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A Study To Assess Knowledge Regarding The Impact Of Mobile Phone On Exam Performance Among Junior Colleges Students In Selected College Of Nagpur City.

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Abstract:- A STUDY TO ASSESS KNOWLEDGE REGARDING THE IMPACT OF MOBILE PHONE ON EXAM PERFORMANCE AMONG JUNIOR COLLEGES STUDENTS IN SELECTED COLLEGE OF NAGPUR CITY."

THE OBJECTIVES WERE :-

1) To assess the impact of mobile phone on exam performance among junior college students.
2) To find the association between knowledge on impact of mobile on exam performance among junior college students and selected demographic variables.

HYPOTHESIS :-

Null Hypothesis H0: There is no significant association between knowledge score regarding impact of mobile phone on exam performance among junior college students in selected college of Nagpur City and their demographic variables.

Alternative Hypothesis H1: There is no significant association between knowledge score regarding impact of mobile phone on exam performance among junior college students in selected college of Nagpur City and their demographic variables.

METHODOLOGY

Descriptive research design was used. A panel of three experts ascertained the content validity of the tool. Reliability of tool was tested by using Guttman Split Half method and the reliability of the tool was 0.7163 and hence the tool was reliable. A pilot study was conducted by administering the questionnaires to10 respondents who fulfil the sampling criteria. The tool was found reliable and feasible.

The sample fulfilled the inclusion criteria were selected for the study. Non probability convenient sampling technique was used to select the junior college students. The data wascollected by using the structured questionnaires. The obtained data was analyzed by using the descriptive and inferential statistics.

Introduction:

In recent years, Mobile telecommunication systems have grown significantly and Mobile Phones have become an essential part of daily life and are very popular among every age group. Mobile phone virtually affected the society's accessibility, security, safety social activities.

These days students of junior college use expensive and sophisticated Mobile. The rampant use of social networking, texting and chatting on Mobile Phones result in lower grades in exam and poor academic performance of students.

The spread of mobile phone is affecting people lives and relationship and also affects how peopleinteract face to face Impact of higher education / learning globally influenced at large with advance in information technology (emadet al 2015) but so far while it has brought about some problem and threats stemming from irresponsible use of smart phones among teens young adult.

Mobile phone addiction has negative impact on student learning and overall academic performance the greater the negative impact on learning skill and cognitive abilities of students needed for academic success are negatively affected by excessive phone use

Mobile phone is a device which has affected our social contacts, education system, safety, business activities and many other aspects of life (Ling, 2003). It is one of those consumers' goods which created its market very rapidly and replaced other forms of communications. Being widely used around the world equally by rich and pours, it was formally introduced in Pakistan in early 1990s and was taken as status symbol but itis now a dire need of majority.

Mobile phone is a device which has affected our social contacts, education system, safety, and many other aspects of life . It is one of those consumers' goods which created its market very rapidly and replaced other forms of communications Being widely used around the worldequally by rich and poor.

Students have an upper hand when they have the convenience of the mobile device, not just for the online lectures they can also use it for entertainment purposes like movies, games, social media, etc.

Due to the increase in the number of mobile phone users in the younger generation, companies have started to develop their mobile version in the form of an application that is more user friendly and lets people stick to the app longer increasing the media used for the students.

Mobile phones are both a curse and a boon to the newer generation as a lot of these phones when being used for education and entertainment purposes, also influences a lot of ill habits in the younger generation like watching pornography, blackmailing others for their good, increase in cybercrime, etc.

Background study:

Globalization has changed our lives. Information and communication Technologies (ICT)seeing rapid advancement in mobile phone. Mobile phone is popular since the late 1990s and today with billion mobile connection worldwide and unique mobile subscriptions of our 3.5 billion they are very popular in students of junior college.

Teachers are more concerned about issues of mobile phone during examination. According to majority of research doneit was discovered that use of mobile phone in colleges at time of examination is destructive. In past fixed telephones where norms in schools theirwere minimum distraction and disruption but presently with invasion of mobile phone and eagerness of parents to contact with their word the devices is becoming invasive in lives of students.

A survey was carried in 1st April to 1st of july 2017. Data analysis by using the mini-tab version 18. Result about 66%of students were female. The overall prevalence of mobile addiction was 60%in studying students(35.37%among male and 64.63%among female)with large increase in both sexes less or equal twenty years(59.21%). Conclusion overall female had more effects of mobile phone usage as compared to male.

Need of study:

In today fast moving and globalised world it is almost impossible to imagine our day to day life without mobile phone. Now a days due to excessive use of mobile phone it shows influence on health of studentsPoor vision:The constant usage of mobile phones affects vision. Students suffers through different problems related to eye Ex. Redness, blurry vision, burning sensation and even low eye sightDisturbed sleep:Student have heavylode of responsibilities regarding their studies besides their hours at college they start wasting their precious time on mobile and at last they sacrifice their sleep. Lack of focus:The fully fantasized world of Internet and smart-phones distract Focus of student form studies. Other than that, lack of sleep also plays vital role in distracting their focus. They lack concentration.Tension and anxiety "The light ray emitted from mobile screen affects eyes. Beside this they directing cause headache. Also overburdening of brain by constantly playing games and using application cause migraines.

According to modern research the most menacing problem is connecting of mobile phone with cancer. It is reported that people who talks on phone for several hours a day are 50% more likely to have brain cancer the reason for this is radio wave emitting from mobile phones.

1) PROBLEM STATEMENT

"A study to assess knowledge regarding the impact of mobile phone on exam performance among junior colleges students in selected college of Nagpur city."

2) OBJECTIVE

3) To assess the impact of mobile phone on exam performance among junior college students.
4) To find the association between knowledge on impact of mobile on exam performance among junior college students and selected demographic variables.

3) OPERATIONAL DEFINATION

Assess :

According to oxford dictionary," Evaluate or Estimate the Nature, ability, or quality of.

In this study,"It Refer to evaluate impact of mobile phone on Student Examperformance coming Junior Colleges student"

1. Impact

According to oxford dictionary" The power effect that something has on somebody / something."

In this study," It refers to effect of mobile phone on exam performance among junior college students**.**

2. Mobile phone :

According to oxford Dictionary," A Telephone that you can Carry around with you."

In this research study, "It refers to electronic device carried by junior students around them."

3. Student :

According to oxford dictionary, "A person who is studying at a College or university.

In this research study, "It refers to person of 17-20 years of age who are studying at junior college."

4. Junior College:

According to Oxford dictionary," College offering Courses for two years beyond High School."

In this research study"It refers to educational institute for student offering 11-12th study course.

5. Exam performance:

According to oxford dictionary'', The act of examining or state of being examined.

In this study,'' It refers to act of examining among junior college students.

4) SCOPE OF STUDY:

Research on the topic of cell phones has proliferated over the past decade. particularly in scholarly publications. Thus it would of interest to examine the scope and extent of research emphasis on the topic.

- This study illustrate specific research trends on the topic of cell phones within various areas in the psychological andbehavioural sciences.

- Research on cell phones was found to be well-represented in the human factors literature.

- Research on cell phones continues, perhaps individual differences and prediction modelling will attract people attention which should advance our knowledge on how to assess the negative impact of cell phone use.

5)ASSUMPTION

The junior colleges may have little knowledge regarding impact of mobile phone on student exam performance.

6) LIMITATION

Study will be limited to 100 students.
Study will be limited to student of junior colleges.

7) ETHICAL CONSIDERATION

Permission will be obtained from ethical committee prior visiting the colleges. After explaining all the aspects of the study to the sample return concern will be taken from them. All the information obtained from the samples will be kept confidential.

SECTION A

This section deals with percentage wise distribution of junior college studentswith regards to their demographic characteristics. A convenient sample of 100 subjects was drawn from the study population, who were from selected junior colleges of Nagpur city. The data obtained to describe the sample characteristics including age, gender, educational status, monthly family income, occupation, knowledge regarding impact of mobile phone and source of knowledgerespectivel

Table 1:

Percentage wise distribution of Junior Collegestudents according to their demographic characteristics.

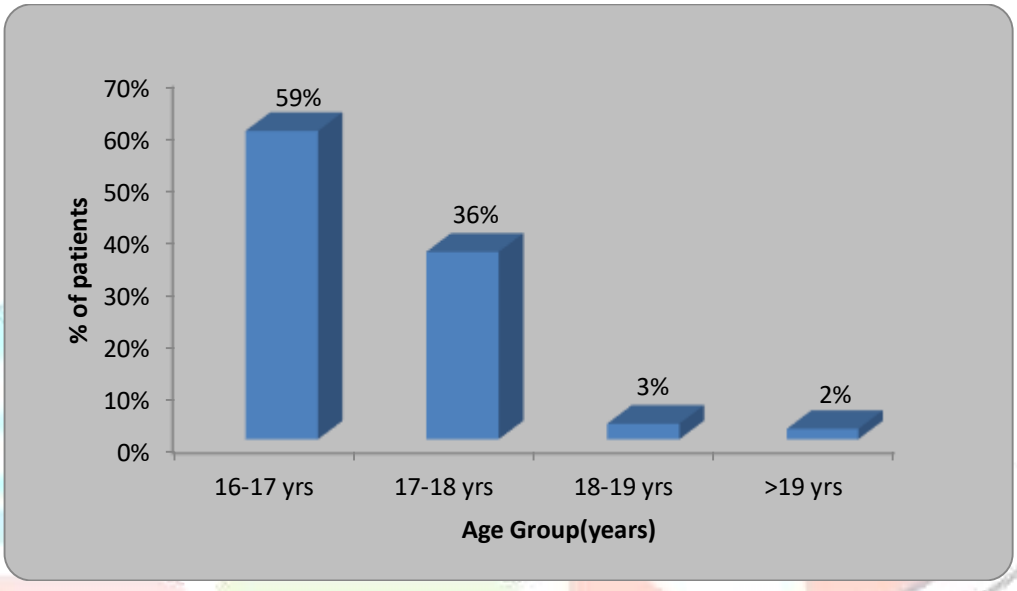
n=100

Demographic Variables	**No. of students**	**Percentage(%)**
Age(yrs)		
16-17 yrs	59	59
17-18 yrs	36	36
18-19 yrs	3	3
>19 yrs	2	2
Gender		
Male	46	49
Female	54	54
Educational Status		
11th Standard	100	0
12th Standard	0	0
Monthly Family Income(Rs)		
Below 5000 Rs	8	8
5000-10000 Rs	19	19
10000-20000 Rs	35	35
>20000 Rs	38	38
Occupation of parents		
Government Service	9	9
Private Service	25	25
Business	38	38

Homemaker	4	4
Labour	24	24
Source of knowledge regarding impact of mobile phone		
Friends	9	9
Personal Experience	50	50
Social Media	38	38
Relatives	3	3

Graph 1:

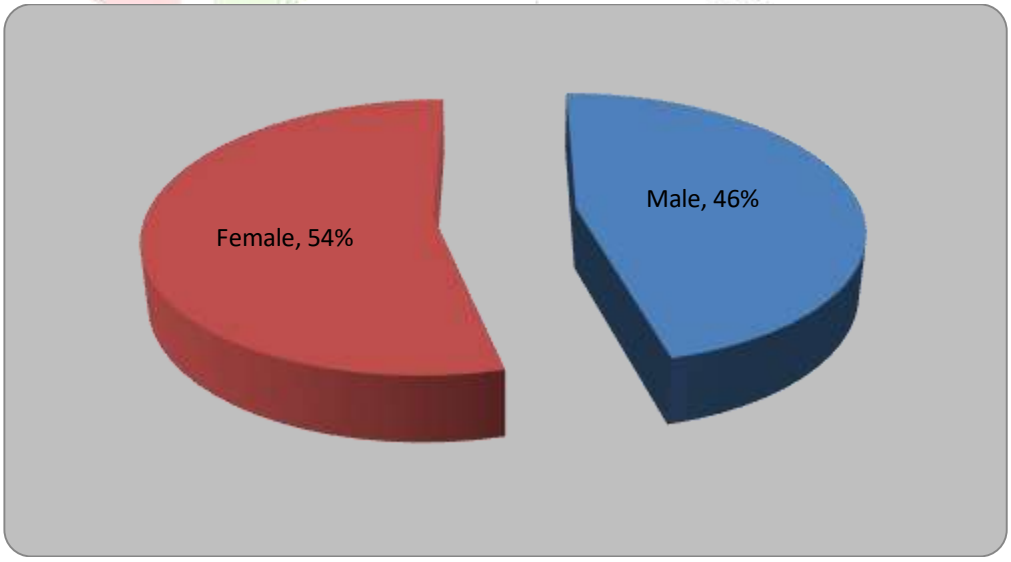
Percentage wise distribution of junior colleges studentsaccording to their age(yrs)



56% of junior college students were in the age group of 16-17 years, 36% were in 17-18 years, 3% in 18-19 years and 2% of them were more than 19 years of age.

Graph 2:

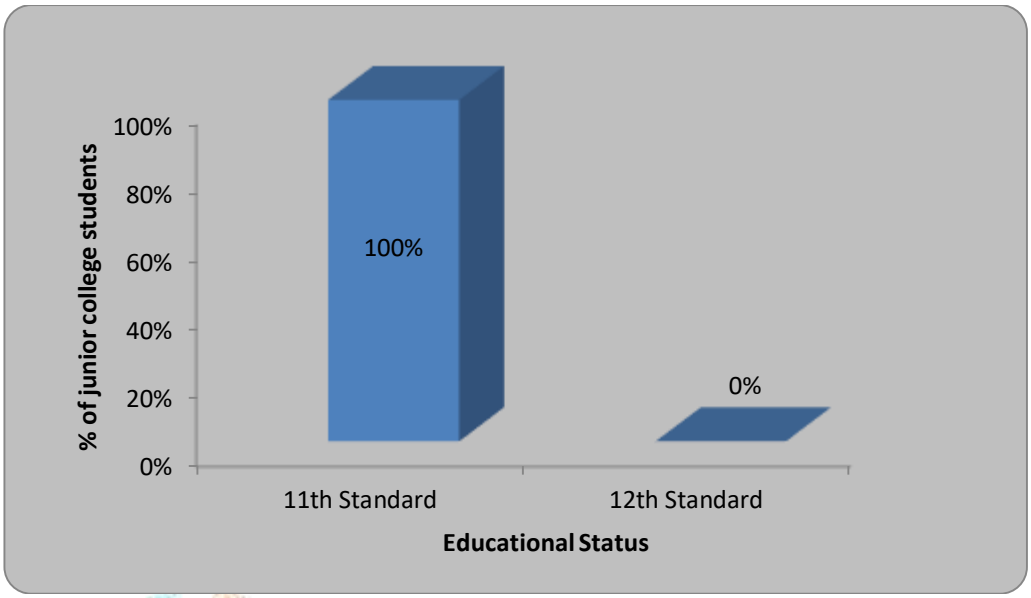
Percentage wise distribution of junior college students according to their gender



46% of junior college students were male and54% of them were females.

Graph 3:

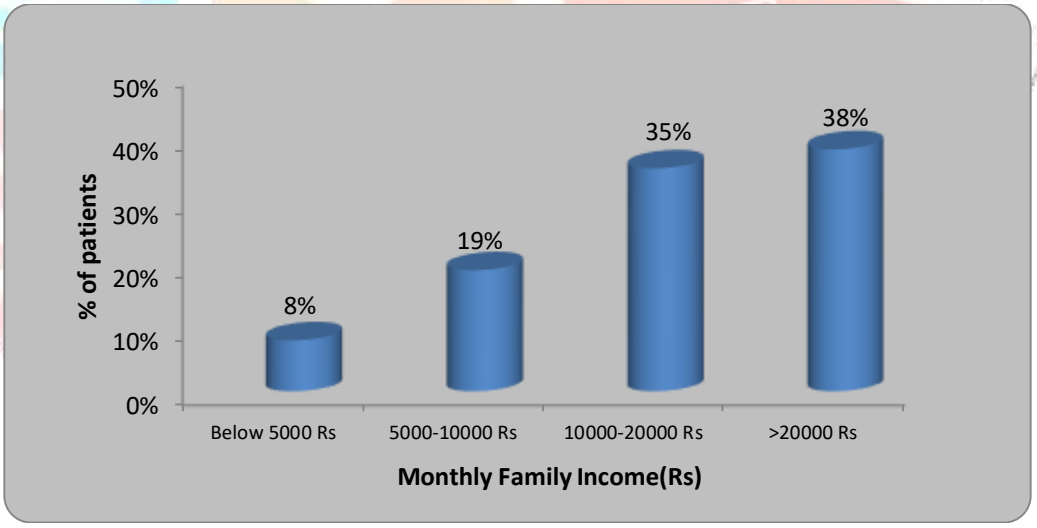
Percentage wise distribution of junior college students according to education



All(100%) of junior college students were studying in 11th standard.

Graph 4:

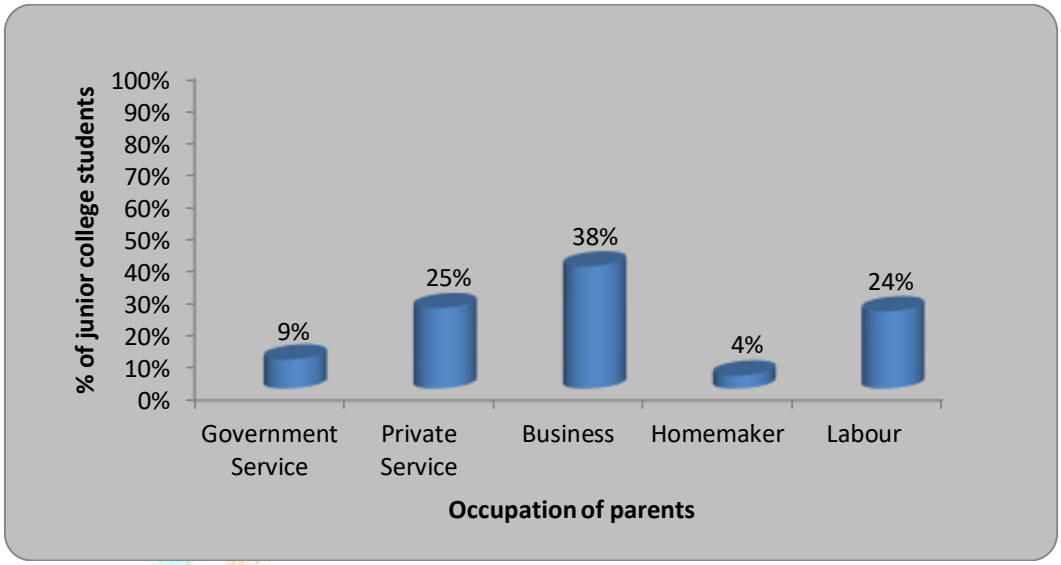
Percentage wise distribution of junior college students according to monthly income(Rs)



8% of junior college students were having monthly family income of below 5000 Rs, 19% of them had between 5000-10000 R, 35% had between Rs 10000-20000 and 38% of them had monthly family income of more than 20000 Rs.

Graph 5:

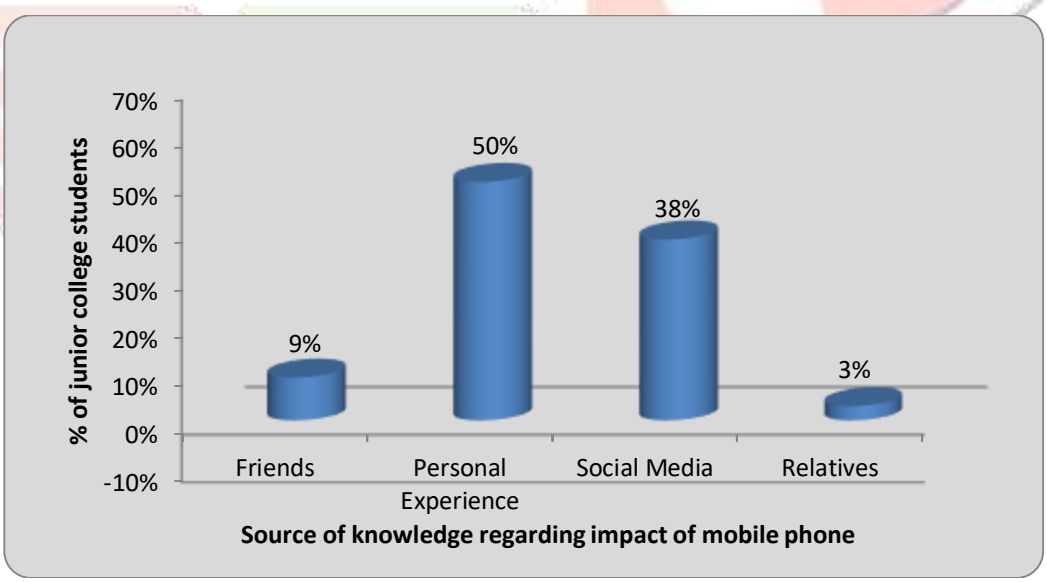
Percentage wise distribution of junior college students according to Occupation of parents



9% parents of junior college students were government servant, 25% of them were doing private services, 38% of them were doing business, 4% of them were homemaker and 24% of them were labourer.

Graph 6:

Percentage wise distribution of junior college students according to Source of information



9% of junior college students were having information about impact of mobile phone from friends, 50% from personal experience and 38% of junior college students had information from social media.

SECTION B

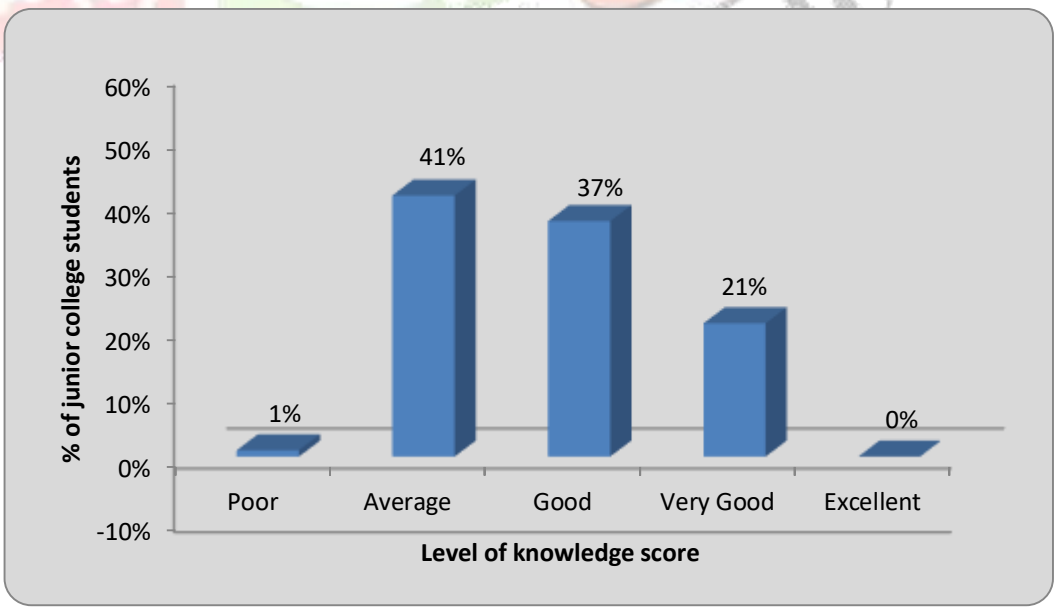
ASSESSMENT OFLEVEL OF KNOWLEDGE REGARDINGTHE IMPACT OF MOBILE PHONE ON EXAM PERFORMANCE AMONG JUNIOR COLLEGE STUDENTS IN SELECTED COLLEGE OF NAGPUR CITY.

This section deals with the assessment of level of knowledge regarding the impact of mobile phone on exam performance among junior college students in selected colleges of Nagpur city.The level of knowledge score is divided under following heading of poor, average, good, very good and excellent.

Table 2:
Assessment with level of knowledge score
n=100

Level of knowledge	Score Range	Level of Knowledge Score	
		No of junior college students	Percentage
Poor	0-20%(1-6)	1	1
Average	21-40%(7-12)	41	41
Good	41-60%(13-18)	37	37
Very Good	61-80%(19-24)	21	21
Excellent	81-100%(25-30)	0	0
Minimum score		5	
Maximum score		23	
Mean knowledge score		14.16±4.23	
Mean % Knowledge Score		47.20±14.25	

Graph 7:
Assessment withlevel of knowledge score



SECTION C

ASSOCIATION OF LEVEL OF KNOWLEDGE SCORE REGARDING THE IMPACT OF MOBILE PHONE ON EXAM PERFORMANCE AMONG JUNIOR COLLEGE STUDENTS IN RELATION TO DEMOGRAPHIC VARIABLE.

Table 3: Association of knowledge score regarding the impact of mobile phone on exam performance in relation to age in years.
n=100

Age in years	No. of students	Meanknowledge score	F-value	p-value
16-17 yrs	59	14.05±4.16	0.05	0.98 NS,p>0.05
17-18 yrs	36	14.25±4.66		
18-19 yrs	3	14.66±4.50		
>19 yrs	2	15±0		

This table shows the association of knowledge score with age in years of junior college students from selected junior colleges of Nagpur city. The tabulated 'F' values was2.68(df=3,96) which is much higher than the calculated 'F' i.e. 0.05 at 5% level of significance. Also the calculated 'p'=0.98 which was much higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that age in years of junior college students is statistically not associated with their knowledge score.

STATISTICAL FORMULAS

Statistical analysis of assessment of knowledge regarding the impact of mobile phone on exam performance among junior college students in selected colleges of Nagpur city was carried out to find the significant difference between those values. Analysis of the data was done by using descriptive and inferential statistics both.

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data.

Descriptive statistics are typically distinguished from inferentialstatistics. With descriptive statistics you are simply describing what is or what the data shows. With inferential statistics, you are trying to reach conclusions that extend beyond the immediate data alone. For instance, we use inferential statistics to try to infer from the sample data what the population might think. Or, we use inferential statistics to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study. Thus, we use inferential statistics to make inferences from our data to more general conditions; we use descriptive statistics simply to describe what's going on in our data.

The software used in the analysis were SPSS 24.0 and Graph Pad Prism 7.0 version and $p<0.05$ is considered as level of significance.

The statistical tests used for the analysis of the result were:

1. Students unpaired t test
2. One way ANOVA
3. Pearson' Correlation Coefficient
4. Reliability Analysis

Descriptive Statistics:

1. **Arithmetic Mean**:The arithmetic mean, or average, is the sum of the values divided by the number of values.

Formula:

$$\overline{X} = \frac{\sum_{i=1}^{n} X_i}{n}$$

Where:

$\overline{X}$ = Sample arithmetic mean

n = Sample size

$X_i = i^{th}$ Observation of the random variable X

$\sum_{i=1}^{n} X_i$ = Summation of all the X_i values in the sample

2. **Standard Deviation(SD)** =

$$\sqrt{\frac{\Sigma(X - \overline{X})^2}{(n - 1)}}$$

where:

X = each score
$\overline{X}$ = the mean or average
n = the number of values
Σ means we sum across the values

3. Mean percentage=Total Score/no of questions
4. Max/Min = Maximum/Minimum value of knowledge score

1.Students unpaired t test

Assumption:

1. The samples (n_1 and n_2) from two normal populations are independent.
2. One or both sample sizes are less than 30
3. The appropriate sampling distribution of the test statistic is the t distribution
4. The unknown variances of the two populations are not equal

To compute the two-sample t-test two major computations are needed before computing the t-test. First, you need to estimate the pooled standard deviation of the two samples. The pooled standard deviation gives an weighted average of the standard deviations of the two samples. The ***pooled standard deviation*** is going to be between the two standard deviations, with greater weight given to the standard deviation from a larger sample. The equation for the pooled standard deviation is:

$$S_P = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$$

In all work with two-sample t-test the degrees of freedom or df is:

$$df = n_1 + n_2 - 2$$

The formula for the two sample t-test is:

$$T = \frac{\overline{X} - \overline{Y}}{S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

2. One way ANOVA

A One-Way Analysis of Variance is a way to test the equality of three or more means at one time by using variances.

Assumptions

- The populations from which the samples were obtained must be normally or approximately normally distributed.
- The samples must be independent.
- The variances of the populations must be equal.

Hypotheses

The null hypothesis will be that all population means are equal, the alternative hypothesis is that at least one mean is different.

In the following, lower case letters apply to the individual samples and capital letters apply to the entire set collectively. That is, n is one of many sample sizes, but N is the total sample size.

Grand Mean

The grand mean of a set of samples is the total of all the data values divided by the total sample size. This requires that you have all of the sample data available to you, which is usually the case, but not always. It turns out that all that is necessary to find perform a one-way analysis of variance are the number of samples, the sample means, the sample variances, and the sample sizes.

Another way to find the grand mean is to find the weighted average of the sample means. The weight applied is the sample size.

Total Variation

$$\bar{X}_{GM} = \frac{\sum n\bar{x}}{\sum n} \qquad \bar{X}_{GM} = \frac{\sum x}{N}$$

The total variation (not variance) is comprised the sum of the squares of the differences of each mean with the grand mean.

There is the between group variation and the within group variation. The whole idea behind the analysis of variance is to compare the ratio of between group variance to within group variance. If the variance caused by the interaction between the samples is much larger when compared to the variance that appears within each group, then it is because the means aren't the same.

$$SS(T) = \sum (x - \bar{X}_{GM})^2$$

Between Group variation

The variation due to the interaction between the samples is denoted SS(B) for Sum of Squares Between groups. If the sample means are close to each other (and therefore theGrand Mean) this will be small. There are k samples involved with one data value for each sample (the sample mean), so there are k-1 degrees of freedom.

The variance due to the interaction between the samples is denoted MS(B) for Mean Square Between groups. This is the between group variation divided by its degrees of freedom. It is also denoted by s_b^2.

Within Group Variation $SS(B) = \sum n(\bar{x} - \bar{X}_{GM})^2$

The variation due to differences within individual samples, denoted SS(W) for Sum of Squares Within groups. Each sample is considered independently, no interaction between samples is involved. The degrees of freedom is equal to the sum of the individual degrees of freedom for each sample. Since each sample has degrees of freedom equal to one less than their sample sizes, and there are k samples, the total degrees of freedom is k less than the total sample size: df = N - k.

The variance due to the differences within individual samples is denoted MS(W) for Mean Square Within groups. This is the $SS(W) = \sum df \cdot s^2$ within group variation divided by its degrees of freedom. It is also denoted by s_w^2. It is the weighted average of the variances (weighted with the degrees of freedom).

F test statistic

Recall that a F variable is the ratio of two independent chi-square variables divided by their respective degrees of freedom. Also recall that the F test statistic is the ratio of two sample variances, well, it turns out that's exactly what we have here. The F test statistic is found by dividing the between group variance by the within group variance. The degrees of freedom for the numerator are the degrees of freedom for the between group (k-1) and thedegrees of freedom for the denominator are the degrees of freedom for the within group (N-k).

$$F = \frac{s_b^2}{s_w^2}$$

Summary Table

All of this sounds like a lot to remember, and it is. However, there is a table which makes things really nice.

	SS	**Df**	**MS**	**F**
Between	SS(B)	k-1	SS(B) ---------- k-1	MS(B) ---------- MS(W)
Within	SS(W)	N-k	SS(W) ---------- N-k	
Total	SS(W) + SS(B)	N-1		

Notice that each Mean Square is just the Sum of Squares divided by its degrees of freedom, and the F value is the ratio of the mean squares. Do not put the largest variance in the numerator, always divide the between variance by the within variance. If the between variance is smaller than the within variance, then the means are really close to each other and you will fail to reject the claim that they are all equal. The degrees of freedom of the F-test are in the same order they appear in the table.

3.Reliability Analysis

Guttman Split Half Form Method:

Guttman Split Half forms reliability is a measure of reliability obtained by administering different versions of an assessment tool (both versions must contain items that probe the same construct, skill, knowledge base, etc.) to the same group of individuals. The scores from the two half i.e. even and odd halfcan then be correlated in order to evaluate the consistency of results across alternate versions, the Spearman Brown prophecy formula is used to estimate the reliability coefficient of the entire test/scale.

The Spearman Brown prophecy formula is:

Reliability Dxx' = (2 * r / 1 + r)

where r is the correlation between the half-tests.

4. Pearson's Correlation Coefficient

In statistics, the **Pearson product-moment correlation coefficient** (sometimes referred to as the **PPMCC** or **PCC** or **Pearson's *r***) is a measure of the linear correlation (dependence) between two variables *X* and *Y*, giving a value between +1 and −1 inclusive, where 1 is total positive correlation, 0 is no correlation, and −1 is total negative correlation. It is widely used in the sciences as a measure of the degree of linear dependence between two variables. It was developed by Karl Pearson from a related idea introduced by Francis Galton in the 1880s.

The formula for Pearson's correlation takes on many forms. A commonly used formula is shown below. The formula looks a bit complicated, but taken step by step as shown in the numerical example, it is really quite simple.

$$r = \frac{\sum XY - \frac{\sum X \sum Y}{N}}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{N})(\sum Y^2 - \frac{(\sum Y)^2}{N})}}$$

Conclusion:-

The frequency and percentage wise distribution of junior student according to existing knowledge regarding impact of mobile phone on student exam performance.

This section deals with the percent wise distribution of junior student according to existing knowledge regarding the impact of mobile phone on exam performance reveales the following. The level of knowledge were seen into 5 categories poor,average good,very good and excellent.Each 20% of junior student had poor knowledge score ,21- 40 % had average ,41-60% had good ,61-80% had very good and 81-100% of them had excellent level of knowledge score .the minimum score was 5 and maximum score was 23.the mean knowledge score 14.16 ± 4.23 with mean % of knowledge score 74.20 ± 14.25

The analysis that there was significant association between knowledge score with education status and source of information of women. There was no significant association between knowledge score with other demographic characteristics like age, gender, education status ,monthly family income, occupation of parents , source of information.

SUMMARY :-

This chapter deal with the major finding, implication, discussion,conclusion of the study and recommendations

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