The Influence of Entertainment consumption on Student well-being: An Exploration of preferences, motivations and stress relief

Mahesh Kudalkar[1], ShanuKumar Singh[2], Niraj Sahu[3], Smit Shah[4]

[1]Assistant Professor, Thakur College of science and commerce, Maharashtra, India
[2, 3, 4] BSc-IT UG,Thakur College of science and commerce, Maharashtra, India

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Abstract - *This research looks into how students consume various kinds of entertainment and how those choices influence their well-being, especially in terms of stress relief, self-growth, their academics etc. With the rise of various entertainment options, such as TV, streaming, video games, we use surveys to understand what students prefer, why they choose it, and whether it helps them cope with stress. It will also help us understand whether the choices they are making are affecting them in a good or bad way, and if it's the latter, what can we do to improve it.*

This research provides useful insights into how entertainment affects students' stress levels, paving the way for further studies and interventions that can improve students' mental health and academic success.

1. INTRODUCTION

In today's fast-paced student life, young individuals juggle a bunch of things. They're not just busy with classes and homework; there's also a load of pressure from school or college. On top of that, many students take up part-time jobs or internships. All these things create a kind of daily puzzle, making time management a real challenge. With all this going on, stress is pretty common. So, to deal with it, students often turn to different activities or methods to relax and take a break from the pressure. Understanding how students manage their time, handle school stress, and unwind is crucial to figuring out how their choices in entertainment might affect their well-being.

In this research, we're taking a closer look at how students are living their lives these days. They're dealing with a bunch of things like school or college pressure, maybe working a part-time job, and trying to balance it all. We want to understand what they do to handle the stress that comes with it. We're curious about the activities they choose to relax and take a break. By exploring this, we aim to see if the entertainment they pick, like watching TV or playing games, actually helps them feel better and cope with the stress. The main goal is to figure out how these entertainment choices impact how students feel overall.

This research can make a real difference for students. By understanding how they handle stress in their daily lives, we can help schools provide better support, tailored to each student's needs. Our findings might lead to improved

strategies for mental health, ensuring students get the right kind of help when they need it the most. The research could also influence how schools design their programs and policies, making them more student-friendly. And, interestingly, the entertainment industry might learn a lot about what students enjoy, helping them create content that really connects with students. In a nutshell, this research has the potential to bring positive changes to students' lives and how schools support them.

We're on a mission to make things better for students. We know student life can get much stressful, with all the school stuff, and we're here to help. Our research is all about understanding how students handle stress and what makes them happy. Together, we're working towards creating some guidelines – like a roadmap – so students can reach their goals while still enjoying life and keeping stress away. We want students to feel empowered, knowing they can achieve their dreams and be happy doing it. It's not just about understanding their problems; it's about giving them practical tips and tricks to make their lives better.

2. BACKGROUND STUDY

In earlier days, students sought relief from stress through physical activities and outdoor play. Engaging in sports, running, and playing outside offered a break from academic pressures. Additionally, artistic pursuits such as drawing, painting and crafting provided a means for creative expression and relaxation. Socializing in person with friends and peers played a significant role, as face-to-face interactions were crucial for building a support system. Reading books or listening to music were common ways for students to escape the demands of academia, allowing them to immerse themselves in different worlds and experiences.

With the advent of technology, students incorporated electronic entertainment into their stress relief routines. Television, video games and later, the internet, become new avenues for relaxation. However, this period also witnessed an increase in academic pressure, marking the beginning of a shift in stress management strategies.

3. CURRENT STATUS

Today, students often rely on digital platforms for communication and support. Social media, messaging apps and online communities provide opportunities for connection and sharing experiences. Students now engage in diverse hobbies both online and offline, ranging from gaming and blogging to various forms of digital and traditional art.

However, heavy reliance on social media comes with its share of drawbacks. The constant exposure to curated content on platforms like Instagram and Snapchat can foster unrealistic expectations, leading to issues of self-esteem and body image. The addictive nature of social media, with its endless scrolling and notifications, often distracts students from their academic responsibilities, impacting their focus and productivity. Cyberbullying and online harassment are also prevalent, causing emotional distress and potentially affecting mental well-being. Additionally, the pressure to conform to online trends may lead students to prioritize virtual validation over genuine connections, hindering the development of meaningful relationships. As students navigate the digital landscape, it becomes crucial to strike a balance between online interactions and real-life experiences to ensure a healthy and well-rounded lifestyle.

4. ANALYSIS AND FINDINGS

In order to comprehensively understand the nuances of the student's lifestyle and stress-coping mechanisms, we used a robust data collection method, which is done via Google forms. The form was circulated among students of all levels ranging from middle school to degree students, in order to get a vast range of data we can work on. With this we aimed to gather data about what sort of entertainment students like to engage with, whether they like to play games or if they like to relax out while enjoying some movies/web series; some even enjoy both. Coming to the games section, we have gathered a vast range of data giving us insights on exactly what students enjoy, what types of games they like to play, how much time they spend doing so, what reason they have for engaging into games, etc. Similarly to games, we have also gained insights into what sort of genres of movies/web series students like to engage with, how often do they watch them, do they like to watch their favorite shows and movies alone or do they turn it into a group activity, etc. This data has given us the ability to transform it, apply various algorithms to recognize common patterns, cluster data, and form some guidelines in order to help our fellow students improve their ways of dealing with stress. But before moving towards these guidelines, let's dive into the various algorithms we have used and what they do.

4.1 K-Mode Clustering Algorithm

K-Mode clustering is a method used for grouping data points based on categorical attributes rather than numerical ones, making it suitable for datasets with non-numeric features. It extends the K-Means algorithm by utilizing modes (most frequent values) instead of means to represent cluster centroids. K-Modes iteratively assigns data points to the nearest mode and updates the modes based on the assigned data points, repeating until convergence. This process effectively partitions the data into clusters with similar categorical profiles

In our dataset analysis, we employed the K-Modes clustering algorithm, specifically designed for categorical data, to uncover patterns in respondents' motivations for entertainment. Focusing on the columns "Why do you play games?", "Why do you watch movies?", and "Why do you watch Web Series," which captured the diverse reasons behind individuals' engagement with different forms of entertainment, the algorithm grouped respondents into clusters based on shared motivations. This approach facilitated the identification of distinct segments within the dataset, revealing common patterns in the reasons driving individuals to play games, watch movies, or indulge in web series.
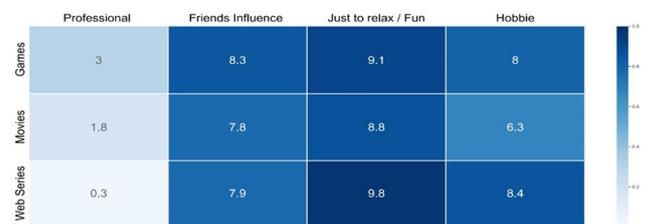
Figure 1 : Confusion Matrix

(study of different reasons to consume entertainment)

The above chart illustrates the distribution of individuals engaged in gaming, watching movies, and watching web series across various motivational factors. The chart categorizes motivations into three main factors: professional involvement, influence from friends, and personal leisure. Within each category, data is segmented based on the respective entertainment medium.

By examining the distribution of motivations across the three entertainment mediums, insights can be gleaned regarding the varying factors that influence individuals' choices in engaging with gaming, movies, and web series. Such insights are valuable for understanding audience behavior and preferences in the realm of entertainment consumption.
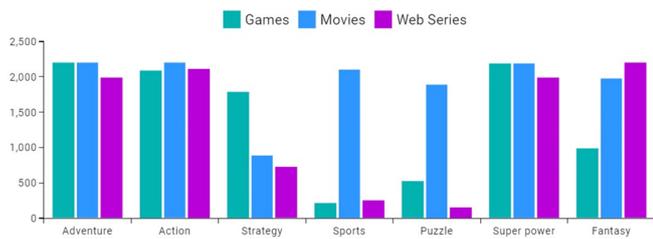
Figure 2 : Histogram Graph

(Analysis of popular categories in different gamers)

Above chart facilitates an easy interpretation of the dominant genre choices within each cluster, empowering a more tailored approach to recommendations or content creation based on the identified patterns in favorite genres among respondents. This method not only contributes to a deeper understanding of the dataset but also holds practical applications in enhancing user experience and content personalization.

The chart describes the engagement levels of individuals across different genres within gaming, movies, and web series. The genres analyzed include Adventure, Action, Strategy, Sports, Puzzle, Super power, and Fantasy.

Each genre is represented within its respective entertainment medium, allowing for a comparative analysis of engagement levels across gaming, movies, and web series. This breakdown enables insights into the popularity and preference for specific genres within each entertainment category.

By examining the distribution of engagement across various genres, trends and patterns can be identified regarding audience preferences and interests. Such insights are valuable for content creators, marketers, and entertainment industry professionals to tailor their offerings to meet the diverse preferences of their target audience across different entertainment mediums and genres.

4.2 Gaussian Mixture Model (GMM)

A Gaussian Mixture Model (GMM) is a statistical model that assumes data comes from a mixture of several Gaussian distributions, allowing for flexible modeling of complex data distributions. It finds clusters by estimating parameters such as mean and covariance for each Gaussian component and assigns probabilities to data points belonging to each cluster using the Expectation-Maximization (EM) algorithm. Model selection, determining the optimal number of clusters, is crucial and can be done using techniques like cross-validation or information criteria.

Implementing the Gaussian Mixture Model (GMM) on the dataset analysis focused on the continuous variables of "Daily How many hours do you play games?" "How many hours do you spend daily watching movies?" and "How many episodes do you watch in a day?" This probabilistic model, assigns probabilities to each data point for belonging to different clusters.

The generated output took the form of a Pie Chart, presenting a visual representation of how responses were distributed across various sets of values for hours spent on gaming, movie-watching, and daily episodes.

Figure 3 : Pie Chart

(Games Played Duration by students)

This pie chart offers a detailed depiction of students' daily time allocation for watching movies, segmented into different clusters identified through K-Mode clustering. The clusters represent various movie-watching behaviors among students, including avid movie enthusiasts who dedicate substantial time to movie-watching and individuals with limited involvement in this activity. By examining these clusters, educators gain insights into the diverse preferences and habits of students regarding movie consumption. This understanding enables educators to develop targeted initiatives aimed at fostering responsible media consumption habits and promoting a balanced lifestyle that integrates entertainment activities with academic pursuits.
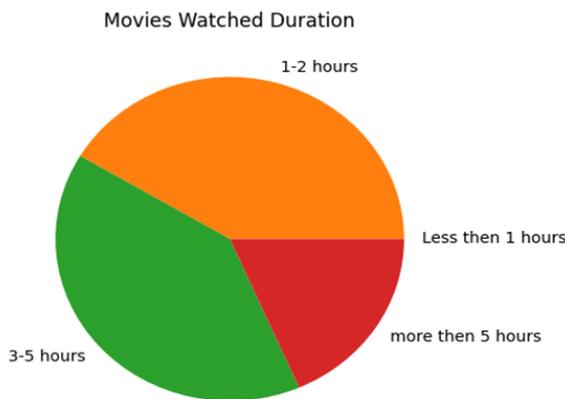
Figure 4 : Pie Chart

(Movies Watched Duration by students)

The pie chart illustrates the distribution of students' daily time allocation for consuming web series content, categorized into distinct clusters derived from K-Mode clustering. Each cluster reflects a unique pattern of web series consumption behavior, ranging from frequent viewers who dedicate significant time to watching web series to individuals with minimal engagement in this activity. Through this analysis, educators gain valuable insights into the varying levels of interest and involvement in web series content among students. These insights inform the development of tailored educational strategies aimed at promoting responsible online media consumption habits and guiding students towards a balanced use of digital entertainment resources while prioritizing academic responsibilities.
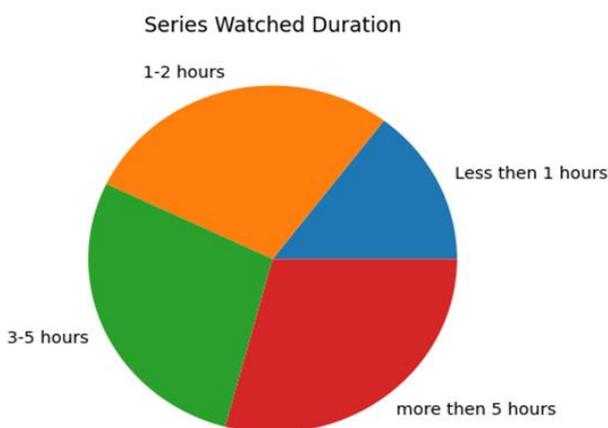

Figure 5 : Pie Chart

(Series Watched Duration by students)

In conclusion, the generation and analysis of various charts, including pie charts depicting students' time allocation across gaming, movie-watching, and web series

consumption, have provided valuable insights into their media consumption habits. Through techniques such as K-Mode clustering, we have identified distinct clusters representing diverse patterns of engagement within each entertainment medium. These charts have enabled us to understand the varying levels of involvement and preferences among students, shedding light on factors such as gaming intensity, movie-watching habits, and web series consumption behaviors. By examining these patterns, we have gained actionable insights that can inform educational strategies and interventions aimed at promoting responsible media consumption and encouraging a balanced lifestyle among students. The comprehensive understanding gleaned from these charts empowers educators to tailor initiatives that address the diverse needs and preferences of students, ultimately fostering a supportive learning environment that promotes both academic success and holistic well-being

5. GUIDELINES

5.1 Games

- Games could explore more creative aspects, things to make people think more creatively, more strategically, etc This could help people develop their brains in a more positive way.

- Students can set themselves time-limits. Everyone needs a break from life, which some like to enjoy by playing games, but it's important to do it in a limit to avoid procrastinating too much.

- The back-story (Lore) in games can sometimes have a bad impact on students' mental health, it would be better to have back-story/storytelling aspect of games portray better topics

5.2 Movies

- Movies should try to give more real-world messages, like spreading awareness about mental health issues, etc.

- Instead of watching movies alone, people would have a much better time if they were to participate in social movie nights, that way they can spend time with their friends and family while watching the movie they love.

- A Balance should be maintained between the entertainment aspect of the movie while also making sure it delivers a positive message for the youth.

5.3 Web-Series

- The relationships, lifestyles, beauty standards, etc in Web-Series are usually super idealized. It

would be better to show them in a manner which compares to the average person, we could even say that Web-Series should show more reality.

- OTT platforms should give strict warnings if users spend too much time/Binge watching.

- Every OTT platform should have thorough age-restrictions to the users.

6. CONCLUSIONS

In conclusion, this research journey has provided valuable insights into the intricate relationship between students' lifestyles, entertainment choices, and stress relief mechanisms. By exploring various facets such as daily activities, academic pressures, work commitments, and preferred forms of entertainment, we aimed to better understand the challenges students face and how they navigate the complexities of their lives. The application of clustering algorithms, including K-Modes and Gaussian Mixture Model (GMM), has allowed us to discern meaningful patterns in their preferences, motivations, and time allocations.

The findings from the research, visualized through histograms, pie charts, and matrices, offer a nuanced perspective on the diverse ways students manage stress and engage with entertainment. Notably, the tailored recommendations and guidelines derived from this study hold the potential to positively impact students' overall well-being, academic success, and the enhancement of their entertainment experiences.

As we delve deeper into the multifaceted landscape of student life, the insights generated from this research contribute not only to academia but also carry practical implications for educational institutions, mental health professionals, and the entertainment industry. By acknowledging the diversity in students' preferences and stress relief strategies, we pave the way for a more inclusive and supportive approach to fostering a balanced and fulfilling student experience. This research marks a significant step towards understanding, empowering, and ultimately improving the lives of students as they navigate the challenges of academic and personal growth in the contemporary landscape.

7. REFERENCES

- https://www.researchgate.net/publication/226946703_K-modes_Clustering

- https://www.researchgate.net/figure/Confusion-matrix-results-for-k-means-clustering-method_tbl2_333118799

- https://www.researchgate.net/figure/a-The-confusion-matrix-for-k-means-clustering-based-classification-b-The-confusion_fig4_322106635

- https://www.researchgate.net/publication/321245699_Gaussian_Mixture_Model_-_method_and_application

- https://scikit-learn.org/stable/modules/mixture.html

- https://www.imdb.com/list/ls020599634/

- https://bggames.medium.com/evolution-of-game-genres-how-the-world-of-video-games-has-changed-f2f8807fab17