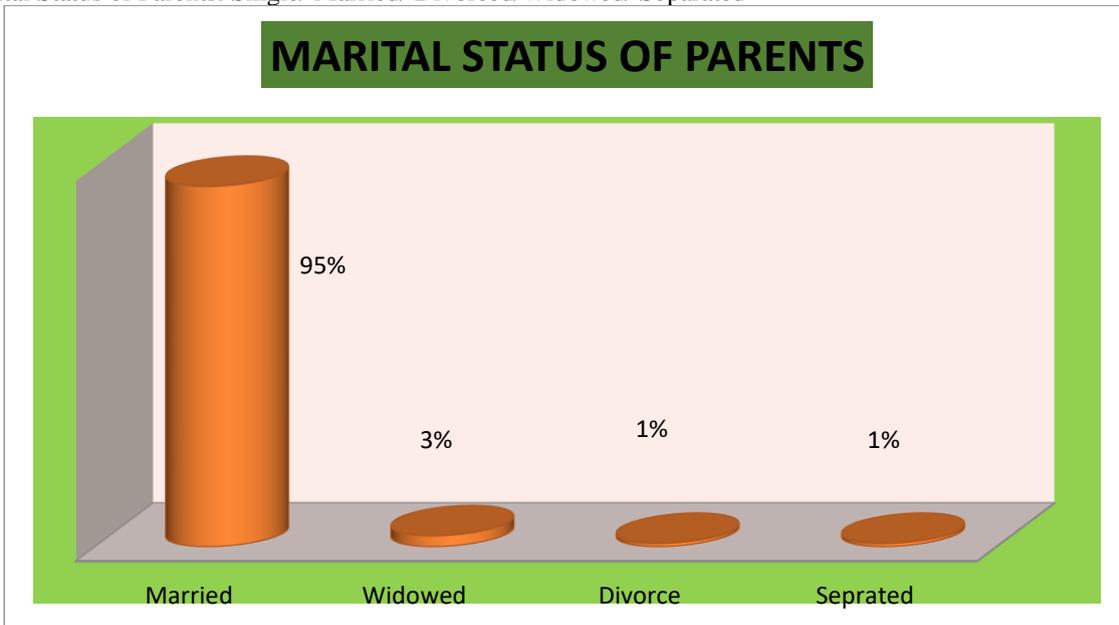
The above data reveal that majority of (72%) respondents presently stay in their own house, while 12% stay as PG, the rest 13% stay in a hostel.

- Do you like the course?

All the sample have said yes, they like the course as a maximum of the respondents feel this course gives them job opportunity and job security as well, few like it as it is a noble profession and they have a passion to do nursing.

Family History

- Marital Status of Parents: Single/ Married/ Divorced/Widowed/ Separated

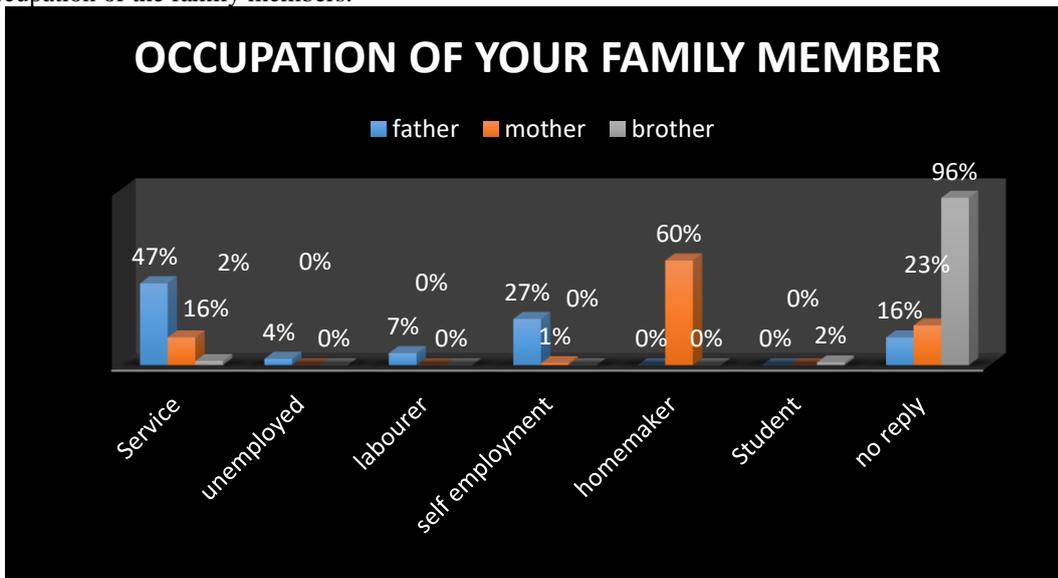


The above data reveals that 95% parents' marital status is married, 3 % shows they are widow while 1% shows divorce and separated respectively.

Any Harmful behaviour of your family members:

From the data revealed it was seen that 1% had reported of their father having harmful behaviour as they are alcohol abuse, rest 99% reported of no harmful behaviour in their family.

- Occupation of the family members.

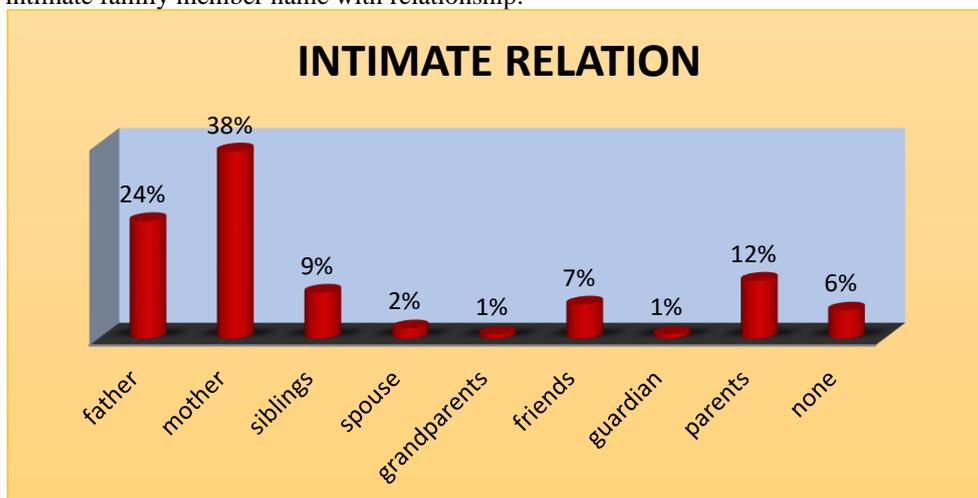


- Interpersonal relationship among family members:
All the respondents have replied good interpersonal relationship among family members.
- Are you a step child: (Yes/ No)



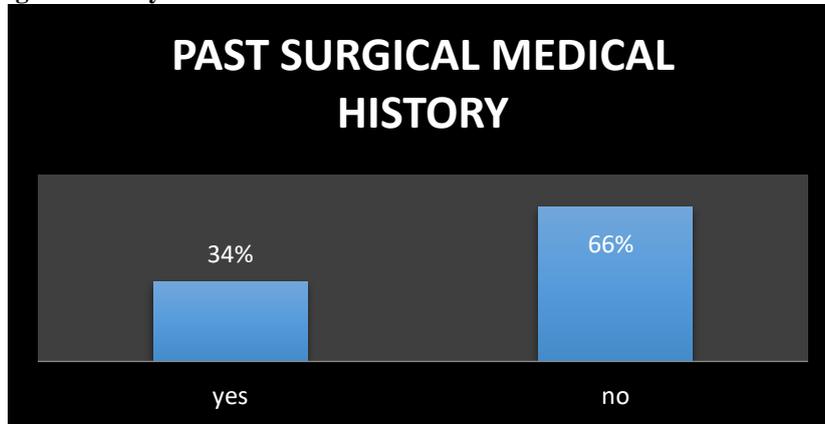
The above data reveals that (97%) are not the step child whereas 3% reveal of being step child.

- Your most intimate family member name with relationship:



The above graph shows that majority of respondents 38% have intimate relation with their mother,24% have it with father,12% have the relation with their both parents, while 9% and 7% is seen to have intimate relation with siblings and friends respectively, whereas 6% respondents have answered none.

Past Medical and Surgical History



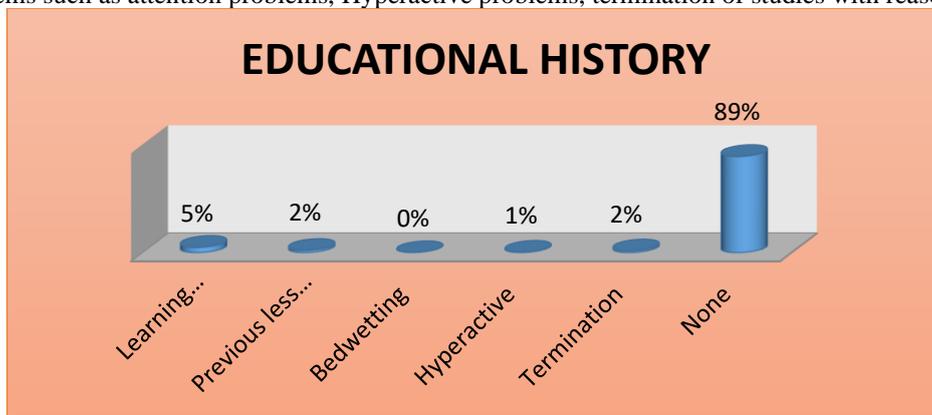
The above graph shows that 66% respondents do not have any past medical or surgical history while 34% has a history for

Personal History

- Birth History (Any birth related issues)

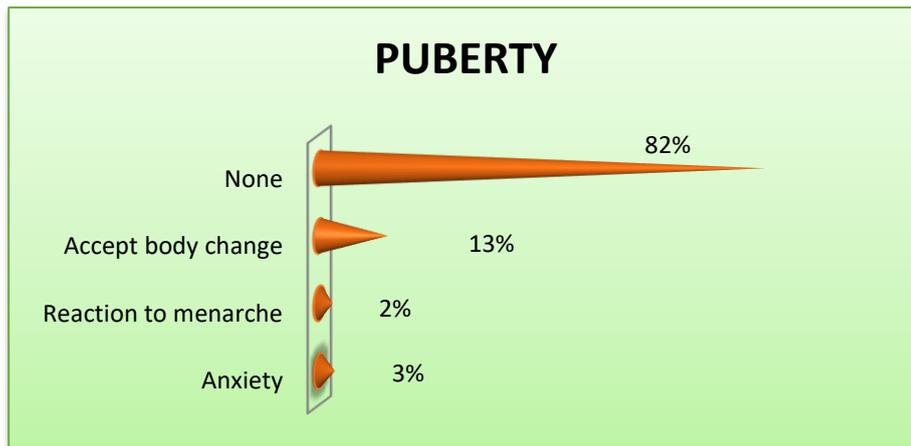
Among the 245 respondent’s majority of (99%) do not have any birth related to issues, while (1%) have the history of premature birth.

- Educational History (mention any academic achievements, learning difficulties, previous non-attendance, bedwetting, behaviour problems such as attention problems, Hyperactive problems, termination of studies with reason)



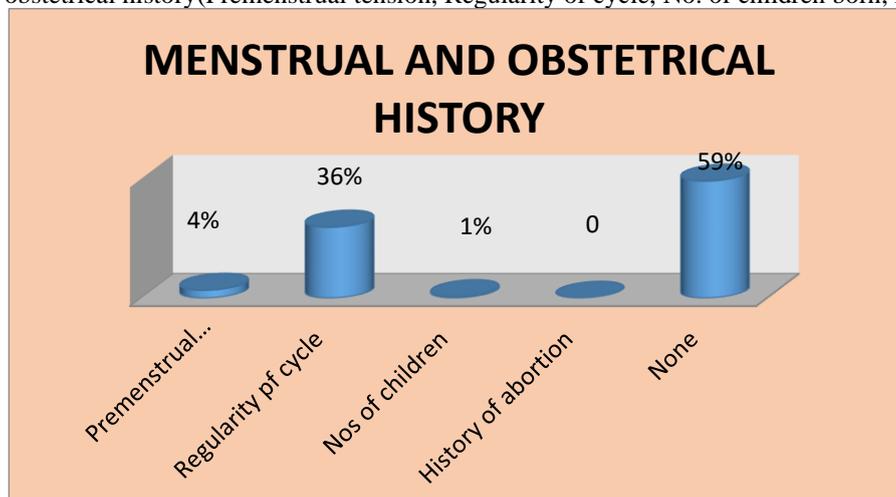
The above data reveals that 89% of the respondents have no specific educational history, while those 5% reported to have learning difficulty, with 2 % revealing less previous school attendance and termination history.

- Puberty(any anxiety related to pubertal change, reaction to menarche)



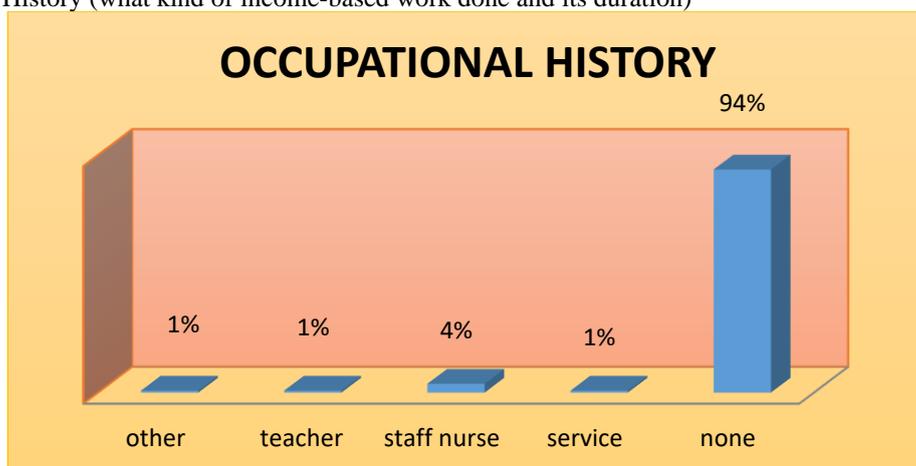
The above data reveals that 82% have responded none, while 13% accept the body change, whereas 3% have anxiety related to pubertal change.

- Menstrual and obstetrical history(Premenstrual tension, Regularity of cycle, No. of children born, history of abortion)



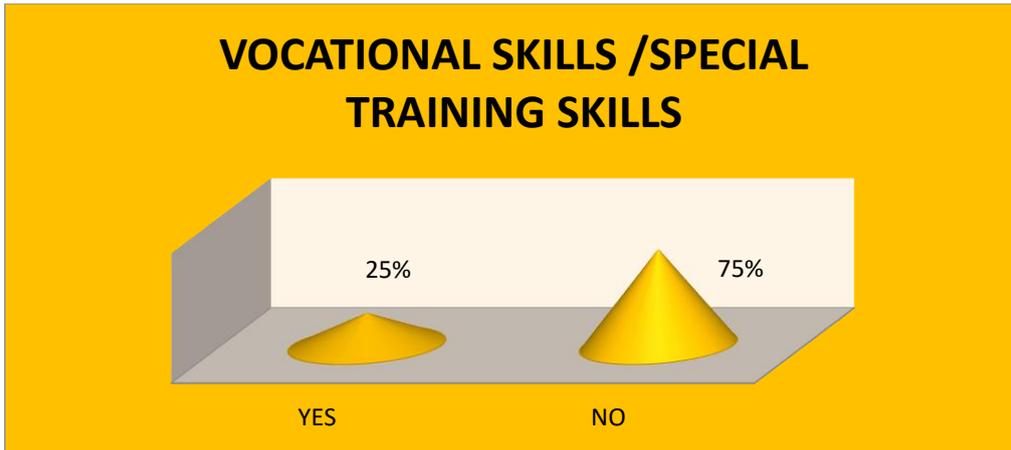
The above graph shows that 36% have regularity of menstrual cycle, 4% have premenstrual tension, whereas 59% have responded no menstrual and obstetrical history.

- Occupational History (what kind of income-based work done and its duration)



The above data reveals that 94% have reported of not having any occupational history while 4% have reported of being working as staff nurse, and 1% has reported of being teacher, service, working as drama actor and attendant.

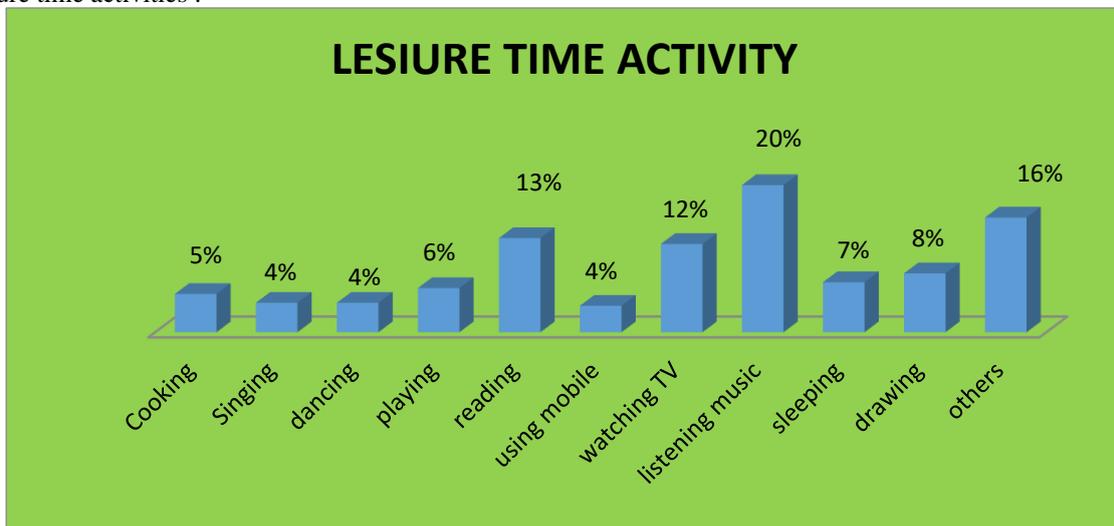
- Vocational skills/ Special training skills that you possess



The above graph reveals that majority of respondents have no vocational skills while 25% have the vocational skill as singing, acting, cooking, playing music etc.

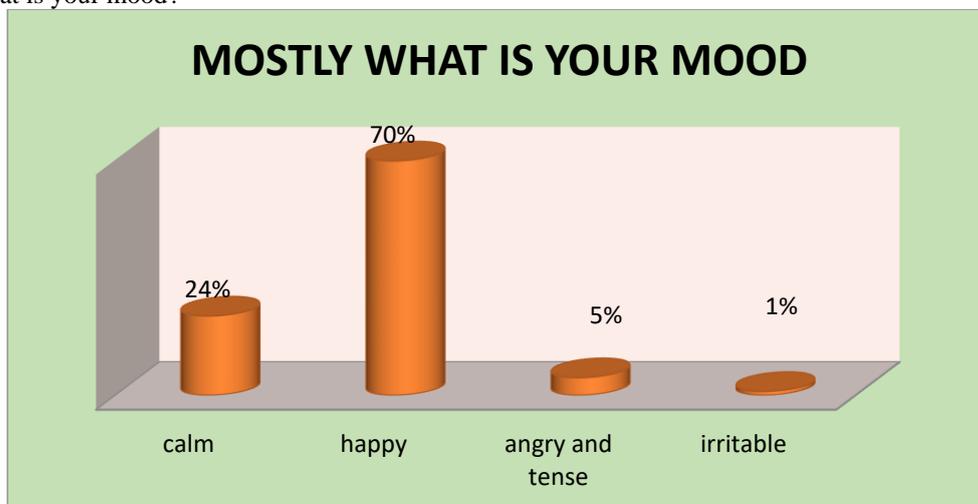
Personality

- Leisure time activities :



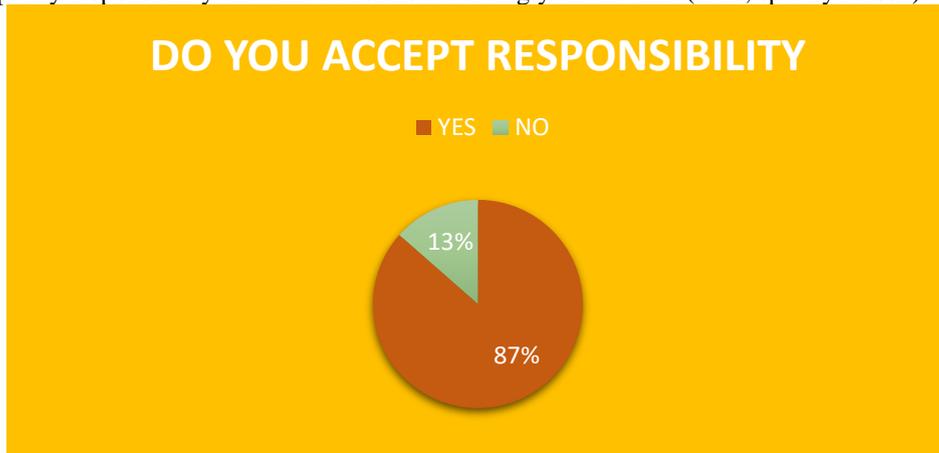
The above data reveals that majority of the respondents that is 20% spend their leisure time listing music, while 13% spend reading, while 12 %spend their time watching TV, while others spend time in cooking, singing,dancing,sleeping etc.

- Mostly what is your mood?



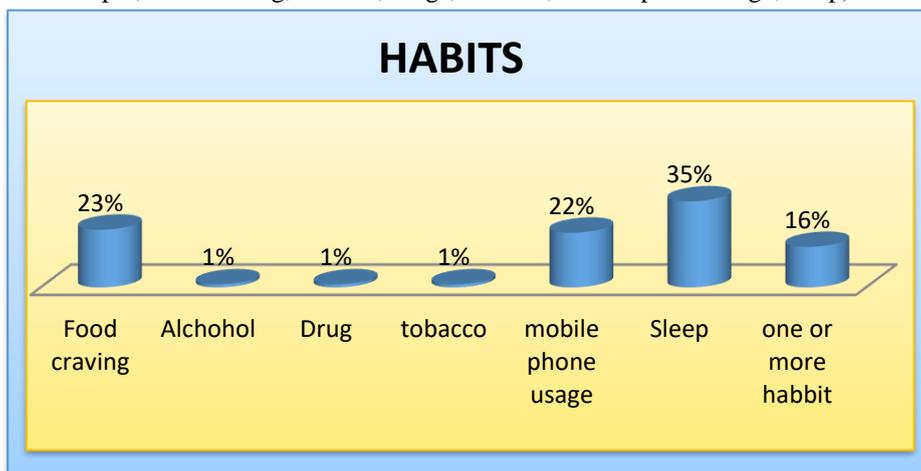
The above data reveals that 70% of respondents mostly have happy mood, 24%have calm mood while 5% report to have angry and tense mood, whereas only 1 % reported to have irritable mood.

- Do you accept any responsibility and take decisions accordingly all the time (if no, specify reason)?



The above data reveals that 87% respondents accept their responsibility while 13% have reported they do not accept responsibility.

- Your Habits (For example; food craving, alcohol, drugs, tobacco, mobile phone usage, sleep) with hours spent on it



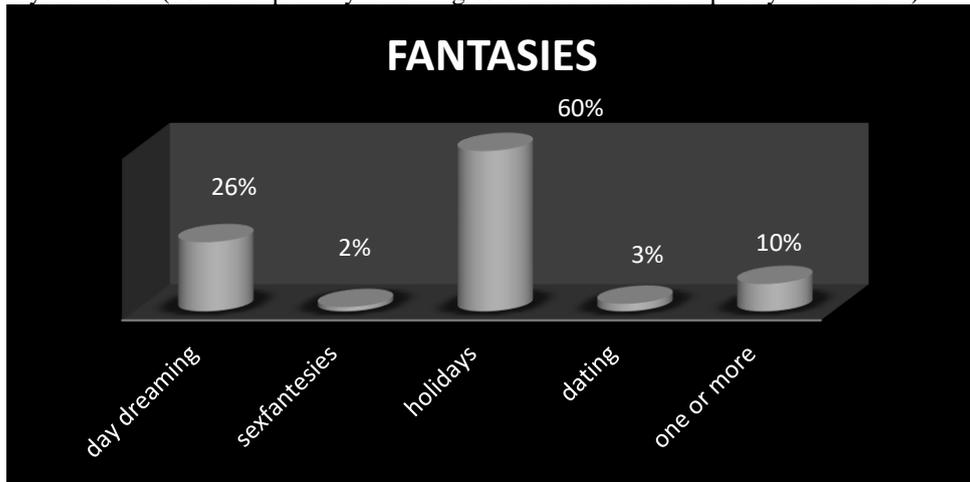
The above data shows that 35% have the habit of sleeping, 23% reveal to have habit of craving for food, 22% are on their mobile phones while 1% either have habit of having alcohol, drug or tobacco remaining 16% have one more habit together.

- Views on your religious beliefs and moral attitude:



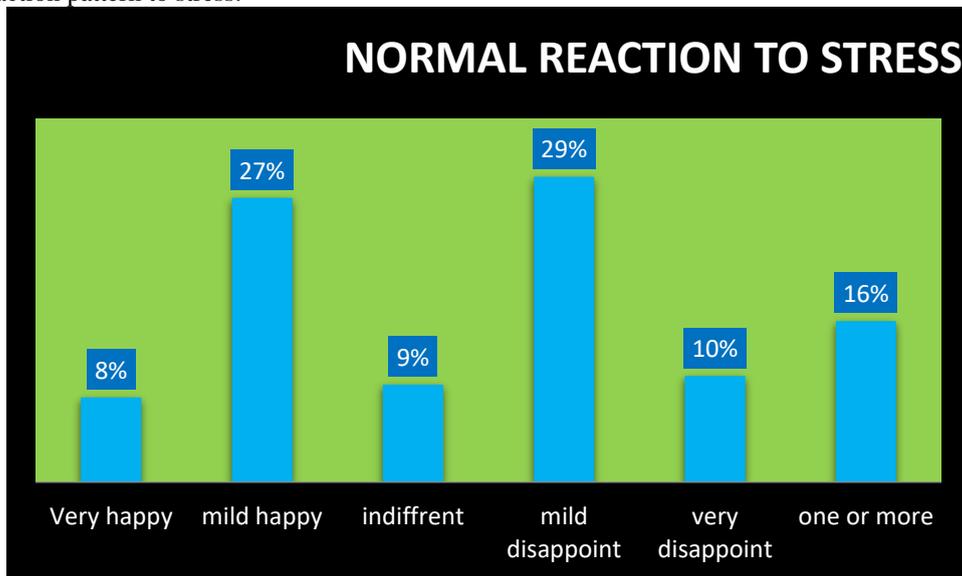
The above data shows that 75% have positive views towards religion and moral attitude while 25% so neutral views.

- Do you see any fantasies? (For example: day dreaming so on. Mention its frequency and content)



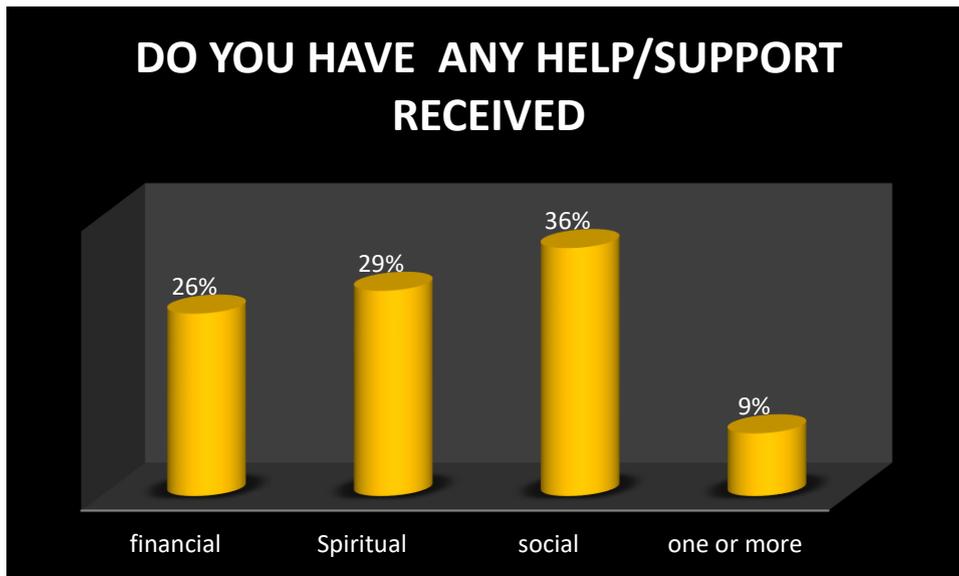
the above data shows that 60% have the holidays fantasies, while 26% do day dreaming, 10% have one or more of the fantasies, while others that is 3% and 2% is seen for dating and sex fancies respectively.

- Normal Reaction pattern to stress:



The above graph shows that 29% are mildly disappointed, 27% are mild happy, while 16% have one or more reaction to stress, others 8% are happy and 10% are very disappointed.

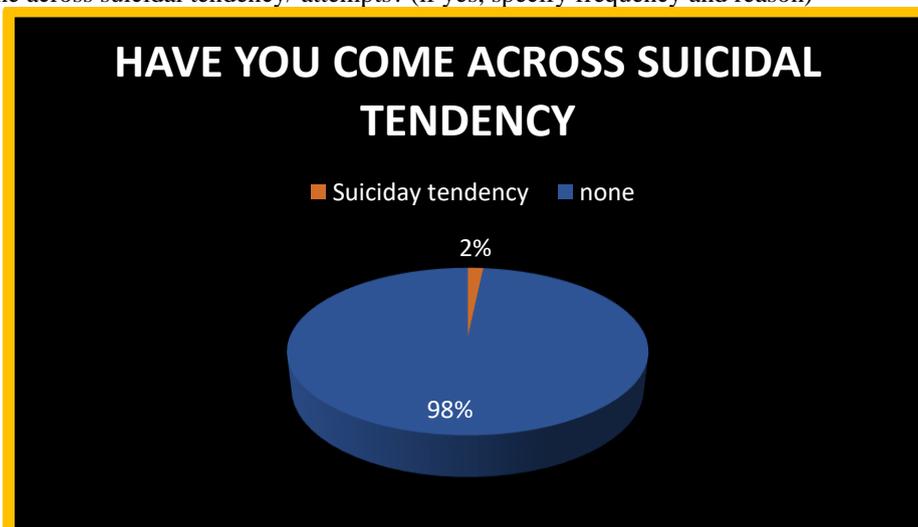
- Do you have Support System (Include financial, spiritual, community, friends etc?)



The above data shows that 36% respondents have social support system, 29% have spiritual support system, while 26% have financial support system and 9% have one or more support system.

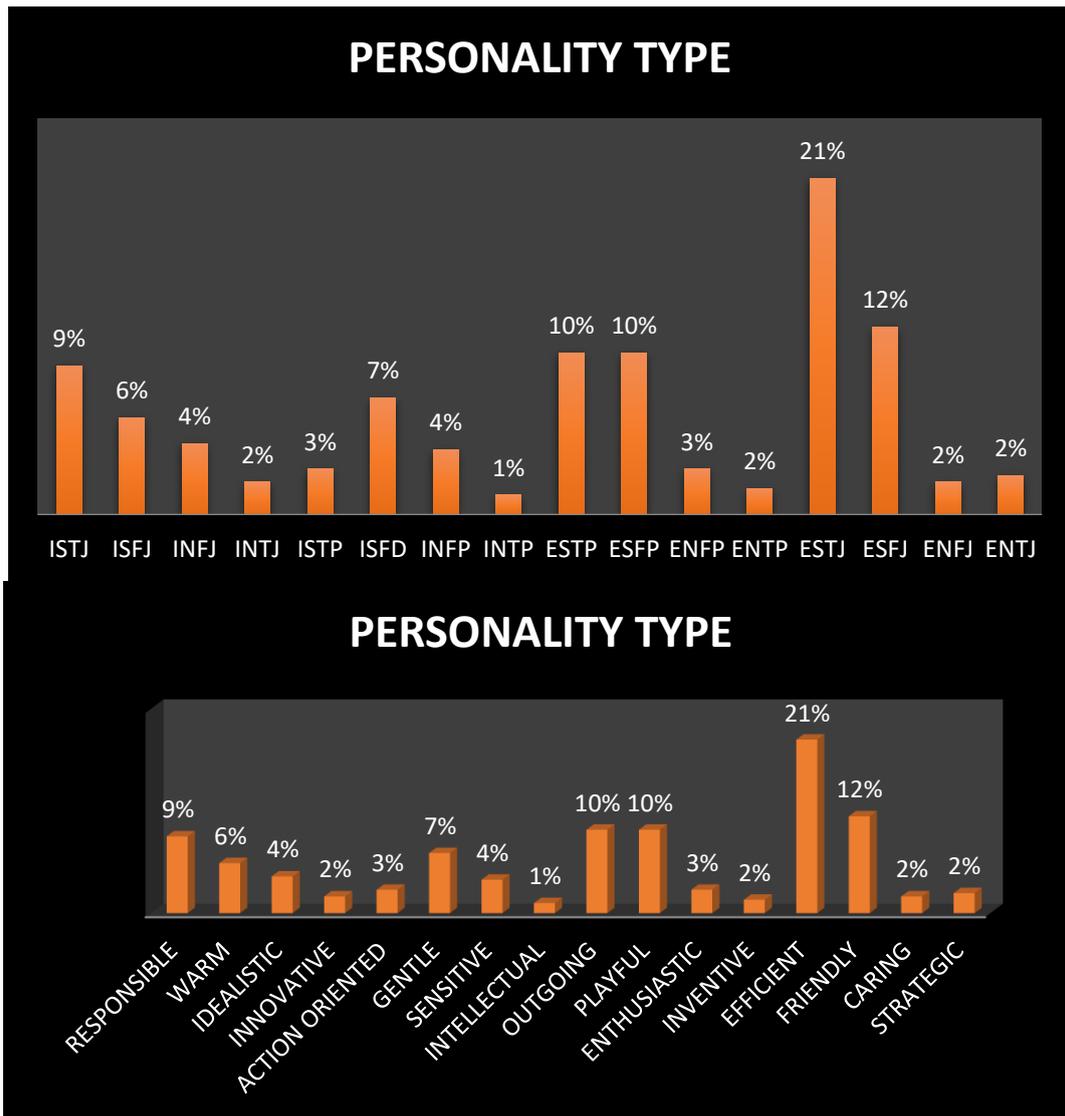
- Any Legal Issues (Details of criminal offense/ anti-social elements evidenced and documented)
Among 245 respondents none has reported any legal issues

- Have you come across suicidal tendency/ attempts? (if yes, specify frequency and reason)



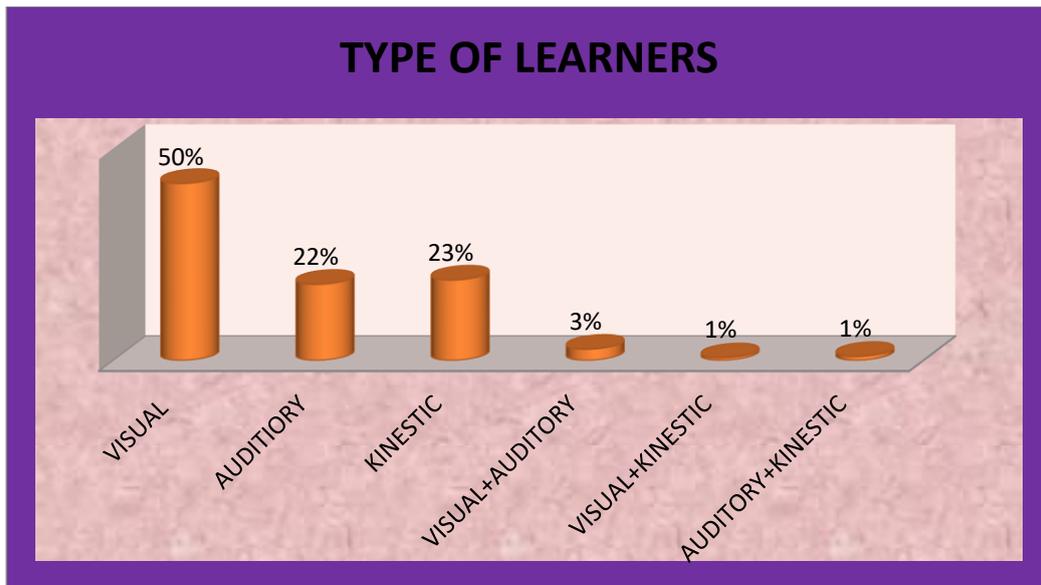
Among the respondents it was seen that 98% do not have any suicidal tendency while 2% have the suicidal tendency and they have attempted that too.

1. What is your Personality Type?



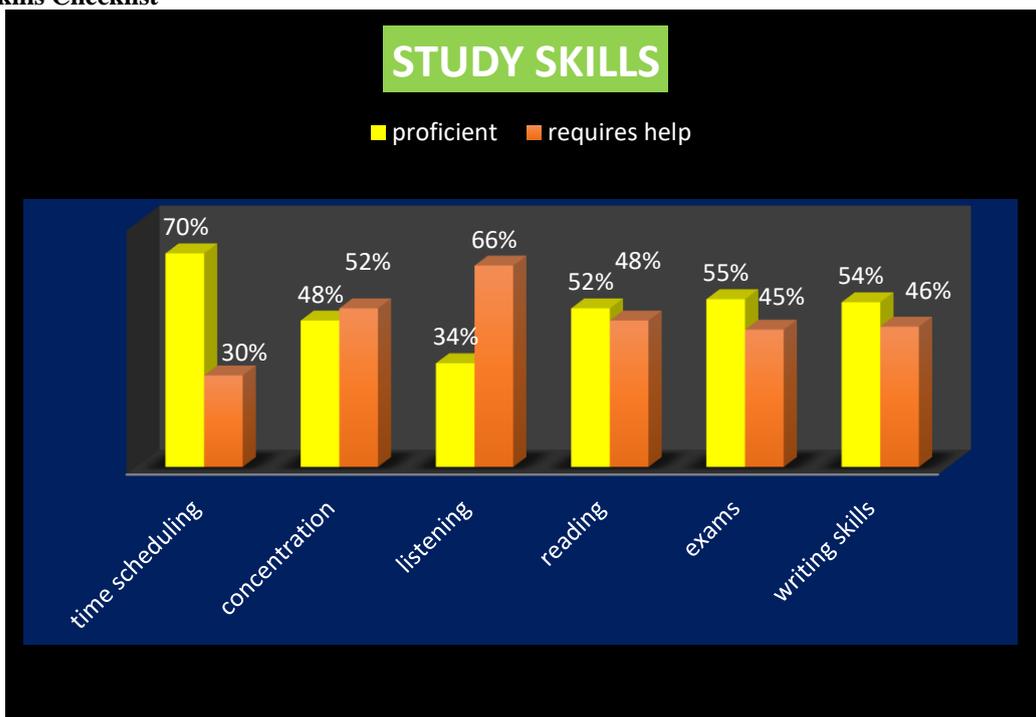
The above data reveals that majority 21% of the respondents have efficient type of personality, 12% have friendly type of personality, while 10% have playful and outgoing type of personality. The minimum type of respondents that is 2% had innovative intellectual, inventive type of personality.

2. Learning style inventory



The above data reveals that majority of 50% respondents are visual learners, 23% are kinesthetic and 22% are auditory learners, remaining 3% show both category of learner as visual and auditory as well, while 1% of both visual and kinesthetic and auditory and kinesthetic.

3. Study Skills Checklist



- The above data reveals that with consideration to time scheduling 70% are proficient while 30% require help for time scheduling.
- In concentration 48% have proficiency while 52% require help.
- Listening as the study skill 34% is proficient while 66% seek for help.
- With regards to reading 52% have gain proficiency, while 48% require help to gain proficiency.
- While 55% have gained proficiency over exam, while those of 45% need help for same.
- The above data shows that 54% are proficient in writing skill while 46% require help for the same.

Discussion:

A total 245 study subjects were included in present study. Majority of study subjects 49% were in 17-19 Years age group. While 89% were female, it was seen that majority of the subjects that is 58% speak Marathi as their mother tongue, while 38% have intimate relation with their mother, majority 72% of the participants presently stay in their own house. All the respondents have replied good interpersonal relationship among family members. 89% of the respondents

have no specific educational history. in the view of spending leisure time 20% spend their leisure time listening music, while spend reading, watching TV, cooking, singing, dancing, sleeping etc. 35% have the habit of sleeping, in relation to their habits 23% reveal to have habit of craving for food, 22% are on their mobile phones. With regards to fantasy 60% have the holiday's fantasies, while 26% do day dreaming. 21% of the participants have efficient type of personality, 12% have friendly type of personality, while 10 % have playful and outgoing type of personality. The minimum type of respondents that is 2 % had innovative intellectual, inventive type of personality. in the view of learning style it was seen that 50% respondents are visual learners, 23% are kinesthetic and 22% are auditory learners, remaining 3% show both category of learner as visual and auditory as well, while 1% of both visual and kinesthetic and auditory and kinesthetic respectively.

Conclusion:

Considering with the personality trait and learning style, teachers can help the students to recognize their positive values and help them to overcome their lacunae. This assessment would also help the teachers to understand their students and change the pattern of facilitating the knowledge. In order to toil efficiently with the students it is necessary to understand their learning style.

REFERENCES

1. <http://www.oalib.com/references/7417157/bailey,d.a,mckay,h.a.,mirwald,r.l,p.r.e,and,Faulkner,r.a>
2. <http://www.playday.org.uk/wp-content/upload,basterfield.,others,UK.healthsurveyhaverevisedtheirmethodology>.
3. <http://www.ncbi.nlm.nih.gov/pubmed/11477024,booth,M.L.Okely,A.D.Chey.T,Bauman>.
4. [http://www.hfsf.org/upload,physical%2520A,Crocker,P.R.E,Bailey,D.A.faulkner,R.A,Kowalski,K.C & McCurath.R](http://www.hfsf.org/upload,physical%2520A,Crocker,P.R.E,Bailey,D.A.faulkner,R.A,Kowalski,K.C&McCurath.R)
5. [http://www.phacraspc,pc.ge.ca >home>health promotion>health living>physical activity](http://www.phacraspc,pc.ge.ca>home>healthpromotion>healthliving>physicalactivity).
6. <http://www.ncbi.nlm.nih.gov/pubmed/10912890>.
7. [http://www.funlibre.org/biblioteca 2/docs digit john AP recreation,trend & implication orgovt](http://www.funlibre.org/biblioteca2/docsdigitjohnAPrecreation,trend&implicationorgovt).
8. [http://www.humankinetics.com/.4401.kahan,D.Religiosity as a determinant of physical activity](http://www.humankinetics.com/.4401.kahan,D.Religiosityasa determinantofphysicalactivity).
9. <http://www.ncbi.nlm.nih.gov/pubmed/10949011>
10. [http://www.ncbi.nlm.nih.gov/pubmed/17554153,kowalski,k.c,crocker,p.r.e and Faulkner,r.a](http://www.ncbi.nlm.nih.gov/pubmed/17554153,kowalski,k.c,crocker,p.r.eandFaulkner,r.a)
11. [http://www.hfsf.org/upload/physical/2520a,kowalski,k.c,crocker,p.r.e and Kowalski.n.p](http://www.hfsf.org/upload/physical/2520a,kowalski,k.c,crocker,p.r.eandKowalski.n.p)
12. [http://www.ncbi.nlm.nih.gov/pubmed/12134728/michard,p.cauderay,m.narina.f.,and Schultz](http://www.ncbi.nlm.nih.gov/pubmed/12134728/michard,p.cauderay,m.narina.f.,andSchultz).