ANALYSIS OF EYEGLASS WEARERS

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TEAM MEMBERS

- Sachin Kumar S   -   22MBS0006
- P Vigneshwaran   -   22MBS0013
- Priyadharshini G   -   22MBS0034
- Rinkee Kumari Mahto   - 22MBS0040

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ABSTRACT

Over 4 billion adults in the world wear glasses. This statistics is derived from the vision council of America's claim that about 75 percent of the adult population worldwide uses vision correction products, and 64 percent of them wear glasses. Six in ten people in the world wear corrective eyeglasses. Regardless of age, People need glasses or contacts because of a common problem called refractive error, which blurs vision. There are four different types of refractive error: nearsightedness, farsightedness, astigmatism, and presbyopia. This study is examining people who wear specs regardless of age. The primary data is collected from reachable resources by questionnaire method. The sample selection method used in this analysis is Convenience sampling method.

Keywords: Convenience sampling, Nearsightedness, Farsightedness, Astigmatism, Age

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INTRODUCTION

In the circumstances where the entire population cannot participate in a study or the members of the target population cannot all be identified, sampling is employed to gather data that are presumed to be representative of that target population.

There are two primary categories of sampling strategies used in population research.

First is probability sampling in which each member of the target population has an equal probability of being selected as a study participant. Common probability sampling methods include random sampling techniques such as simple, systematic, stratified, and cluster randomization.

Non-probability sampling methods are less objective than probability techniques and is a type of sampling in which the researcher uses sampling that does not provide for each member of a target population to participate in a study and rather the participants are selected by the researcher, are referred to the researcher, or self-select to participate in a study

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purposeful sampling (participants are directly selected by the researcher), snowball recruiting (participants are referred to the researcher), and convenience sampling (the researcher announces the study and participants self-select if they wish to participate). Quota sampling

Convenience sampling is non-probability sampling that is often used for clinical and qualitative research. Where units are selected for inclusion in the sample because they are the easiest for the researchers to access. This can be due to geographical proximity, availability at a given time, or willingness to participate in the research. Sometimes it is called **ACCIDENTAL SAMPLING**

Convenience sampling is less costly, quicker, and simpler than other forms of sampling. When no other sampling method is feasible, convenience sampling can be used to develop hypotheses and objectives for use in more rigorous research studies.

WORKPLAN

Review No.	Task	Description	Date
Review 1	Analysis of research paper	Analysis and summary of research papers and tentative methods and techniques used for the study	22/11/2022
Review 2	Developing case study	Analysis and summary of research paper and Developing a case study and collecting the data through questionnaire method	20/12/2022
Review 3	Analysis of study and conclusion	Analysis and summary of research paper and Analyzing the data and drawing conclusions on the case study.	19/01/2022

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REVIEW OF LITERATURE

GENDER, TRAUMA TYPE, AND PTSD PREVALENCES.

Analysis was conducted on 18 studies which was taken by **Convenience sampling** with 5220 participants. The trauma types included are disaster and accidents, violence, loss, chronic disease and non-malignant disease. Mean score, standard deviation percentages and finding variance in each traumas between men and women. The analysis shows that women (W=25.6%) have two fold higher prevalence of PTSD than men (M=13.2%). The highest gender difference was found in disaster and accident, for non-malignant disease and loss has smaller differences, whereas violence and chronic disease has no differences.

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CONVENIENCE SAMPLING IN MEDICAL STATISTICS

- In this they state that Nonprobability sampling does not attempt to select a random sample from the population of interest. They consider using nonprobability sampling In some situations like the population may not be well defined, there may not be great interest in drawing inferences from the sample to the population, it is less expensive than probability sampling and can often be implemented more quickly. They also stated that Convenience sampling differs from purposive sampling in that expert judgment is not used to select a representative sample of elements. Rather, the primary selection criterion relates to the ease of obtaining a sample. In this, the representativeness of the sample is generally less of a concern compared to purposive sampling.

- Examples of convenience samples include mall intercept interviewing, unsystematically recruiting individuals to participate in the study, visiting a sample of business establishments that are close to the data collection organization, seeking the participation of individuals visiting a Web site to participate in a survey, and including a brief questionnaire in a coupon mailing.

GLOBAL BRANDS PERCEPTIONS: THE APPAREL INDUSTRY IN CHINA

In this study the perception of Chinese consumers towards the global apparel brands are examined. The study used a survey questionnaire to collect the information from Chinese consumers by a mall intercept technique of convenience sampling. The consumer behaviour is taken into account not only as the interaction between customers and manufacturers but as an on-going process. The survey starts with a questionnaire of 520 respondents in a convenience sampling approach near retail outlets in two different cities in China. 256 surveys returned from one city of 76.6% return rate and 264 surveys returned from the other city of 74.2% return rate. Central tendencies of the attributes were calculated and hypothesis were tested along with the analysis of variance. To the conclusion the study reveals the slight preference for foreign apparel brands in China to the domestic clothing brands.

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# PUBLIC PERCEPTION OF CHILD MALTREATMENT:

Child maltreatment is a major social problem, public knowledge about it remaining low. At least 1 in 7 children have experienced child abuse or neglect in the past year in United States. Researchers show that child maltreatment is associated with adverse health and mental health outcomes in children and those negative effects can last a lifetime. The negative impact of maltreatment can cause victims to feel isolation, fear and distrust, which can translate into viewing psychological consequences that can manifest on educational difficulties, low self-esteem, depression, trouble forming and maintaining relationship. There are many ways to eradicate child maltreatment by simply supporting the children and parents which can be the best way to prevent child abuse.

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VISUALIZATION OF DATA

Out of 363 data collected, 320 samples were taken using convenience sampling method.

Male	f
11-20	20
21-30	36
31-40	39
41-50	47
51-60	29

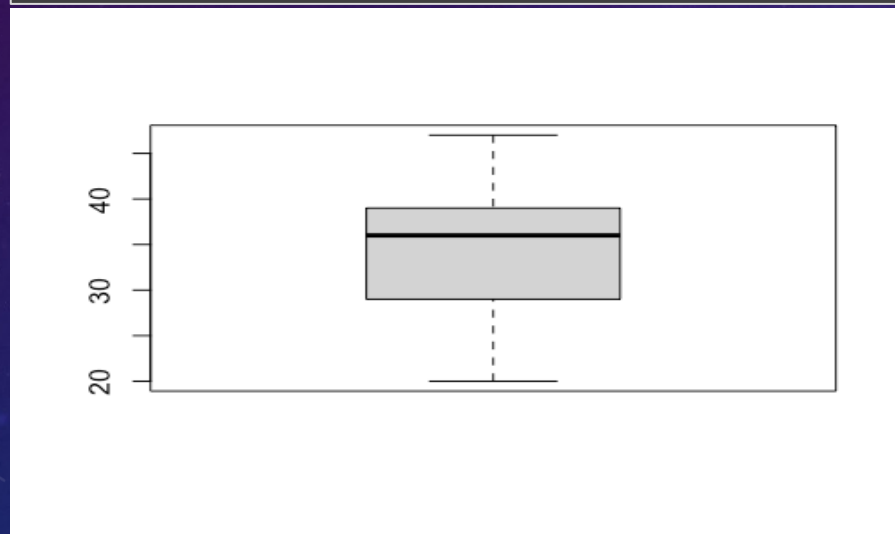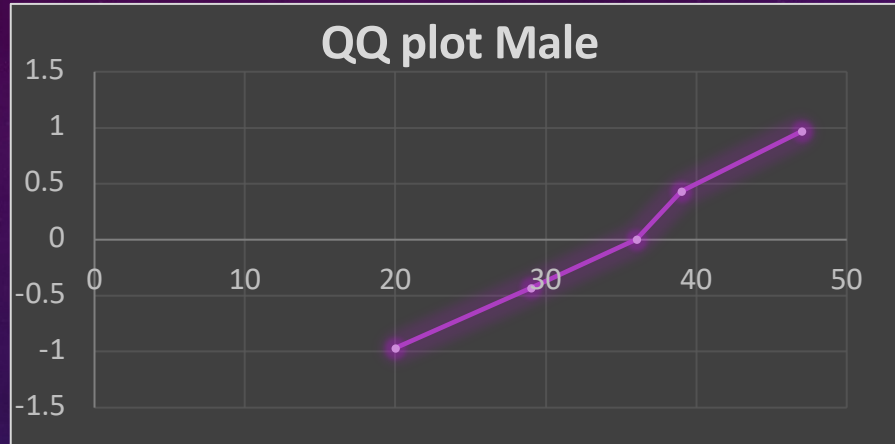| Female	f
11-20	13
21-30	35
31-40	46
41-50	35
51-60	20

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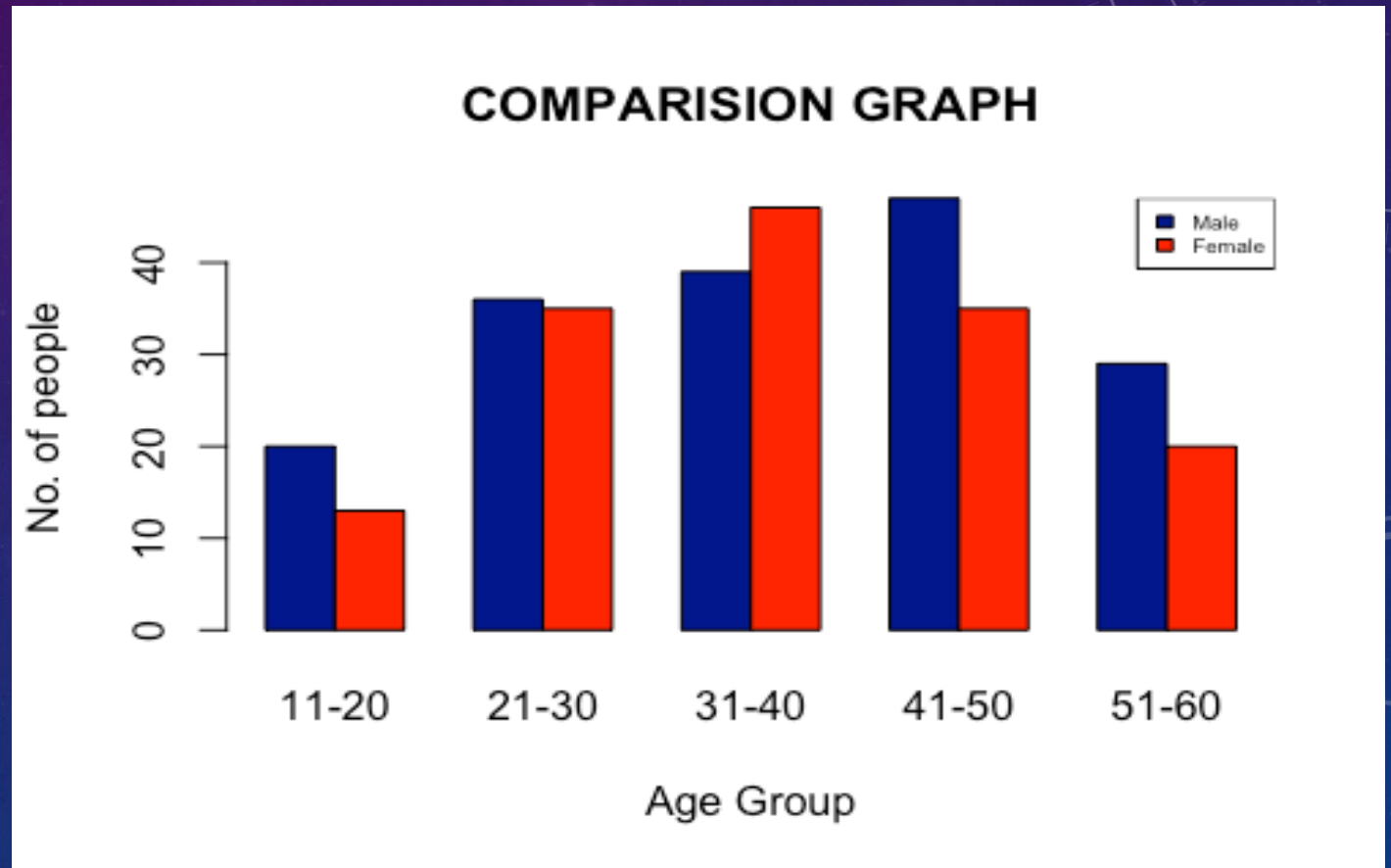
NORMAL DISTRIBUTION

The normal distribution is one of the most important continuous probability distributions, and is widely used in statistics and other fields of sciences. The normal distribution describes a family of continuous probability distributions, having the same general shape, and differing in their location (that is, the mean or average) and scale parameters (that is, the standard deviation). The graph of its probability density function is a symmetric and bell-shaped curve. The development of the general theories of the normal distributions began with the work of de Moivre (1733, 1738) in his studies of approximations to certain binomial distributions for large positive integer n > 0. The Normal distribution describes a continuous variable that takes on values in the real number line. A continuous random variable X is said to have a normal distribution, with mean μ and variance σ2, that is, $X \sim N(\mu, \sigma2)$, if its pdf $f_X(x)$ and cdf $F_X(x) = P(X \leq x)$ are, respectively, given by
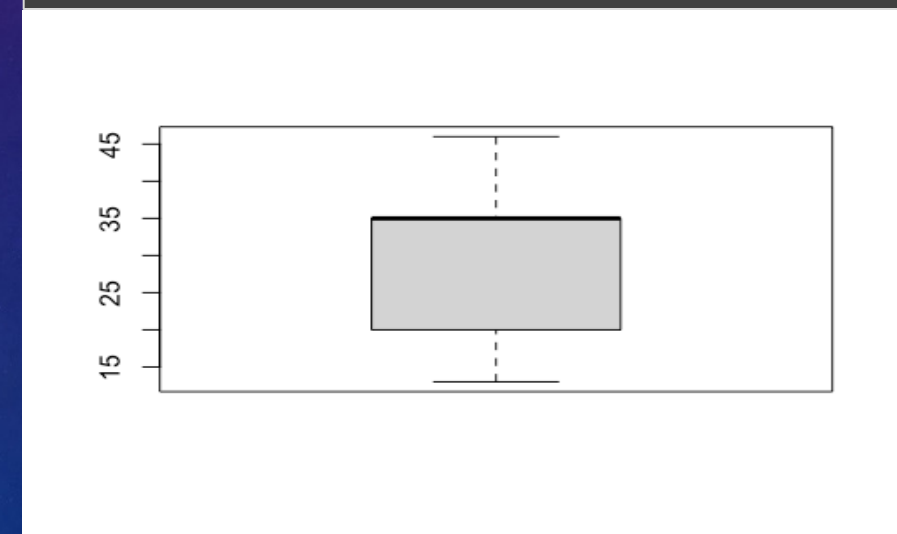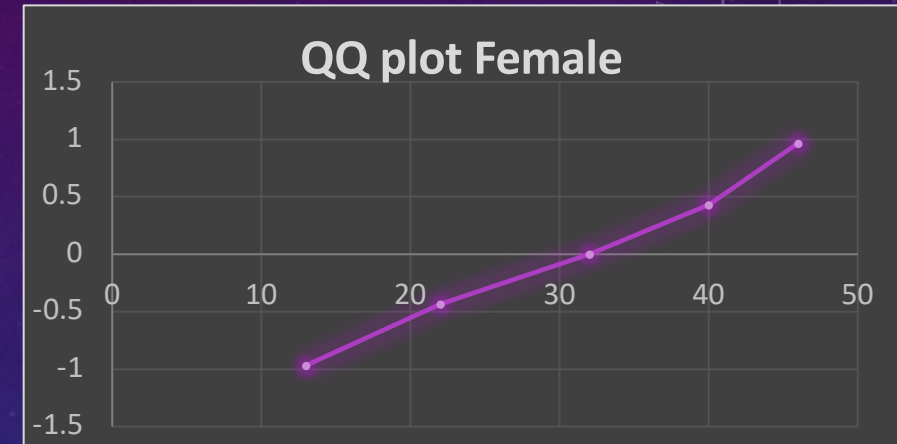
$$f_X(x) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}$$

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NORMALITY CHECK OF THE DATA

MALE

FEMALE

T - TEST

A t test is also known as Student's t test. It is a statistical analysis technique that was developed by William Sealy Gosset in 1908 as a means to control the quality of dark beers. He stated that the t test is a type of statistical test that is used to compare the means of two groups. There are two types of statistical inference: parametric and nonparametric methods. Parametric methods refer to a statistical technique in which one defines the probability distribution of probability variables and makes inferences about the parameters of the distribution. In cases in which the probability distribution cannot be defined, nonparametric methods are employed. T tests are a type of parametric method; they can be used when the samples satisfy the conditions of normality, equal variance, and independence. T tests can be divided into two types. There is the independent t test, which can be used when the two groups under comparison are independent of each other, and the paired t test, which can be used when the two groups under comparison are dependent on each other.

CALCULATION

Male - $n_1 = 5$; $\overline{x_1} = 37.2$; $S_1 = 12.66$

Female - $n_2 = 5$; $\overline{x_2} = 36.44$; $S_2 = 11.61$

Level of significance = $\alpha = 0.05$

The **Null Hypothesis (H_0)** is that there is no true difference between these two groups $\mu_1 = \mu_2 . \therefore \mu_1 - \mu_2 = 0$

The **Alternate Hypothesis (H_1)** is that there is true difference between these two groups $\mu_1 \neq \mu_2 . \therefore \mu_1 - \mu_2 \neq 0$

Degree of freedom = 5 + 5 - 2 = 8

$t_{(8,0.05)} = 2.306$

$$t_1 (Calculated\ value) = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

$$= \frac{(37.2 - 36.44)}{\sqrt{\frac{12.66}{5} + \frac{11.61}{5}}}$$

$$= \frac{0.76}{2.203}$$

$$t_1 = 0.3449$$

$$t_1 = 0.3449 < t_0 = 2.306$$

$$\therefore Calculated\ t\ value < Table\ t\ value$$

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CONCLUSION

- Since the Table t value is greater than the calculated t value, the Null Hypothesis (H_0) is accepted.

- So, from that we can say that there is no major significance difference at a 5% significance level.

- The difference between the means for the two groups is NOT significantly different.

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THANK YOU

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