Triggers of Migraine Headaches in Kentucky College Students

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PROBLEM

- Migraine headaches are a severely debilitating condition, often resulting in absenteeism from work and migraines are ranked as the second leading cause of disability worldwide (Ruschel & Jesus, 2022).
- Migraine is considered fourth or fifth most common reason for yearly 3% of emergency visits (Ruschel & Jesus, 2022).
- Migraine prevalence increases in puberty, continue to increase until 35 to 39 years of age, but then later decreases after menopause (Ruschel & Jesus, 2022).
- A study (Rafi et al., 2022) of university students in Bangladesh during March 2020 found that 21.4% reported having a migraine headache in the past 3 months, females (29%) were significantly more likely to report a migraine when compared to males (12%) and triggers for migraines was due to stress (71%), irregular sleep (47%), and academic pressure (33%).

PURPOSE & HYPOTHESIS

- The purpose of this study is to assess the prevalence of migraines and migraine triggers of a group of Kentucky college students.
- It is hypothesized that there will be no differences in gender, stress, lack of sleep, skipping meals, substance use, and hormone-related migraine triggers for those with migraines versus those without migraines.

METHODS

Participants:
- The total number of participants in the study were 111 male and female college students enrolled in a regional Kentucky university.
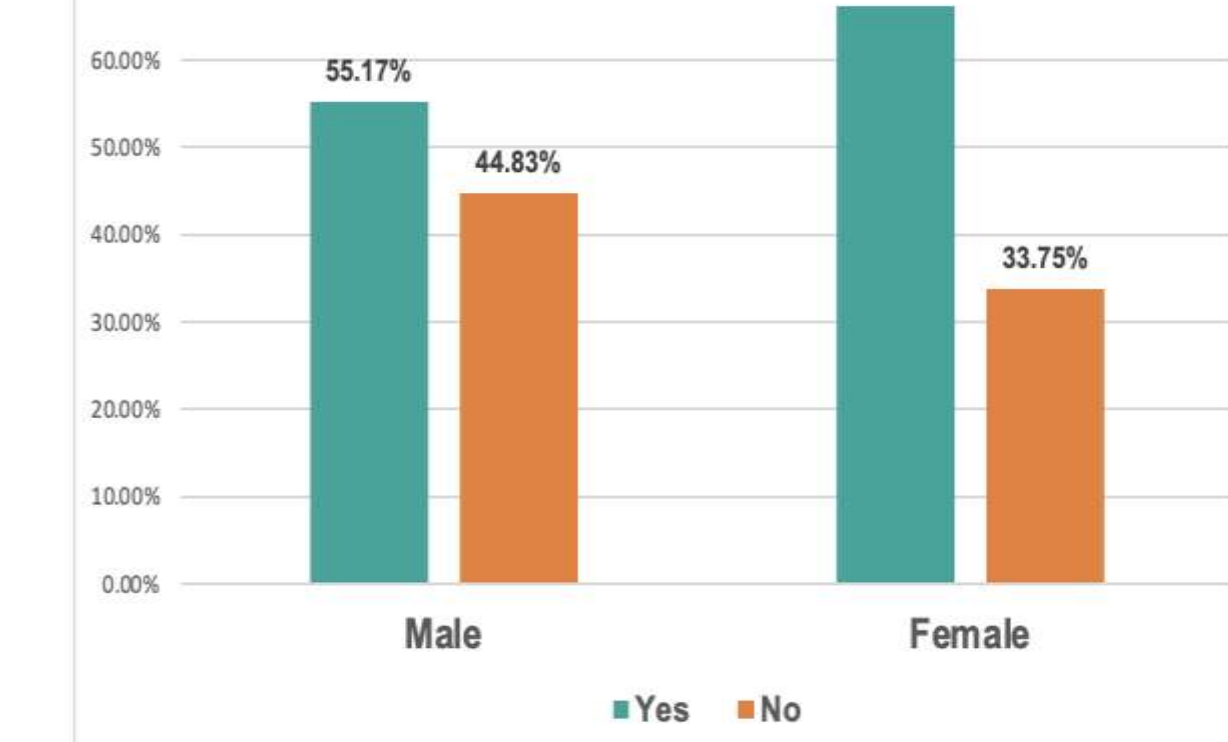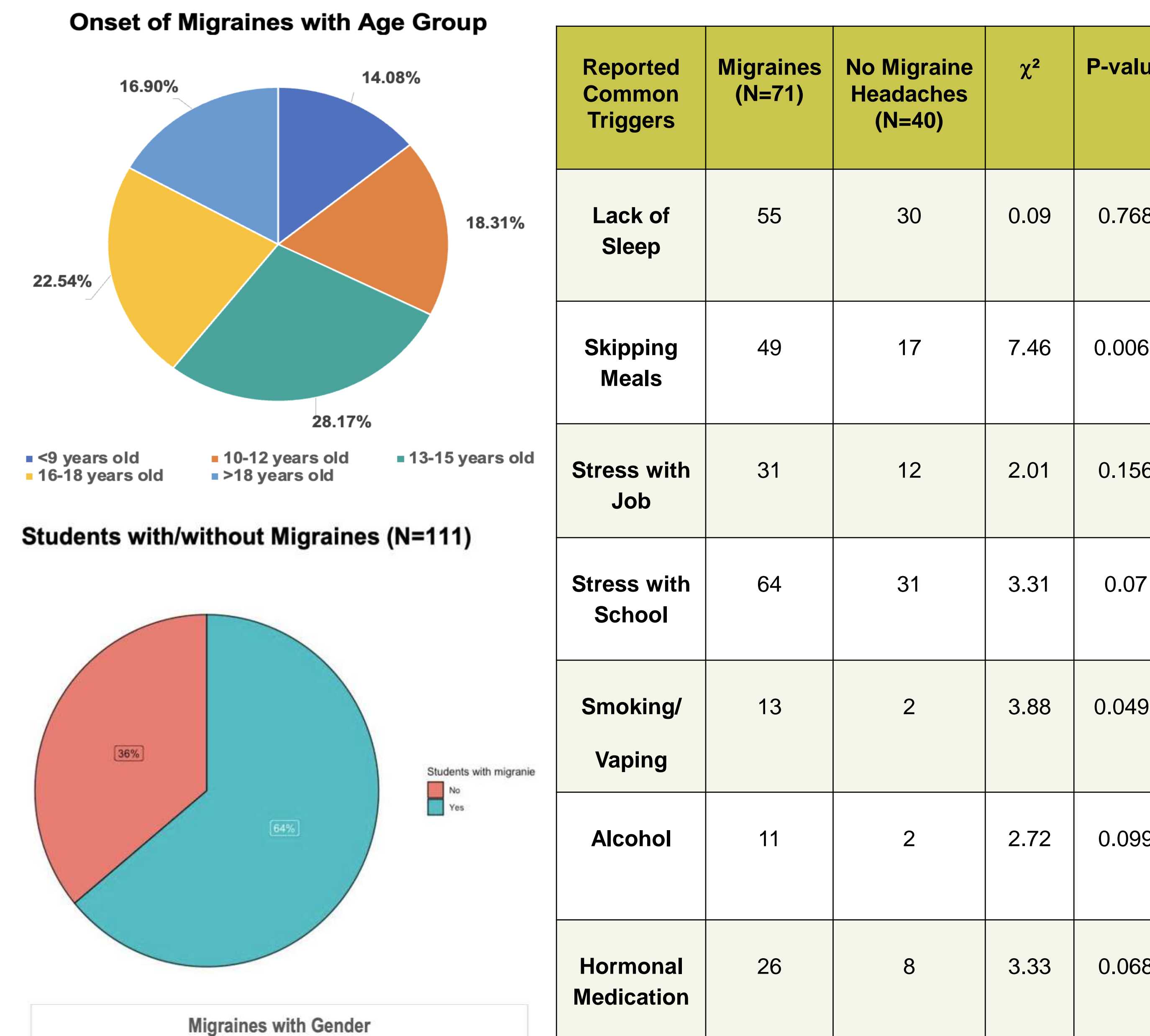- The target age group was age of 18 and older.

Instrument :
- The data were gathered using an online survey called the Migraine Headache Triggers Survey (MHTS) created by the researchers based upon clinical causes of migraine headaches found in the literature.
- The total number of questions in the final Migraine Headache Triggers Survey is 27 items.
- The first 3 items are demographic questions, 24 questions are regarding migraines, and behavior-related questions.
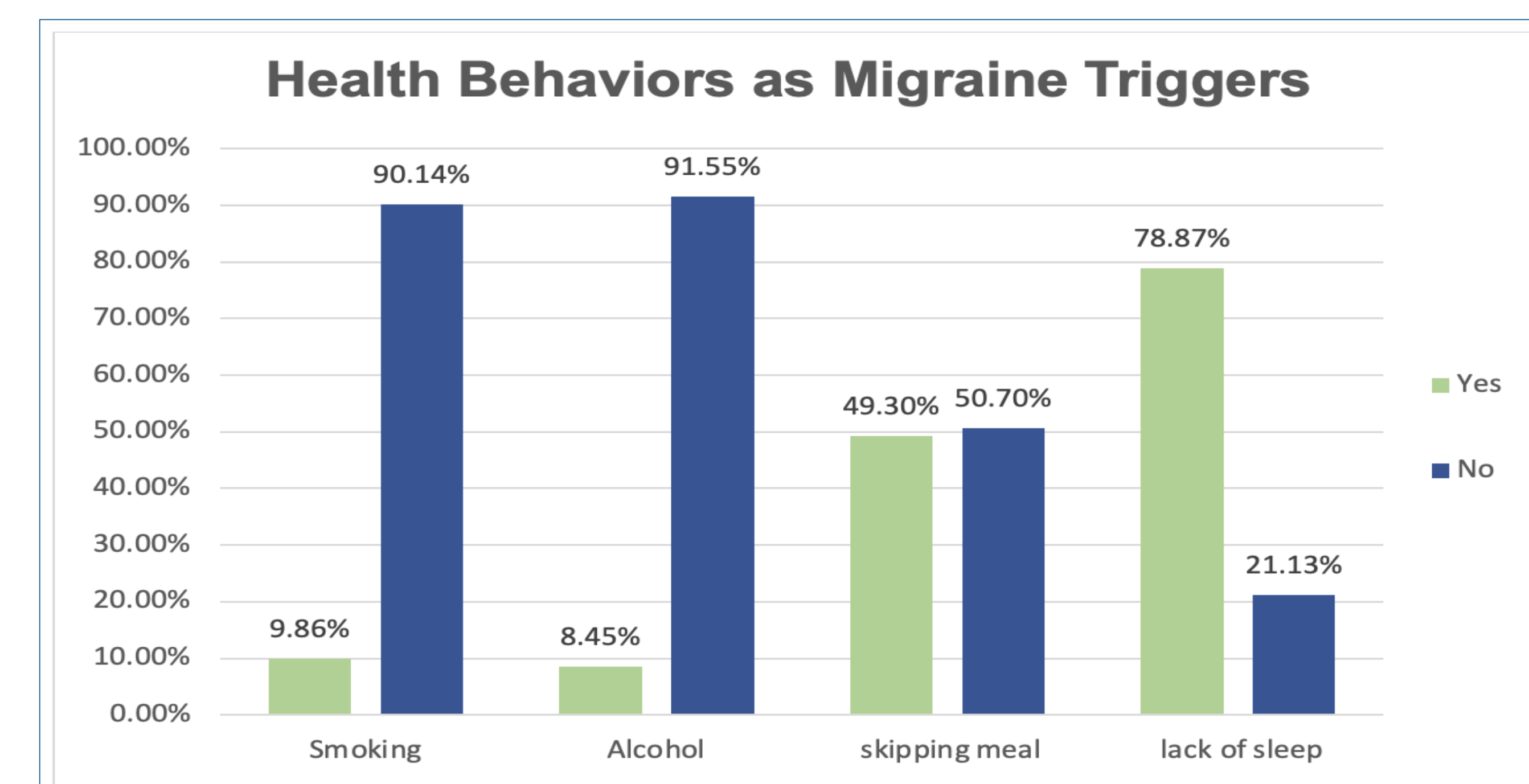
Data Analysis :
- Data analysis was performed using Statistical Package for the Social Sciences (SPSS) and Microsoft Excel.
- Data were analyzed using frequencies, percentages, means, ranges, logistic regression, chi-square tests and frequency tables.

RESULTS: DATA & GRAPHICS

Onset of Migraines with Age Group

Pie chart: 14.08%, 18.31%, 28.17%, 22.54%, 16.90%
- <9 years old
- 10-12 years old
- 13-15 years old
- 16-18 years old
- >18 years old

Students with/without Migraines (N=111)

Pie chart: 36% No, 64% Yes
- Students with migraine: No, Yes

Reported Common Triggers	Migraines (N=71)	No Migraine Headaches (N=40)	χ^2	P-value
Lack of Sleep	55	30	0.09	0.768
Skipping Meals	49	17	7.46	0.006*
Stress with Job	31	12	2.01	0.156
Stress with School	64	31	3.31	0.07
Smoking/ Vaping	13	2	3.88	0.049*
Alcohol	11	2	2.72	0.099
Hormonal Medication	26	8	3.33	0.068

*p<.05

Migraines with Gender

Bar chart: Male — Yes 55.17%, No 44.83%; Female — Yes 66.25%, No 33.75%

Health Behaviors as Migraine Triggers

Bar chart:
- Smoking: Yes 9.86%, No 90.14%
- Alcohol: Yes 8.45%, No 91.55%
- skipping meal: Yes 49.30%, No 50.70%
- lack of sleep: Yes 78.87%, No 21.13%

RESULTS & DISCUSSION

- Results of the study indicated that the prevalence of migraine headaches was 64% among Kentucky college students (n=111).
- The study showed statistically significant (p<.05) results with skipping meals, and smoking/vaping whereas school-related stress (p=.07), and hormonal medication (p=.068) although not statistically significant, were approaching statistical significance as migraine triggers for those with migraines versus those without migraines.
- Survey participants suffering with migraine headaches (n=71) reported the most common trigger as lack of sleep (78.9%), followed by skipping a meal (49.3%), menses (46.5%), smoking (9.9%), alcohol (8.5%), and pregnancy (2.8%).
- Logistic regression was performed to assess the impact of factors on the likelihood that respondents would report having had migraines. The full model containing 7 trigger variables (see Table) was statistically significant, χ^2 (7, N= 111) = 17.544, p=.014 and explained 20% (Nagelkerke R square) of the variance in migraine experience and correctly classified 68.5% of the cases.
- The study found that onset of migraine headaches is most common at the age of puberty and 40.9% (n=71) of migraineurs have 1-5 headaches per month.
- In order to ease migraine symptoms participants said that the most common is rest (28.97% and n=62) followed by sitting in a quiet or dark area (24.77% and n=53) and applying pressure on pressure points (15.42% and n=33).

IMPLICATIONS/CONCLUSIONS

- The presence of smoking, skipping meals, stress, and hormones were significantly more frequent in migraineurs relative to those without migraines.
- The significance of this study is by understanding better the triggers of migraine headaches individuals may be more aware of how to avoid their headaches to improve the quality of life of migraineurs.
- It is important that further research should be conducted on larger sample sizes to identify the triggers of migraines and hopefully increase the awareness of this condition so that college students will be able to get the help they need and ways to avoid triggers to better succeed in academics and in life.

REFERENCES

- Ruschel, M. A. P., & Jesus, O. D. (n.d.). *Migraine headache - statpearls - NCBI bookshelf.* Migraine Headache. Retrieved November 6, 2022, from https://www.ncbi.nlm.nih.gov/books/NBK560787/
- Rafi, M. A., Islam, M. S., Hasan, M. T., & Hossain, M. G. (2022). Prevalence and impact of migraine among university students in Bangladesh: Findings from a cross-sectional survey. https://doi.org/10.21203/rs.3.rs-120597/v1