



Capstone Collective



*AP Seminar and AP Research
Students Academic Research*

Mrs. Furer 2024-2025

Exploring Effective Remedies for Academic Anxiety

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Introduction

As a student that suffers greatly with anxiety, especially ‘academic anxiety,’ I was determined to find a simple, on-hand solution that would stand out significantly amongst my chosen methods to relieve anxiety that does not include medication or harmful substances. Due to this, I have carefully selected four common and easily accessible practices to research, aiming to determine which of these methods is most effective in alleviating anxiety and stress in high school students throughout South Florida.

Literature Review

According to Sandra Meier et al. from the National Library of Medicine, anxiety contributes to approximately five million deaths worldwide every year (Meier et al., 2016). Anxiety, also known as angst or worry, is an extremely prevalent issue among high school students, introducing the concept of ‘academic anxiety.’ Chaman Lal Banga et al., assistant professor in the Department of Education, Himachal Pradesh University, state that “academic anxiety arises out of the apprehension of rebuke from teachers, parents and peers regarding the failures of performing the responsibilities of an academic [student] properly” (Lal Banga et al., 2014). As students fear failure, they spiral into their own thoughts, creating an endless cycle of stress, overthinking, and worry. Due to its increased prevalence, various remedies have been created in hopes of alleviating stress and anxiety generally (aside from prescribed medication).

Repercussions: Drugs

As numerous teenagers see drugs as a “cure” for their struggles, drugs become a common go-to solution to remedy stressful

feelings, leading to a larger arising health issue that stems from anxiety. Sarah Connolly, an epidemiologist, immunologist, and data scientist from Emory University, expresses findings from her study: “The most commonly reported motivation for substance use was “to feel mellow, calm, or relaxed” (73%), ...“to stop worrying about a problem or to forget bad memories” (44%) and “to help with depression or anxiety” (40%), Connolly's team reported” (“Stress Main Factor...,” 2014). Seemingly, as anxiety levels increase in teenagers, so does substance use. Therefore, a larger health issue arises, further emphasizing the urgency to find effective remedies for managing anxiety.

Remedies: Gum

The first method I chose to test was gum. Through both proof and belief, gum is an extremely helpful way to decrease feelings of stress while increasing focus and calmness. Andrew P. Smith, in the School of Psychology at Cardiff University proves that “chewing produced a 10% decrease in muscular tension observed as ‘restlessness’ and ‘feelings of strain’, perhaps better thought of nowadays as psychological stress. Hollingworth stated that chewing relieves stress through reducing excessive muscular tension” (Smith, 2016). Furthermore, believed by many, especially students, gum is able to aid in focus and ease throughout school or stressful situations. Emma Robison, staff reporter for the Student News Site of Northlake Christian High School reports that “junior Katherine Bilac agreed that gum is beneficial to her learning environment. ‘It helps me stay awake during long lectures instead of going on my Ipad,’ said Bilac” (Robison, n.d.). Concludingly, both research and personal experiences

highlight that chewing gum can effectively reduce stress and enhance focus, making it a simple yet powerful tool for improving well-being.

Remedies: Fidget Toys

In addition to the previous method, I decided to experiment on the effects of fidget toys on a highschool environment. Despite being heavily researched for younger and disabled children, fidget toys can help divert the mind's focus from current issues, thereby relieving uneasiness. This was highlighted by Redmond et al. in the Department of Psychology, Faculty of Business and Social Sciences at Kingston University London, UK. From their study, "The main findings demonstrated that parents of autistic children perceived fidget toys and fidget spinners to be overall more beneficial...especially in relation to reducing anxiety" (Redmond et al., 2023). Tested on an older age group however, a study conducted at a university where most of the college students in class used fidget toys showed positive results. As noted by Donald Slater, professor specializing in physical education, wellness, and health at Georgia Southern University, "The cumulative trend from the selected ten (10) questions of the Fidget Toy Survey suggests an increasing acceptance and use of the fidget toys as the semesters progressed. The students' distraction levels from non-course materials decreased" (Slater, 2008). Ultimately, while fidget toys are often seen as helpful tools for managing anxiety, their use and acceptance can extend beyond childhood, as evidenced by their positive impact on older students as well.

Remedies: Music

Furthermore, music is the third method I chose to test, especially since most people use it as a force of habit rather than exclusively attempting to use it as a way to remedy anxiety. Although there are various genres of music, each preferred by different

people, music overall is known to soothe nerves and increase focus. According to Adiel Mallik and Frank Russo, part of the Psychology Department at Ryerson University, this is "due to the neurochemical effects of music which include increased levels of...opioids and dopamine...[as well as]...music's ability to reduce cortisol in a natural setting" (Mallik & Russo, 2022). Seemingly, different genres of music have various effects on the brain and emotions, but the more crucial aspect of music's effect is how it is processed by the individual. Eckart Altenmüller, a university professor and medical doctor, graduate in neurology, medicine, and music at the University of Freiburg, explains the science behind this system: "Music is processed in various areas of the brain, which change depending on the focus of the listener and his or her experience" (Altenmüller, 2004). Altenmüller further explains that as people experience music, it is common to focus on the words. However, for those who "[focus] on whole melodies..., entirely different sections of the brain become active: ...the auditory associative regions in the upper temporal lobe are at work. In this case, the activity is once again concentrated in the right hemisphere" (Altenmüller, 2004). Conclusively, the effects of music on the brain and emotions are influenced by both its neurochemical impact and how it is processed by the listener, with individual focus and experience playing key roles in determining its overall impact.

Remedies: Scents

Finally, the last method I planned on testing was the effects of different scents on the stress levels of South Florida high school students. Scents, particularly through the use of essential oils, have been shown to play a significant role in reducing anxiety and promoting relaxation. Various aromatic compounds, such as lavender, peppermint, and eucalyptus, are frequently used for their

calming properties. Certain scents can influence the brain's limbic system, which regulates emotions, helping to reduce stress and enhance feelings of calmness. Lavender, known for its soothing effects, is recognized as an adaptogen, helping the body manage stress by supporting adrenal function (Karra, 2012). Lavender is also often cited for its ability to improve sleep quality and alleviate anxiety symptoms, making it a popular choice for those seeking natural relief. Furthermore, peppermint, according to Bruno Pedro Chumpitazi et al., in the Department of Pediatrics of Baylor College of Medicine, is known for “smooth muscle relaxation as well as its use in irritable bowel systems.” (Chumpitazi et al., 2018). In addition to peppermint’s calming properties, it has been used for centuries as a remedy for gastrointestinal ailments, aids in bowel functions, and helps the nervous system. Eirini Karra, a psychology student from the American College of Greece in the Cognitive Neuroscience Master's program, states that eucalyptus is “[i]nvigorating and refreshing, it cleanses and stimulates the mind and helps in the treatment of sleepiness” (Karra, 2012). Seemingly, the eucalyptus scent promotes a sense of calmness. Additionally, peppermint and lavender have been shown to alleviate headache symptoms, further aiding in the reduction of stress (Karra, 2012). Overall, the use of scents provides a simple, natural remedy to help manage anxiety, reduce cortisol levels, and promote a more relaxed state of mind.

Research Gap

As I completed my research I discovered a gap on the impact of fidget toys on high school students. This research is not available and something that needs to be further evaluated. In addition, with all the remedies provided, none are considered to be the “absolute best method” to solve the recurring issue of anxiety, leading to my

question, how effective are tactics like chewing gum, using fidget toys, listening to music, and smelling various scents in alleviating academic anxiety among high school students in South Florida?

Hypothesis

I believe that the method which would stand out the most to alleviate anxiety would be music and the one which would work the least would be fidget toys. Per the research above, music is an extremely commonly used method by many students and they claim that it helps with their concentration and relaxation. Therefore, I hypothesize that music would significantly impact students and their levels of anxiety. On the other hand, I speculate that fidget toys would be the least successful method of the four I chose to relieve anxiety. This is due to the lack of research on the correlation of fidget toys and high school students’ stress levels, as well as fidget toys being neglected and not being part of a social norm in high school ages.

Methods, Results, and Discussions

To test the hypothesis, I conducted my study in 3 phases. My first phase was a pre-study survey where I gathered general data about anxiety and participants for phase two. Phase two consisted of a five-week study conducted with South Florida high school students to evaluate the effectiveness of four different anxiety-relief methods. Each week, a distinct method was assigned to a group of participants who were asked to practice the technique throughout the week when anxious. The four methods are chewing gum, using fidget toys, listening to music, and smelling essential oils. At the end of each week, participants completed a survey that assessed their anxiety levels and provided feedback on whether the assigned method had a positive impact on their anxiety or not. Participants were split into separate groups so all the methods would be tried on different weeks, therefore

preventing an academic bias if one week was less stressful than the other. The thematic analysis of the survey responses aimed to identify trends in the participants' experiences and determine which method was the most effective in reducing anxiety. This process allows for a comprehensive comparison of the different methods and offers valuable insights into their impacts on anxiety. As the experiment time frame concluded, I sent a follow up survey asking if the participants have adapted and implemented any of these methods as a strategy to calm them down. By combining this follow-up with the previously gathered and analyzed data, the most effective method for alleviating anxiety among South Florida high school students will stand out amongst the others.

Methods: Pre-Study Survey

In my initial research, I sent out a survey to the widespread population of Florida in order to collect information on academic anxiety and anxiety as a whole:

Question Set 1:

- Have you ever felt anxious in school or because of school?
- How often do you feel this way (on a scale of 1-5)?

Additionally, I included a few questions to see which method people thought would work the best out of chewing gum, using fidget toys, listening to music, and smelling various scents.

Question Set 2:

- If you were to try one of these following methods to try and calm you down, which one do you think would work the best?
- Have you already tried these methods? If yes, which ones?
- Which ones worked?

Furthermore, I asked certain questions to gather information needed to collect participants for my study such as:

Question Set 3:

- Do you currently take medication for anxiety, depression, or ADD/ADHD?
 - I made sure that people who took the following medication did not participate in my study as such medication can temper with the results of the experiment.
- Do you have any allergies?
 - I asked, "Do you have any allergies" in order to make sure that my participants could participate for the entirety of the four weeks since some people may be allergic to certain ingredients in essential oils.

Once I gathered results from my survey, I wound up with 86 participants. As the

participant list was finalized, I created an email chain to keep track of each member and what forms they filled out, as well as to send out information for each upcoming week/method.

Results and Discussions: Pre-Study Survey

In my pre-study survey, prior to the experiment, I had 173 respondents.

Figure 1

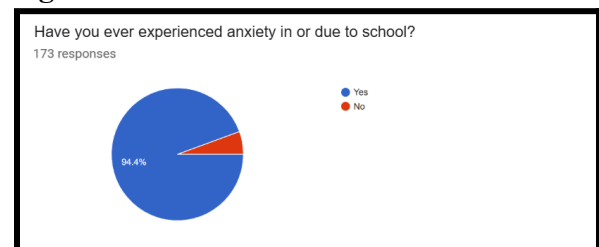


Figure 1: Before my study, I distributed an overall survey to collect data on anxiety levels related to academics. My findings indicate that a large majority of students experience anxiety both due to their studies and while at school.

Figure 2

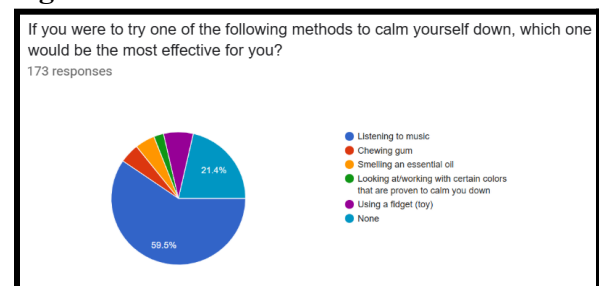


Figure 2: In the general survey I asked which of the following methods people thought would work best for them before they were implemented into daily use. The results show that 60% of people believed music would relax them the most, a significant portion of 21% of respondents did not feel any of the listed methods would work for them, and less than 20% of respondents combined believed fidget toys, essential oils, or chewing gum would alleviate anxiety best.

Method 1: Gum

For the first week of my study, the method I tested was chewing gum. As my participants

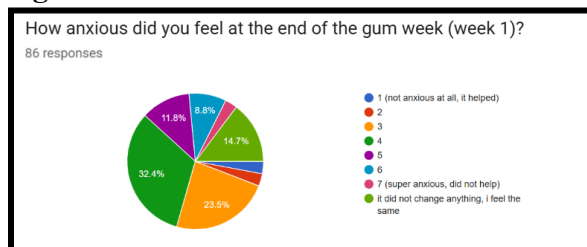
were broken up into two separate groups of about 40 people, I sent out an email to the first group informing them of the study, and had them chew gum throughout the week when they felt anxious. At the end of week one, I sent out a survey to track the progress of my participants as well as for them to report their results to. In the survey questions were included such as:

Question Set 4:

- How anxious did you feel at the end of the gum week (week 1)?
 - Anxiety was rated on a scale of one to seven, one being 'not anxious at all,' four being 'still kind of anxious,' and seven being 'super anxious.' An additional answer choice was added stating that 'it did not change anything, I feel the same.'
- Did you chew gum at all this week?
- Did you chew the gum this week because you were anxious or because it is just a force of habit?
- How often did you chew gum this week?
- Do you feel like chewing gum helped at all by lowering your stress levels?

Results and Discussions: Gum

Figure 3



According to the graph in this response, the results are extremely diverse ranging from zero to seven, signifying that there was not a huge impact in feeling less stressed when chewing gum.

Figure 4

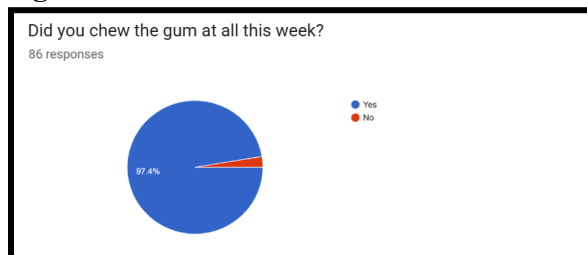
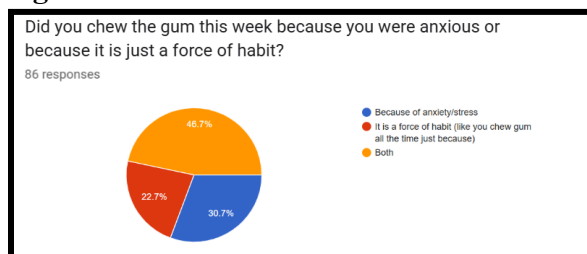


Figure 5



Figures 4 and 5: Majority of participants chewed gum this week, however a small percentage reported chewing gum exclusively when stressed rather than a habitual activity.

Figure 6

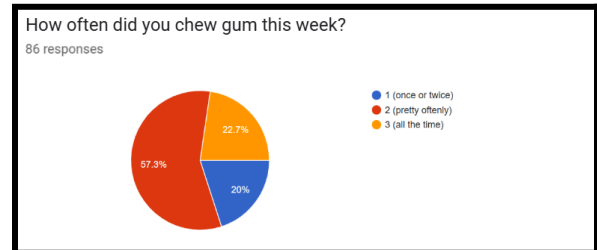


Figure 6: The results of this graph display that 80% of people chew gum at least oftenly. However, according to Figure 5, it is evident that people chew gum oftenly due to habit, not stress. Since chewing gum is a subconscious activity to many people, they do not notice a change in their behavior with it, since it is already part of their daily use, therefore the gum method was not as successful as predicted.

Figure 7

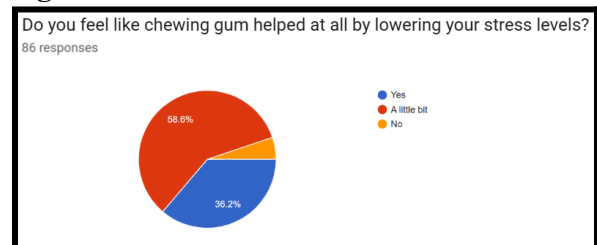


Figure 7: The most selected choice was the 'a little bit,' expressing that people were not too confident that gum aided in lowering anxious feelings, thus displaying that gum did not have a significant positive correlation with anxiety.

Method 2: Fidget Toys

Methods

Fidget toys were the method I tested for the second week of my experiment. As the first week concluded, I reminded each participant to collect a fidget toy from me. I distributed a variety of diverse sensory toys to my participants such as squish balls, popping

fidget toys, and textured stickers, and instructed them to use as necessary when stressed. The second survey I sent out included a similar question base, but slightly altered to fit week two:

Question Set 5:

- How anxious did you feel after the fidget toy week (week 2)?
- Did you use the fidget toy at all this week?
- How often did you use the fidget toy this week?
- Did you break the fidget toy at some point throughout the week?
 - Many participants reported breaking their fidget toys from constant use, which indicated high stress levels. As a result, I decided to add the question above to the survey to assess how frequently participants used their fidget toys.
- Did you use the fidget toy because you were anxious or because it is just a force of habit?
- Do you feel as if using the fidget toy helped at all by lowering your stress levels?

Results and Discussions: Fidget Toys

Figure 8

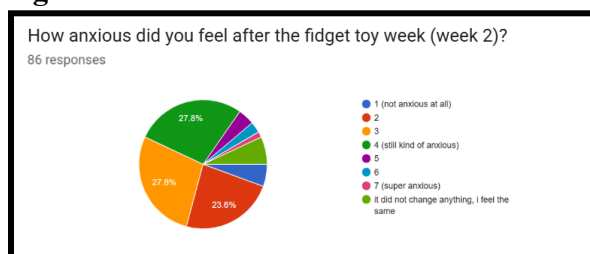


Figure 8: Similarly to the results from the previous week, the fidget toys do have slightly scattered results. However, the largest percentages recorded feeling barely anxious, indicating a positive correlation between fidget toys and anxiety. Fidget toys, although not used regularly by South Florida high schoolers, have become a part of the social-norm at school, leading to increased use in fidget toys throughout the community.

Figure 9

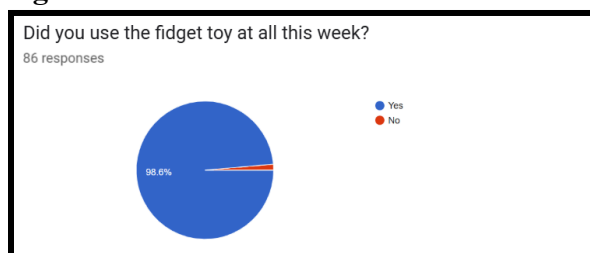
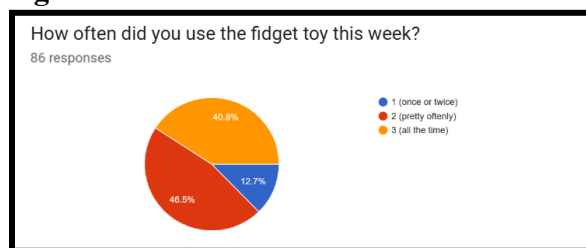


Figure 10



Figures 9 and 10: Despite fidget toys being the most neglected method prior to the study, the highest use percentage was reported during the fidget toy week. About 88% of the participants used fidget toys constantly throughout the week, elucidating the great impact that the fidget toys had on the participants, which later spread to the rest of the surrounding community. During the other weeks, most participants used the various methods---gum and music---out of routine rather than in response to stress (essential oils were not used out of habit, they were used when anxious, but did not show signs of tranquility even at the slightest). This habitual use did not lead to changes in feelings of relaxation, as the methods are simply part of their normal day-to-day activities.

Figure 11

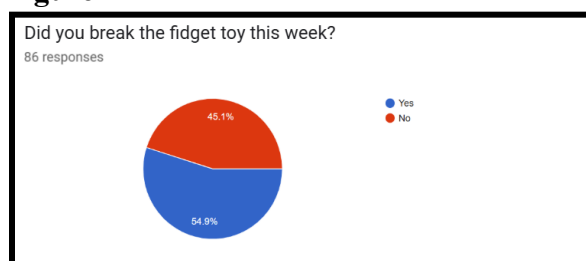


Figure 11: Throughout the duration of the week, I noticed that gradually the number of people who would approach me due to a broken fidget toy increased. As a result of this, I decided to add the question in Figure 11 into the survey to express the constant usage of the fidget toys. According to the graph, more than half of the participants reported breaking their fidgets throughout the week. By adding this question to the survey, I ensured that the majority of people

who reported using the fidget toy once or twice broke it and did not have an extra.

Figure 12

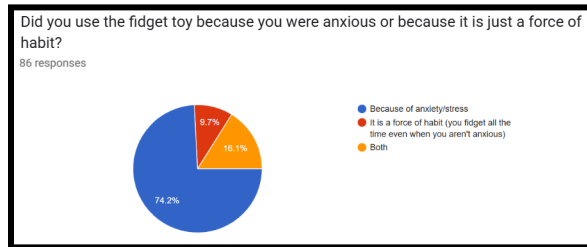


Figure 12: The fidget toy week surpassed all the other weeks with the highest percentage of people who reported using ‘only when stressed’ rather than most of the responses indicating habit.

Figure 13

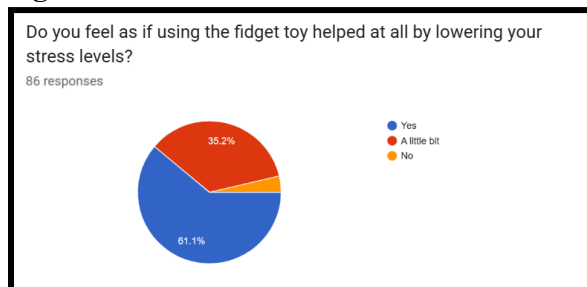


Figure 13: In addition to Figure 12, this week also shows the largest percentage of ‘yes’ answers, rather than the ‘a little bit’ answer like the rest of the weeks. Results from the graph shed light upon the drastic difference that fidget toys have caused South Florida high school teenagers: In Figure 13, 62% of people confidently feel that the fidget toys helped them positively and increased feelings of relaxation, hence the selections of ‘yes.’

Method 3: Music

Music was the next method I tested for my study, instructing participants to listen to it when they were anxious. Towards the end of week three, I emailed a survey similar to the past two weeks to members of my experiment, but with questions that were more relevant to the music week.

Question Set 6:

- How anxious did you feel after listening to your music this week (week 3)?
- Did you listen to music at all this week?
- How often did you listen to music this week when you were anxious?
- Which genre of music were you most likely to resort to when anxious?
- Did you listen to music this week because you were anxious or because it is just a force of habit?
- Did listening to music (during times of anxiety) decrease your stress levels at all?

Results and Discussions: Music

Figure 14

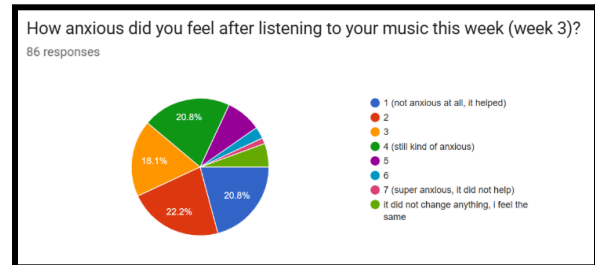


Figure 14: On an identical scale of 1-7, most responses ranged from 1-4, signifying low rates of anxiety resulting from this week, showing a positive correlation between music and anxiety.

Figure 15

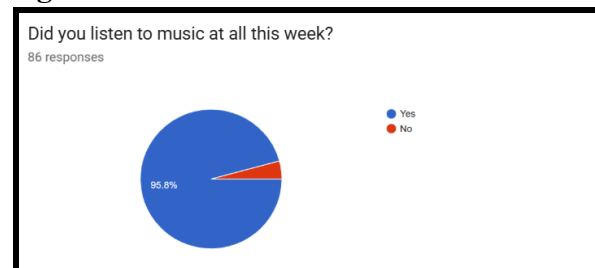
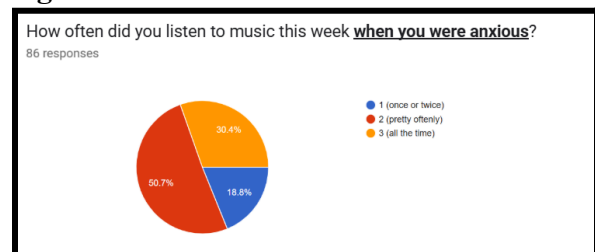


Figure 16



Figures 15 and 16: During the third week, 96% of participants reported listening to music (Figure 15). However, most of these responses were linked to a force of habit. Additionally, results show that the majority of participants reported listening to music constantly.

Figure 17

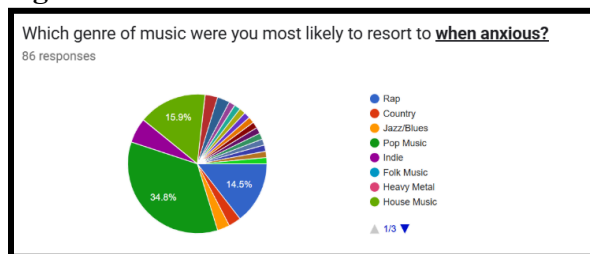


Figure 17: The three main genres of music that people would resort to are pop, rap, and house music, with an additional 1-2% for each other genre inputted. I included specific questions pertaining to each week to attempt the deepest in depth analysis I possibly could for each method.

Figure 18

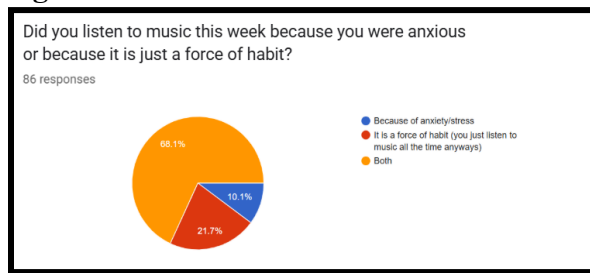
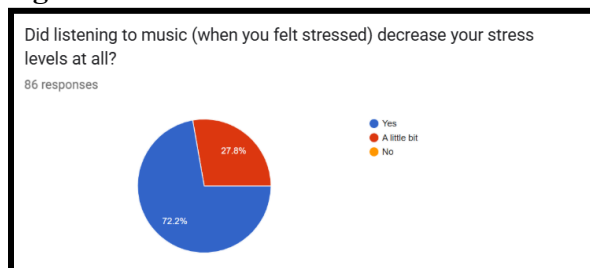


Figure 19



Figures 18 and 19: Results in Figure 19 show a similar pattern to the fidget toy week, where the percentage of confident 'yes' answers is the majority of participants. In addition, none of my participants answered 'no.' This displays that similarly to the fidget toys, music did help temporarily distract my participants from their issues. However, referring back to Figure 18, due to the small percentage of selected 'because of anxiety,' it shows that music was listened to more as a habitual act rather than out of sheer stress, thus

displaying no direct impact of music on anxiety.

Method 4: Essential Oils

For the final week, I tested essential oils as a method of relaxation. I sent out an email prior to the fourth week assigning each of my participants a certain scent and told them to smell it during moments of anxiety. I picked three scents and distributed them evenly among the experiment members: lavender, eucalyptus, and peppermint. As the final week came to an end, I delivered a survey to my participants summarizing their week with the essential oils.

Question Set 7:

- Which essential oil scent did you receive?
- How anxious did you feel after you used the essential oil this week (week 4)?
- Did you use the essential oils at all this week? (If you did not like the smell and therefore did not use the oil, press NO)
- How often did you smell the essential oil this week?
- Did the essential oils decrease your stress levels at all?

Results and Discussions: Essential Oils

Figure 20

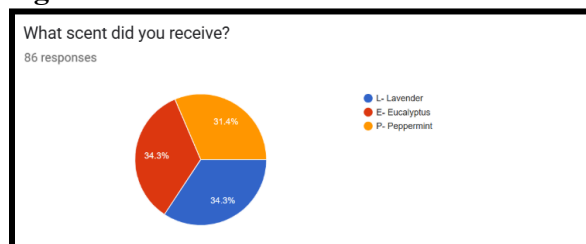


Figure 20: Noticeably, I distributed the scents almost completely evenly amongst members in the study. I gave them lavender, eucalyptus, and peppermint. I asked the question in Figure 20 on the survey because I attempted to spot a possible pattern in specific scents and their correlation to relaxation. However, results display that all scents had little effect on the alleviation of anxiety.

Figure 21

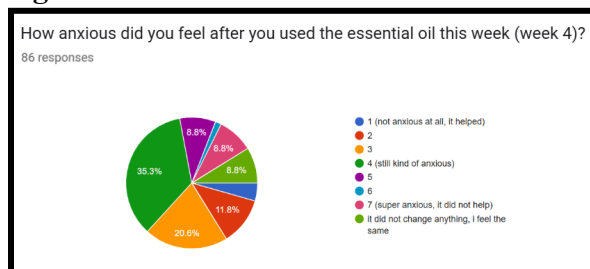


Figure 21: Shown in the graph, results vary extremely on the impact of essential oils on anxiety of South Florida high schoolers. However, a significant percent of the answers are in the higher range of the scale (most responded in the 4-7 range), indicating that essential oils overall did not have an impact on stress and was the most ineffective method of the four for remedying anxious feelings.

Figure 22

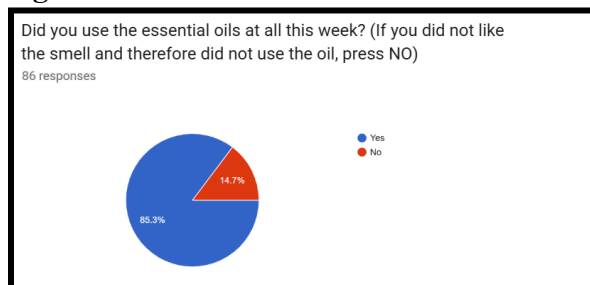


Figure 22: Around 15% of people did not like the smell of their essential oil, causing week four to have a substantially lower usage rate in comparison to the rest of the methods. Additionally, I received many verbal reports throughout the fourth week from my participants, stating that they did not like the scent they were given, leading me to ask this question in Figure 22. I looked deeper into the responses to the survey and found that the most disliked scent was eucalyptus.

Figure 23

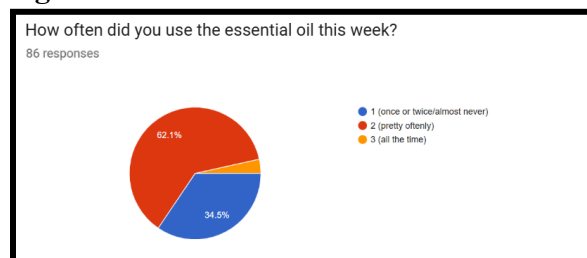


Figure 23: Repeating the same concept as figures one, two, and three, essential oils had the lowest usage of all four methods: The 'all the time' choice was selected by about 3% of the respondents, while the 'once or twice/almost never' option was chosen by 35%.

Figure 24

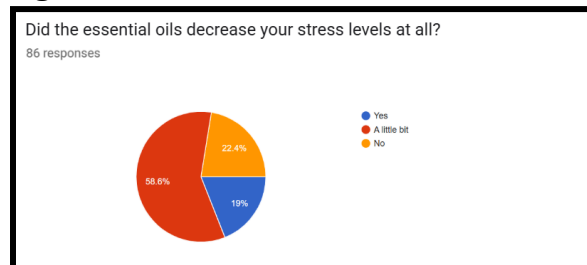


Figure 24: Overall, responses show that, once again, essential oils did not prove to work when attempted to alleviate anxiety in South Florida high school students.

As mentioned previously, I initially split my participants into two separate groups, and the second group would merely be delayed a week on method testing to avoid a possible bias of academic uneasiness throughout the weeks. For instance, if week one felt less stressful than week three, participants may not get the chance to implement the first method as much, so I delayed half of my participants in order for me to gather balanced results and a more even implementation of methods throughout the duration of the five weeks.

Methods: Post-Study Surveys

A few weeks after my experiment, I sent out a follow-up survey to record any of the participants' final thoughts about the methods they tested and to see which method actually worked the best to remedy

academic anxiety. Once the survey was filled out by all members of the experiment and the method with the highest success rate stood out amongst the rest, an additional survey was sent out to students who did not partake in the study. This additional survey for non-study members was to find out how or if my study had an impact outside of the borders of merely my participants.

Questions: People who participated in the study:

Question Set 8:

- After completing my study, do you currently use any of the following methods to help reduce stress?
 - (The following methods being chewing gum, using fidget toys, listening to music, and smelling essential oils)
- Click the choice that best represents how the study impacted you:

Choices:

- I started to chew gum after the study
- I chewed gum more often after the study

- I started to use fidget toys after the study
- My use in fidget toys increased after the study
- I started to listen to music more after the study
- I listen to music more after the study
- I started to use essential oils after the study
- My use in essential oils increased after the study
- None of the above

- Now that you have tested each of the anxiety relief methods, which one do you believe worked the best to remedy anxious feelings?

Questions: People who did not participate in the study:

Question Set 9:

- Did you see your peers/friends with fidget toys in school recently?
- If you saw your peers with a fidget toy, did it convince you to buy one too?
- Does the fidget toy help with your anxiety?

Results and Discussions: Post-Study Survey

Results: People who participated in the study:

Figure 25

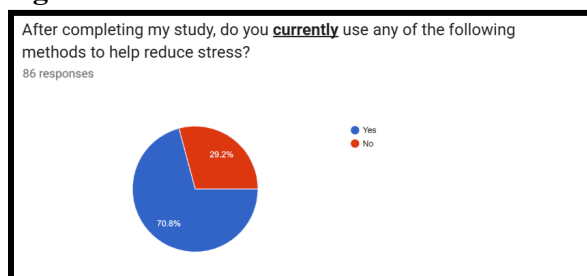


Figure 25: In my follow-up survey, about 71% of participants responded that due to my study, they implemented one of my four methods in their day-to-day use. This shows that my study had a long term effect on the vast majority of my participants.

Figure 26

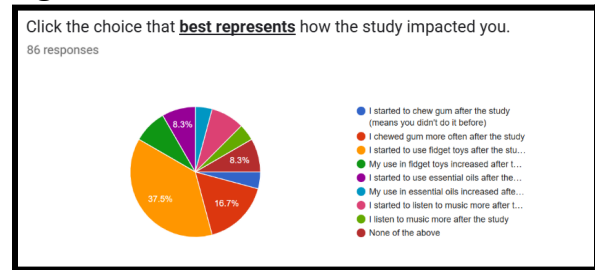
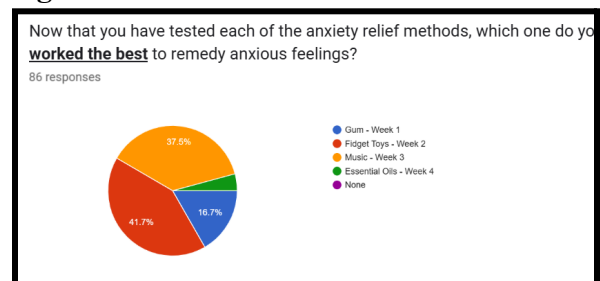


Figure 27



Figures 26 and 27: The most selected choices in both Figures 26 and 27 indicate that, overall, fidget toys surpassed all other methods in voted and evident success rate. Referring back to Figure 26, out of the many choices given, the vast majority selected that they started using fidget toys after the study. This proves that fidget toys were not part of a “social-norm” prior to my study since people did not use them. Not only so, but my research introduced a brand new concept to the highschoolers which stuck with them and evidently had a long term impact on their relaxation in terms of anxiety. Furthermore, I asked my participants a final question to ultimately reveal which method of the four worked the best, and again, ‘fidget toys’ was the most selected option, showcasing its success.

Results: People who did not participate in the study:

Figure 28

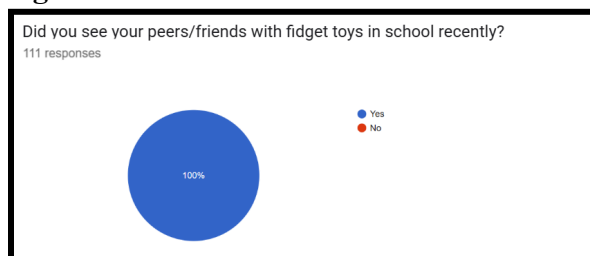


Figure 28: After I got responses from the survey I sent out to the people who partook in the experiment, I found out that fidget toys were by far the most effective method to alleviate anxiety in South Florida high school students. Following that survey, I sent out this poll to people who did not participate in my study to see if my research had any outreach or effect on anyone in the surrounding community. Evidently in Figure 1, 100% of people reported that they saw at least one of their peers with a fidget toy.

Figure 29

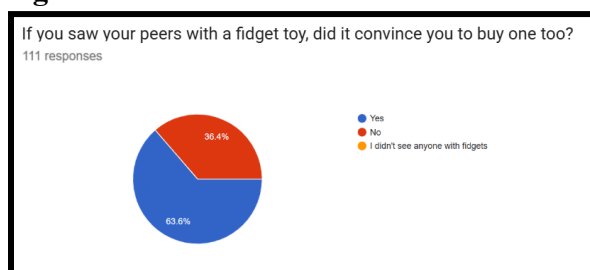


Figure 29: Although all people were not convinced to buy a fidget toy, the majority of people were. In addition, 0% of participants reported seeing no one with fidgets, meaning that my study had an impact on public visibility as well.

Figure 30

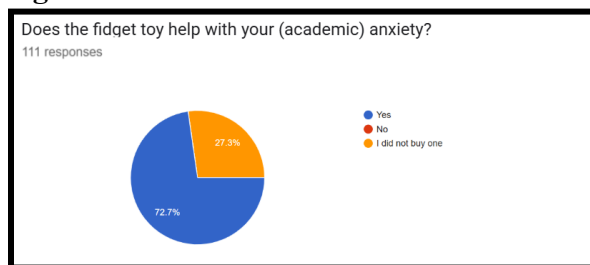


Figure 30: Finally, to conclude the survey, I asked participants outside of my study whether or not the fidget toys help with

anxiety. Not everyone bought a fidget toy, but out of the people who did, 100% of them express that it does help with their anxiety.

Limitations

As far as limitations to my research, I did not have any major ones that I was unable to overcome. However, a minor limitation to my research was that the students have free will and can choose to use or not use each method exclusively as assigned per week. For instance, many kids chew gum or listen to music as a force of habit (proven by the survey responses), meaning that during method testing weeks that include using fidget toys exclusively or smelling essential oils exclusively, students may subconsciously listen to music or chew gum throughout that week as well. However, this does not alter my results: Habitual methods may help with anxiety, but when implemented with new, non-habitual methods such as fidget toys, a significant change is shown (if the method is successful) because the participant is using a new method for the first time, ultimately 'breaking' their daily routine and implementing something new. Furthermore, a more important limitation was my wording of certain questions. I feel as if I could have made a few questions on the surveys more specific, or rephrase them so people could understand them better. Making my questions a little too broad was a marginal limitation but a limitation nonetheless, since participants had a slightly harder time understanding the exact point I was attempting to convey in the survey. Finally, an additional limitation was teachers' permissions on letting students chew gum in class and listening to music. Some teachers did not let students use headphones in class or chew gum since it may be distracting. However, all this did was merely confine my participants to certain parts of the day that they could not use their methods. Although these limitations may have inhibited

expansion for my research, they did not alter my results, each for their own separate reasons.

Conclusion

This research confirms the effectiveness of fidget toys on the academic anxiety of South Florida high school students, as it signifies the method which had the largest success rate of the four, being the fidget toy method. Gaps such as no research on the best method on anxiety alleviation or any research availability on fidget toys in highschool settings stimulated my research. In opposition to my hypothesis, which stated that fidget toys would be the least impactful and music would display the most significant change, fidget toys ended up having the most positive correlation with lowering stress levels in South Florida high school students. Furthermore, with results from my pre-study survey, my five week experiment, and my post-study follow-up survey, I was able to curate data about the most effective method that stood out amongst the rest in success rate, which again, was the fidget toy method. Limitations such as time frames and constraints as well as the free will and choice of students did not give my research an opportunity to expand, yet did not alter results. Therefore, my research can be a

stepping stone for future investigation towards the overall goal of diminishing anxious feelings.

Future Findings

These findings can be implemented in other areas as a base to further expand upon the idea of soothing stressful feelings. For instance, teachers in school can give their students fidget toys to use in class throughout the year and see how the students perform, as well as the additional impacts that may be caused due to this such as: Increased sleep due to focus in class, significant shift in grades, or merely overall happiness. Despite being tested on high school students, these findings can be implemented in other age groups as well such as middle schoolers, lower schoolers, and even adults, especially during times not related to education. Additionally, one can use my research to create a more in depth analysis of the science behind the use of fidget toys, and use any other methods that may have similar scientific background to aid in generally stressful environments. Finally, companies can take my research and use its results to create and develop a fidget toy that may be suitable for everyone and that will not be distracting to people in the surroundings.

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Study Methods to Reach Perfection

Brooke Koch

Abstract

This study investigates the effectiveness of performance-based memorization techniques in enhancing the study habits of high school students, with a focus on their comprehension of educational material. Employing a mixed-methods design, I distributed a survey to 120 students across the United States to gauge their attitudes toward studying and learning. Following this, a structured experiment was conducted at an independent private school in South Florida, where two classes were divided into groups utilizing either performance-based or passive learning methods. The statistical analysis of test scores between both groups indicated no significant differences; however, an additional survey administered to capture students' perceptions of each method revealed three prevailing themes: confidence, hesitation, and familiarity. These insights suggest that while different memorization techniques may not drastically alter immediate academic performance, they significantly impact students' confidence levels and comfort with the material. Ultimately, this study underscores the importance of exploring innovative memorization strategies to foster deeper engagement and understanding in academic contexts.

Literature Review

Psychologist Daniel T. Willingham expressed that most information students learn in school is either unhelpful or simply forgotten (Willingham, 2015). The “forgetting curve,” coined by psychologist Herman Ebbinghaus, details the natural process of losing information after initially learning material. An average brain only retains 75% of the information; without immediate intervention, it will likely be

forgotten (Wittman, 2018). Psychology professor Richard E. Mayer claims, “[t]wo of the most important educational goals are to promote retention and to promote transfer”; however, when students cannot recall information past immediate learning, it can lead to failure in performance and application (Mayer, 2002). In education, passive learning methods, such as listening and reading, offer shallow understanding where the students are meant to absorb the information without recall. Active learning approaches, such as problem-based learning, focus on and foster profound engagement with the material (Mayer, 2002). Similarly, actors utilize a method similar to active learning to memorize their lines quickly, corresponding with their deeply-rooted retention of those lines, as demonstrated in studies conducted by Helga Noice, PhD Professor of Psychology (Noice, 1992). An actor’s memorization techniques allow them to tap into their universal memory and recall lines effortlessly on stage, contrasting students’ constant challenges in retaining information effectively. Thus, this research aims to determine the inner workings behind memory, how it operates in students, and its correlation with actors' memorization techniques to ultimately create a complex analysis of memory and learning methods, specifically in educational contexts.

Functions of Memorizing

Izquierdo et al., Department of Biochemistry at Federal University of Rio Grande, demonstrate how the cognitive process of memorization consists of the fundamental process of encoding, storage, and retrieval; together with the hippocampus, the brain can foster new information into long-term memory (Izquierdo et al., 1999). Furthermore, the human brain classifies knowledge learned according to the content, which is stored based on duration in the long-term memory

(LTM) or the short-term memory (STM) (Izquierdo et al., 1999). The LTM is a universal knowledge holder, while the STM can only hold the information for a few seconds before losing it entirely. As physics education professor Alison Voice and PhD student Arran Stirton explain, the information students learn frequently only reaches STM (Voice & Stirton, 2020). Multiple reasons are behind this occurrence, the most prevalent being that students are not studying to understand but instead to memorize. Caty DuDevoir, an Anthropology Ph.D student, reported, "If a person memorizes the definition of a word, but they cannot use it in a sentence, they do not truly know the meaning of the word" (DuDevoir, 2018). In memorizing a word's definition, the knowledge goes to the STM because it is not actively encoded into the memory and, therefore, is only held for a few seconds, according to Miller's law. This is when information is memorized in chunks of 2 to 7 and lasts only a few seconds, as defined by Professor of Psychology Sciences Nelson Cowan (Cowan, 2015). The specific style of drilling and repeating the information until one completely remembers it is formally known as rote learning (Voice and Stirton, 2020).

The Cambridge Dictionary defines rote learning as "learning something to be able to repeat it from memory, rather than in order to understand it" (Cambridge Dictionary, 2023). Despite its utmost popularity in schools currently, the name "rote" has fostered a notorious reputation over time (DuDevoir, 2018). DuDevoir further claims that "students can memorize a series of facts and be able to spit them out for the test; afterward, the information that was memorized will quickly be forgotten" (DuDevoir, 2018). Comparably, high school student Ella Spitz expresses, "[w]hat value should the memorization hold? It is empty, shallow, and meaningless" (Spitz, 2019).

Being a high school student, she acknowledges the value of memorization; nevertheless, she believes that students like herself would struggle less to learn the material by intensely analyzing it as a process to understand. However, some educators consider the classroom a place for rote learning and memorization. According to Ben Johnson, a career educator, "emphasis on critical thinking has it all wrong: Before students can think critically, they need to have something to think about in their brains...comprehension requires knowledge, and it takes time and effort" (Johnson, 2010). He argues that rote learning and memorization must be harnessed in the classroom so students know the information before thoroughly applying it. He places blame on education systems for failing to implement effective memory techniques, as they focus too much on the application and not enough on the simple knowing.

Nevertheless, students like Spitz find the memorization processes that educators encourage useless, creating an alarming problem. The conflict between the student and the educator continues to grow as the students do not feel satisfied with their understanding of the materials. In contrast, the educators feel that students need to 'trust the process' and memorize before they can understand. While memorization and rote learning remain prevalent in education, a deeper understanding of the material through critical analysis is essential for meaningful learning. This suggests that balancing memory techniques and comprehension methods is crucial for student success.

Memory in Students

In the brain, as claimed by the Neuroscience Department at the University of Argentina, arousing or stressful situations can negatively affect memory formation and memory application, so it is

no wonder why high school students are currently experiencing “burn-out” (Lopes da Cunha et al., 2018). After all, high school students are often given immense amounts of assignments in rigorous courses, further inducing stress (Lopes da Cunha et al., 2018). The World Health Organization found that burnout is “a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed” (World Health Organization, 2024). Similarly, research conducted by Koutsimani et al. from the University of Macedonia and Aristotle University of Thessaloniki has found that burnout has been “found to be associated with cognitive impairment with the predominant deficits concerning executive functions, attention, and memory” (Koutsimani et al., 2021). Students feeling pressured to excel in academics, social obligations, and extracurricular activities often experience fatigue or burnout, which hinders their ability to retain new information (Willingham, 2015). This fatigue starts an endless cycle of ineffective retention, as seen by Spitz, where students are told to fix their methods, being advised all they need to do is spaced repetition, reread notes, and self-quizzing (Spitz, 2019). Both students and the education system seem to be focused on getting better scores rather than fully understanding the information provided (DuDevoir, 2018). Hence, students and teachers must prioritize well-being and effective learning strategies to create an educational environment that promotes accurate retention and understanding.

Memory of Actors

Imagination in students pushes their brains to think thoroughly about the topics at hand. It takes the information from the STM to the LTM, as stated by psychology and neuroscience professors Schacter et al.. Likewise, as actors embody their characters

and remember their lines, they utilize their imagination and deviate from surface-level memorization to think outside the box (Schacter et al., 2012). In his TED Talk, Sir Ken Robinson, an internationally recognized expert on creativity and education, spoke on how “we think about the world in all the ways that we experience it. We think visually, we think in sound, we think kinesthetically. We think in abstract terms, we think in movement” (Robinson, 2006). Robinson believes education is doomed if creativity and innovation are not incorporated into schooling with the same intensity as core subjects, as without them, students are left with shallow examples of what they are being taught. However, these findings contradict the opinions of educators such as Ben Johnson, who believe students benefit more from creating a barrier of information rather than taking a more creative approach to understanding the information.

Research by psychologist John Seamon shows that actors use imagination to explore their characters' objectives and motives for a more profound portrayal (Seamon, 2024). He finds that most professional actors do not drill themselves to memorize lines and instead take the time to fully understand the character. This process entails the characters' emotions becoming natural to the actors, so they do not need to think about the lines or what to say when on stage, as it has become a natural reaction for their bodies to emulate. Seamon explains how 74-year-old actor John Basinger was able to recite all 10,565 lines of the poem “Paradise Lost” years after learning the poem because he took the time to fully understand the character's feelings and why he said each word and each thought (Seamon, 2024). Basinger's ability to remember over 10,000 lines is remarkable, as most information is transmitted into the STM for merely a couple of seconds

(Cowan, 2015). Not only do these methods, like Seamon's, increase the actor's ability to provide a believable performance, but they also advance their memory retention.

Nevertheless, this is not the case for all actors. In an interview with Jessie Tyler Furgeson, in rehearsals for his one-person show "Fully Committed," he claims, "OK, today I'm gonna try and learn these ten pages, and then the next day after that, I'm gonna learn those ten pages plus another five" (CBS News, 2016). Despite Furgeson's methods being similar to rote memorization, his practices of spaced repetition emulate the memorization practices of mnemonics, another standard practice used by actors. Mnemonics encompasses the information, employing active organizing, engaging in deeper thought processes, and mentally visualizing the data. Nevertheless, each actor and actress memorizing may look different, but each has a common theme: they devote themselves to learning. So regardless of the actor's strategy, in some way or another, they can successfully process information into long-term memories, where most people struggle.

Research on Memorization and Theater

Cognitive studies concerning actors and their retention methods stemmed from the research of Helga and Tony Noice, professors of psychology and theater, respectively. They combined their fields to understand the cognitive sciences behind actors memorizing their lines. They quickly learned that actors do not memorize; instead, like John Seamon's research, they comprehend and feel. Numerous actor-participants in their studies mention how when 'memorizing,' the lines are not as accessible, and frequently, they forget the lines entirely (Noice & Noice, 2006). In Helga's first study, one of the subjects said, "[w]e do things in reverse in theater...Normally in life, you have an

impulse and then a thought which you put into words" (Noice, 1991). In theater, the actors already know what they will say and do; hence, to make sense of the progression of the script and learn the lines, they identify who the character is and what motivates them to say each specific word. This further demonstrates the actors' unique understanding of memorization and learning. The Noices, with their cognitive findings, specifically line memorization, were among the first to combine theater and memory. In their study, they applied the actors' memorization techniques to older adults, and they found that the participants had better recall than the ones who used standard memorization methods (Noice & Noice, 2006). They have also discovered from their participant pool that most actors learn by doing and not simply by memorizing. Nonetheless, their research has not been furthered since the early 2000s, and there are numerous unanswered questions on the applications of their general findings to other age groups and situations.

On the other hand, freelance director Garret Ayers recorded in his blog how most novice/in-school actors use rote memorization to learn their lines (Ayers, 2014). According to his study, understanding and acting are separate from memorization and do not naturally come together despite the beliefs of professional performers. Ayers claims, "Once a student discovers the principles upon which their memory works, their approach to memorization becomes proactive and strategic, rather than reactive and fearful" (Ayers). His approach to understanding student actors and their memorization relies on what gives them the quickest outcome rather than optimal character interpretation, a significant contradiction to Noice's findings.

Regardless, Helga and Tony Noice find that all the actors and actresses analyze

each character's wants and needs in each line to amplify the emotion (Noice & Noice, 2006). This is understood as the Stanislavsky system; instead of playing a role, actors live the role. As reported by actor Alex Ates, this system redefined how actors portray a character and approach the role. Hence, numerous actors say they do not sit down and intensely memorize, which most of Ayers's study students claim to practice (Ayers, 2014). The correlation between actors' memorization methods and students' study methods is undeniable, especially regarding the similarities in the debates on using active learning or passive and rote learning. Both need to harness all areas of the brain, and while actors can mostly do this successfully, students often fall flat.

Gap

With the research on rote learning, failure of students' memory, the benefits of theater, and the conclusions from Noice's research, there is an explicit correlation between actor memorization and overall memory. However, no research has examined the connections between improving high school students' information retention and how applied studying works; there has been no research on implementing actors' memorization methods on high schoolers either. This is because most of the research on memory and theater has not been explored since the early 2000s and after the death of Helga Noice in 2022. This brought me to my question: How can high school students apply techniques that actors use to memorize lines for enhanced recall and retention of academic material? I hypothesize that Students will benefit more from using performance-based techniques instead of memorizing while studying, ultimately enhancing their test performance and overall understanding of the material being taught.

Methods

For my methods, I started by researching how actors learn their lines and how that differs from the standard ways of retention. From there, I compiled a list of 50 scholarly articles, theater blogs, memorizing guides, and books to help me understand the inner workings of memory and why actors can recite their lines without hesitation. I found research on Helga Noice and Tony Noice. I found the implications of their discoveries with how actors memorize while also seeing the promotion of direct memorization, such as rote learning, despite its being notorious for its shallow levels of understanding. Nevertheless, it is highly encouraged by educators and is widely used by students. I also discovered how high school students across America struggle to remember the information taught in school after taking a test and even during the test (Willingham, 2015). After finding no research beyond that initial finding, I narrowed my topic choice, choosing high school students across the United States as my population and researching their motivations behind learning. Still, I could not find any reliable information from high school students online, so I composed a survey asking how high school students across America study (see Appendix A). Some questions were:

- "What methods do you use to study?"
- "What method of studying is the least effective for you?"
- "What motivates you to study?"

Once I got more than 100 responses from high schoolers across the United States, I found that high school students struggle the most with retaining information and studying promptly. From there, I hypothesized that students would benefit more from utilizing actors' memorization techniques if applied correctly. Then, I composed a case study measuring the

performance of high school students in 9th and 11th-grade history at a private school in South Florida using two different study methods based on my research: passive learning and performance-based learning. Specifically, I evaluated the difference between the methods through students' performance on an AP Human Geography multiple-choice (9th grade) test and an Honors United States History document-based (11th grade) test. I assigned the students' methods at random. Half of the students received a guide on studying using passive learning: memorizing (rote learning), flashcards, Quizlet, rereading/rewriting, and practicing acronyms (see Appendix B). The other half were assigned performance-based learning and were administered a guide on how to practice it, where they were instructed to practice methods similar to how actors memorize—using mnemonic devices, movements, and mental mapping (see Appendix C). Once the initial testing was done, I compared the results and had the students answer another survey asking their opinion on the method they practiced (see Appendix D). Some of the questions are:

- “Was this similar to current study techniques you typically use?”
- “How did you feel after using these methods?”
- “How did you feel when taking the test?”

After receiving the survey results, I compared the students' raw test scores out of 40 points, calculated a mean score per method for each class, found the standard deviation, and performed a T-test (See Appendix E). The T-test is a statistical test that compares two groups and determines a statistical difference; it is typically used to compare groups with smaller sample sizes, which is why I selected it. A p-value, also known as the probability value, is calculated to compare the main difference. If the

p-value is less than 0.05, there is a significant difference and rejection of the null hypothesis—there is no significant difference; however, if the value is greater than 0.05, there is no difference. To conclude my results, I looked into the differences in age, gender, performance, and overall acceptance of using the methods for their learning.

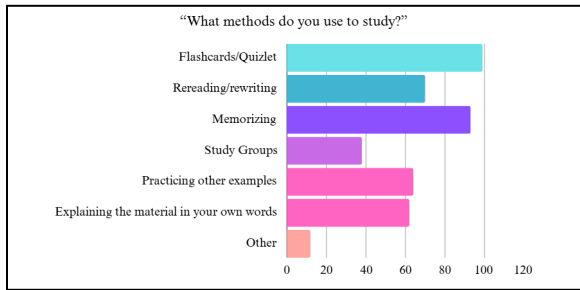
Results and Findings

Survey Results

From the results of the 120-participant survey, I determined the specific factors that determine how high school students study and what halts them from doing so. I received responses from 14 (15.8%), 15 (19.2%), 16 (30%), 17 (20.8%), and 18 (14.2%) year olds from all over the United States. I determined the specific study methods currently used by high school students and understood what was stopping them from studying successfully. Some results from the multiple-choice questions can be seen in Tables 1, 2, and 3.

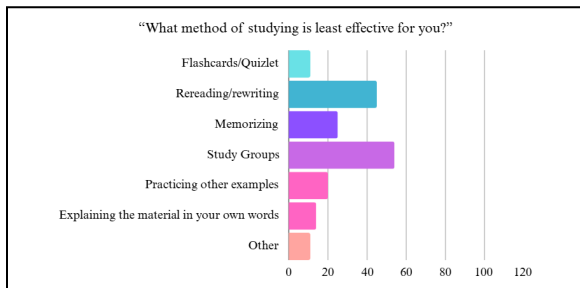
Table 1 depicts the answers from the section: “What methods do you use to study?” where participants were asked to select all that apply the methods they typically use to study and list any extra ones not listed. As seen in the table below, most students use flashcards/quizlets, memorizing, and rereading/rewriting as their primary studying tactics, having been selected by 99, 93, and 70 students, respectively. These results directly demonstrate how diligent passive learning is amongst students, as 61.36% of respondents selected at least one passive method, while the remaining 38.64% selected using active learning methods.

Table 1



On the other hand, Table 2 displays the answers from the question section: “What method of studying is the least effective for you?” Participants again were asked to select from all that apply; however, they were asked to pick the least effective methods this time. As seen in the table below, the results were contradictory, as 44 students selected rereading/rewriting as the least effective method, while 70 students selected it as their typical study method. Nevertheless, 54 students confessed that study groups were the least effective method for studying, being the only distinctive front-runner of ineffective methods. In the “other” response section, numerous students put down a variation of “I do not know” and “everything” rather than selecting a specific method.

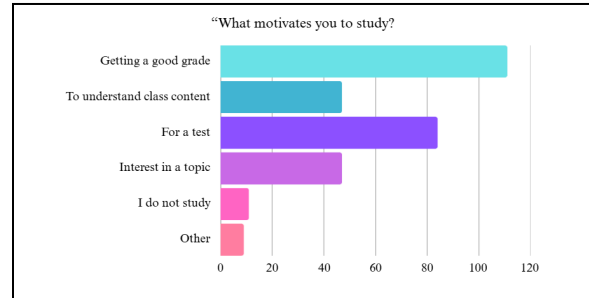
Table 2



In Table 3, when asked about their motivations for studying and learning in both a select-all-that-apply response and an open commentary response, most participants responded with some academic incentive behind it. Whether getting a good grade on a test, getting into a college, or

being successful, most participants feel motivated to learn based on momentary motivation and academic validation rather than long-term retention. According to the chart, 63.11% felt motivated to study based on educational needs, while 33.33% of participants study based on understanding and interest, and the remaining 3.56% do not study.

Table 3



Case-Study

For my case study, I employed two high school social science classes, 9th grade AP Human Geography and 11th grade US History Honors. I split them into two groups, one following performance-based learning and the other following passive learning to study for their upcoming test. After receiving the initial test results, I calculated the mean per class and method. For performance-based learning, 15 students were assessed (seven in the 9th-grade class and eight in the 11th-grade class); the average score in the 9th-grade class was 24.43/40, and for the 11th-grade class, it was 34.5/40. The averages for the passive method were lower; 14 students were assessed (seven in the 9th-grade class and eight in the 11th-grade class), with the means being 23.7/40 and 33/40 in the 9th and 11th grades, respectively. I used the T-test formula to calculate the differences between grades and classes to determine the score range in the standard deviation and whether the scores were statistically significant or by chance between 9th grade and 11th grade, and all the results combined. In doing so, I determined that all three test

results deemed the differences insignificant and a random occurrence as each of the p-values was greater than 0.05 and could not disprove the random occurrence, as demonstrated in Table 4.

Table 4

Average Test Score Results Based on Mean, Standard Deviation, and the T-test						
Group:	Performance-Based Learning 9th grade	Passive Learning 9th grade	Performance-Based Learning 11th grade	Passive Learning 11th grade	All Performance Based	All Passive Based
Mean:	24.43/40	23.71/40	34.5/40	33/40	29.8/40	28.67/40
Standard Deviation:	6.27 ±	7.76 ±	4.38 ±	3.30 ±	7.31 ±	7.36 ±
T-statistic:	P-value = 0.8530576399		P-value = 0.4524288024		P-value = 0.6076356316	

**note that all calculations were made using Excel tools*

Second Survey Results

Because of this finding in the extreme similarity of the test scores, showing that any differences may happen by chance, I set out to find a more personal perspective regarding the methods in another survey. Responding to the questions: “Was this similar to the current study techniques you typically use? How did you feel after using these methods? How did you

feel when taking the test?” Tables 5, 6, and 7, respectively, are the responses to some of the multiple-choice questions from the 15 student participants who practiced the passive method. In contrast, Tables 8, 9, and 10, respectively, are the responses from the 15 students who practiced the performance method. In Tables 6 and 9, participants were asked to select their feelings after using the specific process to determine if there were any psychological effects. Participants were asked to select all that apply from the options: less burnt out, less focused, less motivated, more burnt out, more focused, less motivated, or other. By selecting “other,” students could write a response that might be a more accurate representation of their feelings. Similarly, for Tables 7 and 10, participants were asked to select all that apply regarding their feelings while taking the actual test from the options: prepared, focused, nervous, overwhelmed, and other. Like before, the other option was for the participants to write an additional response.

Table 5

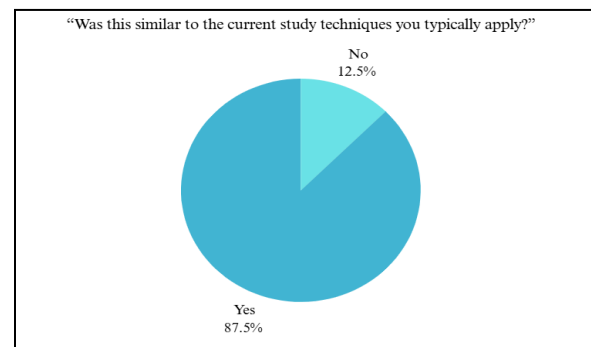


Table 6

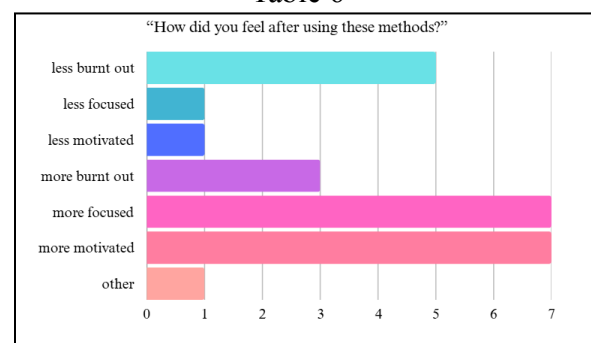


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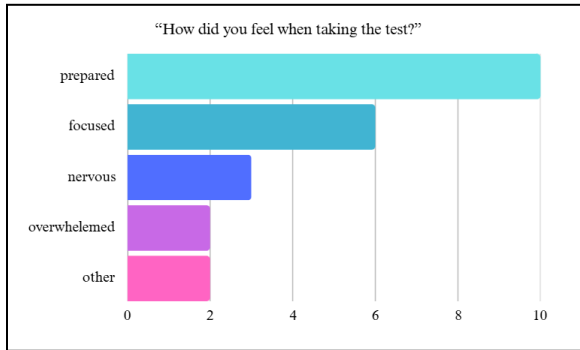


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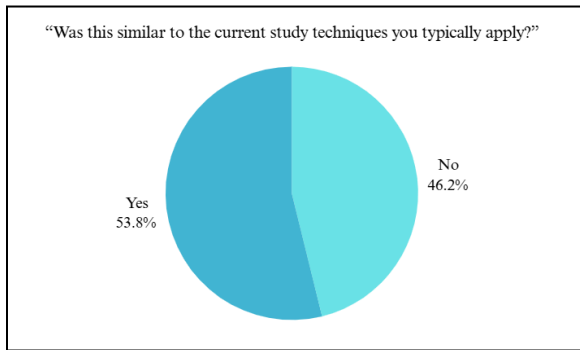


Table 9

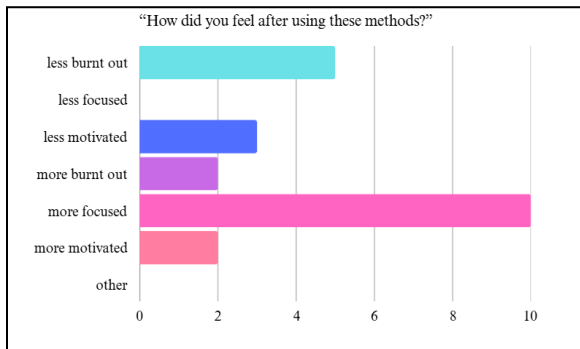
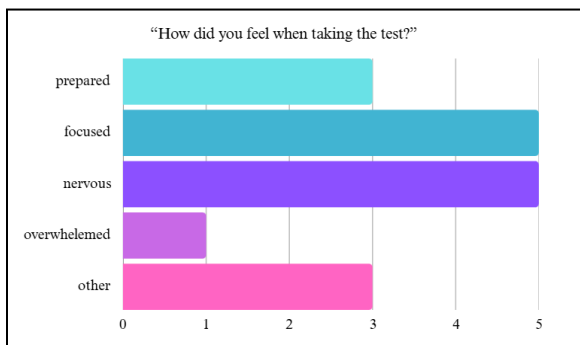


Table 10



From each set of results, I determined that more students were initially familiar with the passive methods of studying and felt less burnt out and more motivated and focused while practicing the technique. However, more students were unfamiliar with performance-based methods. They felt less burnt out, and almost all students felt more focused while practicing. Nevertheless, despite the test score results, more students felt prepared for the test after using passive methods, while the same amount of students who practiced performance-based methods felt focused and nervous.

Discussions and Analysis

After intensely analyzing the written responses from the survey and categorizing the differences based on gender and age, I identified three major categories of students' reactions to the new methods of performance learning: confidence, hesitation, and familiarity. Overall, I determined that the female students had an easier time adapting to the new method, and the female students in 9th grade felt they were more inclined to reuse the methods again as it built up their confidence. Regarding a question asking about initial feelings, one student responded, "I was first nervous about what to do, but then I got into a routine and understood the information."

Similarly, other participants initially felt confused and unsure about how to approach the technique, but once they started practicing the method, they felt more comfortable with the information. Multiple students experienced hesitation in practicing the technique, specifically the 11th graders. In the additional thoughts section one, 11th-grade participants responded that they felt "less stressed when doing it. However, I do not think I would use it again as I am very comfortable with my niche study habits." Most 11th-grade students held similar feelings, expressing that they already

have established study practices and feel those practices are sufficient enough to remember the information for the test even if they forget all of it later.

However, not all students felt hesitant when it came to practicing the techniques; half of the participants claimed this was a method they had practiced before, and despite a small majority claiming they were hesitant about the technique, most claimed that they would reuse the method in the future. In reviewing the students' results from the 9th and 11th grades, I observed that while nearly all the students reported that the technique was effective, some students felt that the passive methods did not aid their retention of information long after the test. Nonetheless, none of the participant responses were the same. While one student who felt hesitant about the method might have struggled, another student who felt hesitant could have benefited from the technique.

Thus, the results and findings of this study conclude that my original hypothesis is partially correct. Despite the T-Test results disproving the effectiveness of the performance-based method and reducing the better test results down to a random occurrence, because of my findings from the second survey, I can determine that students greatly benefited from the performance technique. When looking at the results of the performance-based and passive learning participants, the results indicate a clear correlation between retention and students' overall benefit from using methods of both memorization and understanding to effectively hold the material. However, as demonstrated in the case study test and the T-test results, not all students fell into the same range, and not all students' exam scores reflected their feelings regarding the methods. This suggests that the collective mindsets of students may not all be able to find one specific method that will work for

all students, both mentally and in test performance, and instead, students would benefit from a more personalized method tailored to their own needs.

Looking back at the three main themes I identified within the students' responses, I concluded that there is a resemblance between how students perform on a test and how they feel after studying. For example, students who feel comfortable and confident in understanding the information also feel more focused and prepared while taking the test, regardless of which method they use. When it came to the theme of hesitation when practicing the techniques, it largely came from the performance group, who noted that during and after the test, they felt less burnt out and more motivated to do well. The students whose responses fell into the theme of familiarity, the majority being part of the passive group, remarked feeling normal.

Limitations

Although this study offers insights into the potential benefits of performance-based learning, it is essential to consider the limitations, particularly the inability to track students' progress or their full commitment to the technique. Since I was testing to see if the methods would work as a typical study approach, I had to allow the students to operate with their process as they saw fit. To ensure that the students followed the method, they signed a consent form and a waiver stating that they would stay true to the case study and fully participate. Another limitation was the time the research took place; being in the academic school year, I had limited time and opportunities to provide a follow-up test to determine the long-lasting retention of these practices. Because of limitations, I could not conduct the research perfectly, and a few hiccups prevented me from further testing the retention. For instance, because of the

timing issue, I could not issue a retest to the students using the same information at a random time to determine whether the specific methods would have lasted, improved, or decreased over time.

Conclusions and Future Directions

This study initially intended to understand the effects of what would happen if you implemented the highly successful actors' retention techniques and abilities into the studying of high school students to produce better retention rates. My research findings concluded that using memorization methods from actors was not entirely effective in producing retention and application results. Notwithstanding the participants' positive results about the performance-based method, some test results did not represent this feeling, and the overall results did not determine a significant difference. The second group, passive learning, reported feeling comfortable and familiar with their methods. Nevertheless, their scores were either equal or worse than the performance group. After my analysis, I determined that neither group effectively increased retention despite the students' feelings towards each method. This could be credited to the genetics of how the brains are made and how one distinct memorization technique may not be universally effective.

Future research could expand the information found in this study by creating a surprise element where the participants are unaware of when the test will be administered and will have to rely on the

study techniques and continue to be retested at random days, weeks, or even months after the initial study. Another suggestion for future research would be to blend the methods and create a hybrid study approach, starting with memorizing the basic information and then expanding the understanding. Future research could also explore the external factors and environments that may be influencing the effectiveness of the methods, such as stress, embarrassment, and motivation. These suggestions can potentially help further understand the relationship between learning and remembering for students through a non-overwhelming method. With more research conducted, the retention of material taught in schools can be significantly improved. Identifying and exploring potential solutions will help students reach new heights and make it easier for them to remember what they learn and apply it in the future.

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Name Brands vs. Generics: Teenage Perceptions and Purchasing Decisions

Romi Lankri

Literature Review

Introduction

According to the Social Security Administration, an independent agency of the United States federal government, the average annual American wage is \$66,621 (Social Security Administration). Within this wage, Americans must make financial decisions to offset their necessities and desires through various purchases. One type of product includes name-brands, defined as “a product that is made by a well-known company” (Merriam-Webster Dictionary). At the other end of products are “a type of consumer product on the market that lacks a widely recognized name or logo because it typically isn't advertised”, known as generics. (Oxford Dictionary). While both goods are prevalent and accessible in society, consumers tend to gravitate toward name-brand products due to social pressures, brand loyalty, and false perceptions that will be further analyzed throughout this literature review. Name-brand purchases can be financially detrimental for money-saving consumers as generic brands are often more affordable than their branded counterparts. In reinforcement, Forbes, a global media company, exclaims that “name brands' generic equivalents cost 40% less on average” (Forbes). This price gap highlights the potential for consumers to save money by choosing generic alternatives, prompting the question about whether the quality and effectiveness of these products justify the higher cost of name brands. Therefore, this research study will analyze the factors contributing to the purchase of both products and the financial benefits of buying generic-brand items.

Name-brand Products

Consumers are often influenced psychologically and socially when acquiring name-brand products. Economic sociologist Adam Hayes from the Hebrew University of Jerusalem explains that brand equity is “the value that a company generates from a product with a recognizable name, when compared to a generic equivalent” (Hayes). Consumers are frequently inclined to purchase from corporations with strong brand equity, inevitably causing them to pay higher prices, even though similar options (generics) are widely available from competitors at lower cost. Hayes further explains that “brand equity is important for increased customer loyalty, supports higher perceived value, and leads to greater customer satisfaction” (Hayes). Thus, when consumers face a purchasing decision between both products, they are likely to choose the trusted name-brand due to their psychological perceptions, influenced by brand equity. As explained by Kim Bhasin, a professor at NYU, advertising can also affect consumers psychologically, especially teenagers. Bhasin mentions that Gillette, a razor company, sent teenage boys a “Welcome to Adulthood” gift on their birthday, fostering an early brand interaction. Research found that “if a kid uses a Gillette shaver just twice, there is a 92% chance that a boy will stick with the brand as an adult” (Bhasin). This strategy illustrates how early brand interactions foster lasting brand loyalty, leading consumers to prefer name-brand products over generics as they associate these brands with trust, reliability, and significant personal milestones. Moreover, social pressures greatly influence adolescents' choices between branded and non-branded products. Luciana A. Gil, a researcher from Diego Portales University, reveals that “peer pressure and popularity directly impact teen social consumption motivations, and there is

a positive relationship between interpersonal influence and luxury consumption of young consumers” (Gil). This suggests teenagers may select name-brand products to enhance their social standing and self-esteem. Consequently, social influence significantly shapes youth’s purchasing choices, as they likely feel pressured to conform to peer expectations and align with current trends. In support of this claim, *Eagle News*, a student newspaper based in Florida, explains, “One thing students feel... is the widely held belief that to have style, one must have expensive, designer, or on-brand clothing. Students worry that because of the stigma surrounding cheaper stores, they will be judged by their classmates” (Eagle News). This reinforces the idea that many students conform to name-brand products to avoid social stigma, fearing that wearing generic or less expensive brands could lead to judgment or exclusion by their peers. Thus, psychological factors and social pressures drive consumers, particularly teenagers, to prefer name-brand products over generics, as these brands encourage a sense of identity and acceptance among peers.

Generic Products

From an economic and medical perspective, generic products offer significant benefits and demonstrate effectiveness compared to their relatively expensive equivalents. According to Tufts University graduate and marketing worker Alex Schroeder, “Generics — effective copies of brand-name medications — saved Americans nearly \$450 billion last year alone” (Schroeder). Schroeder’s statement highlights generics’ widespread financial relief, monetarily benefiting consumers while yielding equal results. Likewise, the Food and Drug Administration, a federal government agency known as the FDA, compared generic and name-brand

medications to identify their differences. This comparison revealed that “generic medicines use the same active ingredients as brand-name medicines and work the same way, so they have the same risks and benefits as the brand-name medicines” (FDA). The FDA’s assurance that generic medicines contain the same active ingredients and possess similar effects further emphasizes that consumers can rely on generics, reinforcing the need for greater awareness of their benefits in aiding health and financial outcomes. Also, from an economic perspective, Brian Fourman, a freelance writer at Financial Peace University, conducted an experiment where his students financially compared over twenty products (generic and name-brand). After some calculations, he claimed that “on average, students saved around 15% (\$15-20), and some students even saved \$30 per purchase. Over a [hypothetical] ten-year period, students were able to save \$13,000” (Fourman). While \$13,000 may seem minuscule over ten years, saving this amount can financially impact several individuals, equating to nearly 20 percent of the average American annual wage. Similarly, news reporter Kristine Gill found comparable savings results. She discovered that for clothing, “Lululemon [name-brand] leggings retail for \$128, but the Amazon dupes [generic]—which are nearly identical—are just \$28. My dupes from Amazon have held up really well” (Gill). Gill’s example illustrates how opting for generic products can provide quality nearly identical to name brands, but at a fraction of the cost, underscoring a practical approach to spending. Fourman and Gill’s evidence emphasizes how small, thoughtful choices can bear significant financial benefits over time, making essentials more affordable without compromising effectiveness. Additionally, Steven Begley, a Columbia University graduate, surveyed consumers

following the start of the pandemic in 2020. In this survey, he found that only 35% of consumers believe that generic brands have equal quality for less money when compared to their expensive branded equivalent (Begley). This indicates that a majority of people may be misinformed about the quality of these products and are bypassing savings by obviously not considering generics. Overall, these sources highlight the importance of choosing generics as a cost-effective strategy that can support both financial stability and health without sacrificing quality.

Consumer Behavior: Generic vs. Name-brand

Consumer behavior toward generic and name-brand products varies widely through perception of quality, status, and price sensitivity. A survey by Professor Joseph Balagtas from Purdue University's Center for Food Demand Analysis and Sustainability establishes this precedent in food, stating, "A majority of consumers believe that brand-name products taste better" (Balagtas). This indicates that taste is a key factor in brand preference, resulting in many consumers choosing brand-name products, potentially not being aware of flavor similarities in cheaper options. However, the same survey also found that when generics are "30% cheaper, a majority of consumers will choose the generic brand", especially among households with lower incomes, showing that price sensitivity increases when the cost difference becomes more significant (Balagtas). This demonstrates that while brand loyalty plays a role in consumer behavior, price becomes a more influential factor when the savings are substantial enough to outweigh the perceived differences in quality. In addition to Balagtas' results, Andrea Wetsel, founder of a sunscreen brand, argues that generics are

significantly comparable to name-brands for functionality-based products. She explains that "generic eye makeup removers, cleansers, scrubs, body washes, and lotions are all worth buying due to their nearly identical ingredients to the name brand products" (Wetsel). Despite this finding, in Piper Sandler's semi-annual trend surveys, a research project that gathers input from 13,515 teens, it was discovered that "the beauty wallet (branded makeup and skincare spending) reached the highest level since 2018 at \$342" (Piper Sandler). Piper Sandler's findings illustrate that regardless of indistinguishable variance in beauty products, adolescents increasingly allocate money to expensive items, revealing a lack of preference for generics. These multifaceted perspectives illustrate that while price sensitivity drives some consumers to select generics, perceived quality and brand preference are crucial in the purchasing of various products.

Gap

A gap in the research lies in the absence of a credible study analyzing whether teenagers can identify the difference between generic and name-brand products. By conducting this study on high schoolers, teenage preferences will be identifiable regarding generic and name-brand products and the causes for such preferences. Furthermore, this research will provide insight into the extent to which branding, price, and perceived quality influence adolescents' purchasing decisions. This is especially important to identify due to modern society's growing materialism and prices. By examining these factors, the study aims to determine whether brand recognition affects consumer perception and if teenagers associate higher prices with superior quality.

Hypothesis

I hypothesize that an elaborate survey, distributed to teenagers and adults, analyzing demographics, product preferences among various categories, and motives for certain purchases, will prove that teens' purchasing preferences are merely based on packaging and peer influence rather than quality. Furthermore, a two-day multivariable experiment study will reveal a high preference for generics when branding is concealed.

Methods

Overview

My research employs a mixed-methods approach that combines surveys and a controlled experiment. This is arranged to investigate adolescents' preferences for name-brand versus generic products and assess whether they can objectively distinguish between them. For the general survey, a total sample size of 331 demographically diverse participants was surveyed. Demographically, this survey includes respondents from ages 13-70 across all economic classes. The survey targets two primary groups: teenagers, who are the focus of the study due to their unique purchasing preferences, and adults, whose purchasing power and household influence play a significant role in shaping teenagers' purchasing decisions.

General Survey: Adult and Teenager

The survey includes 78 adults and 253 teenage participants. Respondents were asked questions regarding demographics, purchasing preferences across different products (food, cosmetics, clothing, medication), and perceptions such as brand loyalty, peer pressure, and perceived quality. Finally, participants were required to evaluate specific name-brand and generic products to identify their preferences. The name-brand products included were Ritz

Crackers, Lululemon leggings, Nike Dri-fit T-shirt, Advil Liquid Gels, Chanel Dior Sauvage, and a Stanley cup, along with all their generic equivalents. This was done by presenting two images (for each type of product): one with a name-brand product and the other with the generic alternative. Participants were then asked to select the product they preferred. Adults were also included in this survey due to their role in dictating household purchases that may reflect on their children's buying. Some of the survey questions are included below:

- a. What class would you consider your household to be in?
- b. Which of the following products do you prefer?
- c. Select reasons you prefer name-brand products.
- d. Select reasons you prefer generic products

Study: Days 1 and 2

To complement the survey, a controlled experiment involved teenagers exclusively, with informed parental consent obtained. Over two days, participants evaluate five types of products: cookies, mascara, ibuprofen, tumblers, leggings, and cologne. The experiment took place over two conditions: brand-identified (where product branding and prices are visible; day 1) and brand-masked (where participants cannot visibly see the brand or price; day 2). After interacting with the products, participants will complete a survey to assess their preferences. By comparing preferences and evaluations across both conditions, this study aimed to identify potential biases and stigmas against generic brands, encourage more informed and cost-effective consumer behavior among teenagers, and catalyze a potential shift toward purchasing generic brands within the community.

Results

Overview

Results are divided into multiple sections based on the different methodologies. Sections include a general adult survey, a general teenager survey, and a two-day study separated into two surveys (for both days of experimentation). The general survey analyzes preferences among different products and the causes of favoring generic and name-brand products. It includes two sections: adolescents and adults. In the two-day study with 57 youth participants, the first day involved evaluating products—including fragrance, food, clothing, and bandages—while seeing their prices and brands, using their senses to assess quality before completing a preference survey. On the second day, participants evaluated the same products without brand visibility and completed another survey to indicate their preferences. The results of these surveys are chronologically presented below.

Survey 1: General Adult Survey

Figure 1: What class would you consider yourself or your household to be in?

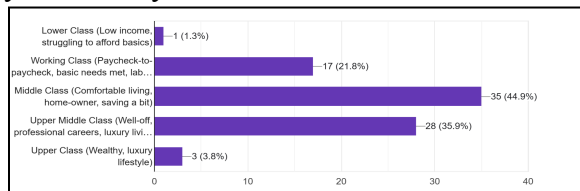


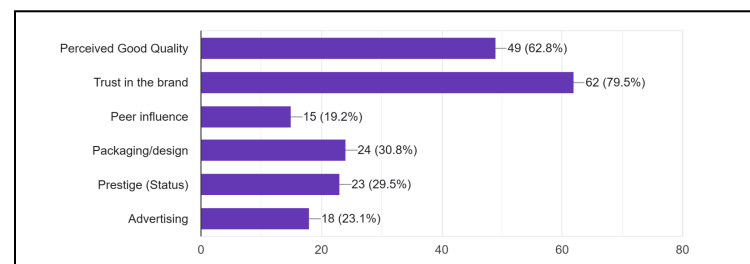
Figure 2: Product Preferences

Product Type	Name-Brand	Generic Brand	% Preferred Name-Brand	% Preferred Generic
Food	Ritz: Peanut Butter Cracker	(Target) Good and Gather Peanut	82.1	17.9

	Sandwich	Butter Crackers		
Athletic Wear Pants	Lululemon: Leggings	(Target) All in Motion Leggings	73.1	26.9
Athletic Wear Shirts	Nike: Dri-Fit T-Shirt	(Walmart) Athletic Works Dri-Fit Shirt	76.1	23.9
Medication	Advil: Liqui-Gels	(CVS Pharmacy) Ibuprofen Liquid Gels	60.3	39.7
Fragrance	Chanel: Dior Sauvage	A.L.T. Fragrance Farouche NO.29	78.2	21.8
Drinkware	40 oz Stanley Cup	Amazon Tumbler	60.3	39.7

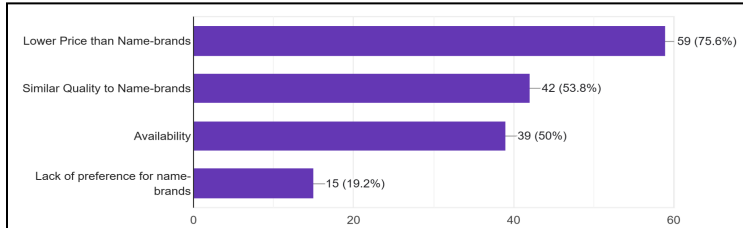
Figure 2 presents findings that adults preferred name-brand products in all categories, but the strength of preference varied. Food had the highest name-brand preference (82.1%), followed by fragrance (78.2%), athletic shirts (76.1%), and athletic pants (73.1%). Drinkware and medication had the lowest name-brand preference, both at 60.3%, indicating a higher acceptance of generic alternatives in these categories.

Figure 3: Select reasons you may prefer name-brand products.



Adults selected numerous reasons for name-brand product preference. The leading reasons for preferring a name-brand product are the respondents' trust in the brand (79.5%) and its perceived sound quality (62.8%).

Figure 4: Select reasons you may prefer generic products.



In this chart, adults indicated that generic products are most often chosen because of their lower price comparability to name-brand products (75.6%), similar quality (53.8%), and their availability (50%).

Figure 5: Would you be willing to switch to generic products if they were significantly cheaper but of similar quality to name-brand products?

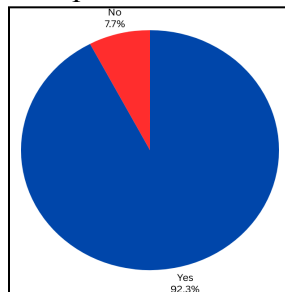
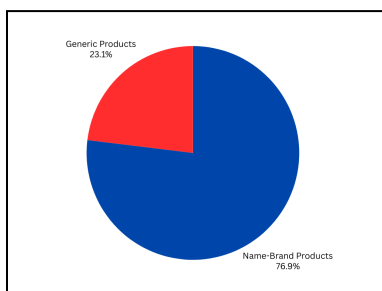


Figure 5 presents a significant finding, showing that 92.3% of adult surveyors would switch to purchasing generic products if they had similar quality for a lower price.

Figure 6: Majority of the time, do you prefer generic or name-brand products?



76.9% of participants in this survey stated that they prefer name-brand products over generics. Such findings show a previous bias towards name-brand products.

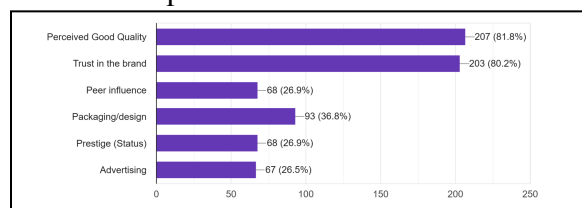
Survey 2: General Teenager Survey
Figure 7: Product Preferences

Product Type	Name-Brand	Generic Brand	% Preferred Name-Brand	% Preferred Generic
Food	Ritz: Peanut Butter Cracker Sandwich	(Target) Good and Gather Peanut Butter Crackers	81.4	18.6
Athletic Wear Pants	Lululemon: Leggings	(Target) All in Motion Leggings	73.4	26.6
Athletic Wear Shirts	Nike: Dri-Fit T-Shirt	(Walmart) Athletic Works Dri-Fit Shirt	76.7	23.3
Medication	Advil: Liqui-Gels	(CVS Pharmacy) Ibuprofen Liquid Gels	59.7	40.3
Fragrance	Chanel: Dior Sauvage	A.L.T. Fragrance Farouche NO.29	87.7	12.3
Drinkware	40 oz Stanley Cup	Amazon Tumbler	66	34

The data shows that teenagers generally prefer name-brand products over generic alternatives, with the highest

preference observed in fragrance (87.7% for Chanel/Dior Sauvage) and food (81.4% for Ritz Peanut Butter Crackers). Athletic wear also leans toward name brands, with leggings (73.4% for Lululemon) and shirts (76.7% for Nike) showing strong brand loyalty. However, medication (59.7% for Advil) and drinkware (66% for Stanley) have a more balanced split, suggesting that teenagers may be more open to generic alternatives for functional products.

Figure 8: Select reasons why you may prefer name-brand products.



Similar to the results in the adult survey, the teens' prominent reasons for purchasing name-brand products are due to their perceived good quality (81.8%) and trust in the brand (80.2%). Teenagers and adults in both surveys least cared about advertising (26.5%) in the selection between the two products, suggesting a new perspective that generic products are not purchased significantly less because of a lack of brand awareness.

Figure 9: Select reasons why you may prefer generic products.

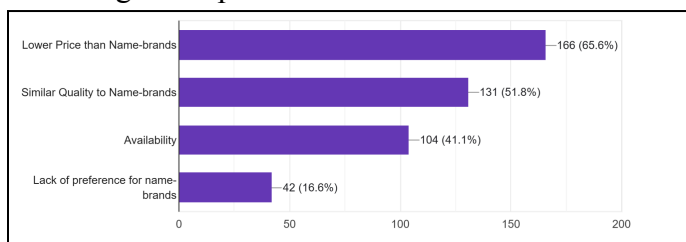
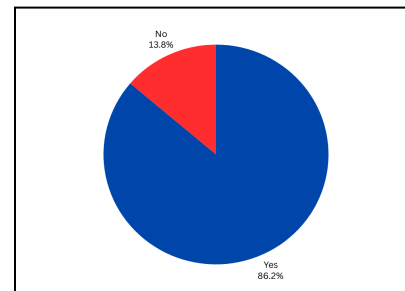


Figure 9 shows that most respondents prefer generic products because of their inexpensiveness (65.6%) and comparable quality to name-brand products (51.8%). Very few teenagers presented a lack of preference for name-brand products, contributing to the understanding of

consumer preferences and a bias towards higher-end brands.

Figure 10: Would you be willing to switch to generic products if they were significantly cheaper but of similar quality to name-brand products?



The 86.2% agreement suggests that most youth consumers in this survey prioritize cost savings over brand loyalty when quality is perceived as similar. Compared to adult responses for this question, teenagers identified a lower acceptance rate for generics, indicating higher name-brand loyalty among teen consumers. These results highlight strong price sensitivity, suggesting that generic products can successfully compete with name brands if they maintain comparable quality.

Figure 11: Majority of the time, do you prefer generic or name-brand products?

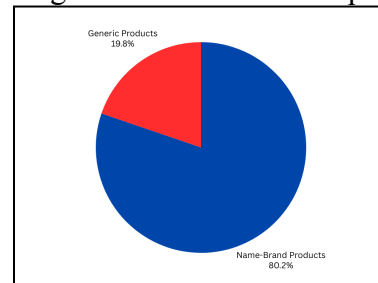


Figure 11 shows that 80.2% of teenagers prefer name-brand products over generic products, suggesting a similar purchasing bias as seen in the adult survey (Figure 6).

Day 1 Study: Brand and Price Visibility

Figure 12: Product Preferences

Product Type	Name-Brand	Price of NB	Generic Brand	Price of GB	% Preferred Name-Brand	% Preferred Generic
Food	Oreo Cookies	\$4.99	Twist and Shout Chocolate Sandwich Cookies	\$3.12	86.7	13.3
Athletic Wear	Lululemon : Jacket	\$148	Athletic Works Jacket	\$21.00	86.7	13.3
Athletic Wear Shirts	Nike: Dri-Fit T-Shirt	\$30	(Walmart) Athletic Works Dri-Fit Shirt	\$6.98	84.4	15.6
Medical: Bandages	Band-Aids	\$14.49	Equate Bandages	\$4.97	53.8	46.2
Fragrance	Channel: Dior Sauvage	\$130	A.L.T. Fragrance Farouche NO.29	\$47	76.9	23.1

In the Day 1 study survey results, when both prices and brands were visible, teens strongly preferred name-brand products across most categories. The highest preference rates were for Oreo Cookies and Lululemon Jackets (86.7%), followed by Nike Dri-Fit T-shirts (84.4%) and Dior Sauvage fragrance (76.9%). Band-Aids had the most balanced response, with 53.8% preferring the name brand and 46.2% choosing the generic.

Day 2 Study: No brand or Price Visibility

Figure 13: Product Preferences

Product Type	Name-Brand	Price of NB	Generic Brand	Price of GB	% Preferred Name-Brand	% Preferred Generic
Food	Honey Maid Graham Crackers	\$6.29	Honey Flavored Graham Crackers	\$2.44	63.3	36.8
Athletic Wear	Lululemon : Jacket	\$148	Athletic Works Jacket	\$21.00	52.6	47.4
Athletic Wear Shirts	Nike: Dri-Fit T-Shirt	\$30	(Walmart) Athletic Works Dri-Fit Shirt	\$6.98	56.3	43.7
Skin care :	CeraVe	\$14.	Equate Moisturizer	\$6.88	49.1	50.9

Lo tion		4 9				
Frag ranc e	Chan el: Dior Sauv age	\$ 1 3 0	A.L.T. Fragran ce Farouc he NO.29	\$4 7	28.1	71. 9
Drin kwa re	Stanl ey Cup	\$ 4 0	Generi c Amazo n Tumble r	\$9 .9 9	42.1	57. 9

On Day 2, when brands and prices were not visible, teens showed a greater preference for generic products across most categories. The largest shift occurred in fragrance, where preference for the generic option rose from 23.1% on Day 1 to 71.9% on Day 2. Athletic wear also saw a major change, with Lululemon's preference dropping from 86.7% to 52.6% and Nike's from 84.4% to 56.3%. Skincare, drinkware, and fragrance were the categories where generic products were preferred (50.9%, 57.9%, 71.9). These results indicate that teens were far more open to choosing generic alternatives without brand and price awareness. (See Figure 12 for Day 1 results).

Discussions:

The Growing Acceptance of Generic Products

The study reveals that while many still widely prefer name-brand products, generic alternatives are gaining traction in all categories. Among adults and teenagers, the highest name-brand loyalty was seen in lifestyle products such as fragrance, food, and athletic wear. However, generic products in more functional categories (medication, drinkware, and skincare) saw significantly higher acceptance rates.

Notably, in the Day 2 study (when branding was hidden), preference for generic products increased dramatically. For instance, generic fragrance preference increased from 23.1% to 71.9%, and generic drinkware preference rose from 34% to 57.9%. These shifts suggest that much of name-brand loyalty is perception-based rather than quality-based. This presents an opportunity for generic brands to position themselves as equal, if not better, alternatives when judged purely on function. Such action from generic brand marketers will allow

The Power of Branding in Consumer Decisions

A key takeaway from the study is the powerful influence branding has on consumer decision-making. When brand names and prices were visible, name-brand products were overwhelmingly preferred, with teenagers favoring Lululemon jackets (86.7%) and Nike Dri-Fit shirts (84.4%) over their generic counterparts. However, once branding was removed, name-brand preference dropped significantly. This finding suggests that many consumers associate name-brand products as superior based on reputation rather than firsthand experience. For generic brands, this presents a major opportunity to challenge these perceptions by emphasizing similarities in quality through product testing and consumer preference.

Price Sensitivity, Generic Brand Opportunities, and Savings

Price plays a crucial role in shifting consumer preferences toward generic products. Among adults, 92.3% stated they would switch to generic products if they were significantly cheaper but of similar quality, while 86.2% of teenagers agreed. The study results further confirm this in real-world purchasing decisions: when brand and price were visible, name-brand products

dominated, but when branding was removed, generic product preference increased dramatically, dominating in a majority of the categories. This suggests that for multiple products, generic brands consistently exhibit similar quality characteristics to name-branded products. Therefore, as price sensitivity was a crucial factor for numerous respondents throughout the survey, they should select generic brands as a more affordable option.

In terms of savings, the overall price for name-brand products included in the study was \$368.78, while the generic sum was \$94.29. This stark price difference translates to a potential savings of \$274.49, which can add up significantly over time, especially for households making frequent purchases. In just one purchase, consumers can save \$274.49, which could cover a family's groceries or a utility bill, demonstrating how choosing generics can immediately ease financial burdens. Over months or years, consistently choosing generics could lead to dramatic economic benefits. This shift not only allows consumers to maintain their standard of living while spending less but also fosters a more mindful approach to shopping. With an apparent preference for generics, as seen in the Day 2 study results, many consumers may switch to purchasing these products, a first step to providing monetary relief in our modern and expensive society.

Social Influence and Stigma Surrounding Generics

Despite the increasing acceptance of generic products, social influence and stigma still play a role in consumer choices. A great deal of adolescents may feel pressured to choose name-brand products due to peer expectations and the perceived status associated with high-end brands. In social settings, wearing or using generic alternatives can sometimes be interpreted as

a sign of lower economic status, discouraging consumers from making cost-effective choices. This is evident in the survey results, where a combined 53.8% of teenagers cited peer pressure and status as their main reasons for preferring name-brand products (see Fig. 8). Effective methods such as awareness advertisements and further studies testing more products should be done to eliminate these false stigmas.

Limitations

Although the study proves its intended hypothesis, slight changes could have been made to the methods to accredit it further. In elaboration, the general survey sample included 331 participants, but a more extensive sample of survey respondents could have contributed to the broader credibility of this survey. Given the time constraint, acquiring a larger sample size was difficult, resulting in only 331 participants. Regarding the population demographic, the majority of respondents were in-state residents, raising concerns about possible variance in results within other regions of the United States. Further, the two-day experimentation was limited to one product within each of the six product types. Six different generic and name-branded products were used for each item category, but using other products within each category may have changed the research volunteers' preferences for either name-brand products or generics, slightly changing the study's results. However, the limitations expressed do not necessarily skew or discredit the clear results that branding is a major contributor to product choices.

Future Directions

While this study highlights key insights into branding and consumer behavior, future research can explore

additional dimensions to deepen our understanding of purchasing decisions. As mentioned in the limitations, a crucial improvement would be to expand the population size from a regional study to a national one, allowing for a broader perspective and more explicit implications of this research. Another potential avenue is examining how consumer brand perceptions evolve from teenage years to adulthood. Case studies tracking consumer preferences may reveal whether early brand loyalty leads to long-term preference across various products. Lastly, future research could investigate the role of new digital marketing tactics, social media, and artificial intelligence in reinforcing brand preferences. Given the rising power of influencer culture, understanding the effectiveness of digital endorsements in shaping attitudes towards name-brand and generic products is essential to assessing consumer preferences. Lastly, a potential future direction could be to leverage AI-driven algorithms further to personalize advertisements and more effectively influence consumer choices by predicting purchasing behavior. This could be achieved by refining the ability to reduce stigmas surrounding generic products through more targeted ads, ultimately spreading awareness and increasing consumer price-consciousness. All of the aforementioned facets can result in a greater understanding of this topic, ultimately shedding light on the benefits of purchasing generic products.

Conclusion

To conclude, this detailed research paper has illustrated the average consumer's daily encounter: the decision to purchase certain products. Countless consumers may conform to purchasing trusted, pricier name-brand products due to their social and psychological influences. Surrounding peer

pressures and social status lead individuals to wasteful decisions that can be financially detrimental for those attempting to save. Psychological associations such as perceived quality and skillful brand loyalty further establish connections to name-brand products, as positive and early encounters with these products foster loyalty to certain brands. While brand loyalty can offer a sense of reliability, it may also prevent consumers from exploring cost-effective or better alternatives such as generic products. As a result of these influences, numerous consumers unknowingly overlook generic or lesser-known alternatives that may offer the same, if not better, value for their money.

Generics are often more cost-effective than their counterparts, some explaining that they offer similar benefits for a fraction of the price of name-brand alternatives. Many perceive generics as lower quality due to their inexpensiveness and lack of brand awareness, resulting in the necessity for a study detailing these perceptions and their influencers. Specifically among teenagers, there is a gap in research regarding the dynamics of teen preferences and influences.

The study demonstrates the potential equivalence of generic products to name brands through its multi-method approach, which includes a general survey and a two-day study strictly conducted on teenagers. The survey, distributed to both adults and teenagers, found that most consumers prefer name brands for lifestyle products due to their brand visibility, with a more even distribution in the categories of functional products. A key incentive for adults and teenagers to purchase name-brand products was their trust in the brand, underscoring the importance of branding in establishing connections with consumers. For generics, the survey indicated that many price-conscious consumers were willing to choose them because of their affordability.

The two-day study, where teenagers tested different products, highlighted the significance of brand visibility in purchasing decisions. On the first day, a majority favored name brands across all products, but on day two, when brands were not visible, the preference for generics soared in all categories. This shift suggests that without the influence of brand recognition, consumers focus more on practical factors such as perceived quality, rather than being swayed by familiar names. With a combined \$274 savings in purchasing generics, a small alteration in daily purchases can lead to global financial relief, highlighting the importance of this study's findings.

Implications for my research are the discovery that branding plays an essential role in purchasing decisions. Through both the general survey and the first day study results, it is apparent that the visibility of branding dramatically influenced the respondents' preference for name-brands, as they were chosen in all categories. Consumers on this day indicated they believed name-brands were of higher quality than generics, but day two results proved this preference is strictly based on packaging. On the second day, generic preference significantly increased in all categories, even dominating in most. With this finding, it is clear that generics have a major opportunity to thrive in the modern market. More awareness of these products can result in great savings for consumers, especially those who are price sensitive. This revelation may allow for better and more informed spending, leading to greater purchases of generics and greater savings.

Limitations to this study included the relatively small sample size of 331 and the limited variety of products. Although this does not directly impact the results, by expanding the number of survey respondents and the variation of products, results may deviate from those found in this study.

Future research may employ a longitudinal study on perceptions conveyed into adulthood and the effectiveness of using artificial intelligence and endorsements to establish consumer inclinations.

This research study proves just how powerful branding can be, as it shapes our choices more than we realize. But by looking past the label, it is identifiable that generics often provide the same quality as their counterparts, but at a much lower price. Therefore, making informed choices means not just trusting a name, but truly knowing the value of what we are buying.

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The Use of the Angelica Herb in Reducing Stress in Teens

Talia Hus

Abstract

Some high school students often experience elevated stress levels due to academic responsibilities and high expectations. While some students may turn to common coping strategies such as fidget toys, stress balls, and pharmaceuticals, natural herbal remedies have become increasingly popular alternatives for their natural stress-relieving effects. This research paper examines the effectiveness of the scent of the angelica herb in reducing academic stress among high school students in Florida. Throughout a one-week case study, high school students inhaled the smell of angelica, specifically *Angelica archangelica*, when academically stressed and logged the duration of the relief, which was analyzed to determine the duration for which angelica could provide relief. The findings suggest that the scent of the angelica herb successfully alleviated academic stress and promoted calmness among most high school student participants. These results display the angelica herb as an effective natural remedy to manage stress levels when encountering academic pressures.

Keywords: High school students, Academic stress, Angelica, Herb, Alleviate

Literature Review

Introduction

According to The American Institute of Stress, an organization dedicated to studying the science of stress and advancing stress management techniques, “75% of high school students report experiencing...stress in school” (Stress in Teens and Young Adults 2025). Cleveland Clinic, an American nonprofit medical center, states that stress is a natural human reaction of

worry or tension to changes or challenges. However, when stress becomes ongoing and persistent, it can lead to prominent physical and mental health problems, such as anxiety, depression, panic attacks, substance use, and fatigue (Stress: What It Is, Symptoms, Management & Prevention 2024). Joshua Burns, a Member of the Department of Epidemiology and Cancer Control at St. Jude’s Children’s Hospital, explains how, when stress levels rise, some people seek herbal remedies as they provide natural healing to the body instead of pharmaceutical medications, which have potentially harmful side effects (Burns 2022). Herbal remedies date back to ancient times, where they were widely used in culinary practices and to enhance physical and mental vitality (Burns 2022). However, recently, research has begun to analyze more deeply how various herbs can help reduce stress and positively impact the body, revealing its harmful impacts and leading to alternative natural remedies, including supplements and essential oils to reduce stress, such as the angelica herb.

Impact of Stress on Individuals

As stress is prevalent within individuals, Habib Yaribeygi et al., who work at the Research Center of Physiology at Semnan University, describe how stress can impose detrimental effects on the body, ranging from alterations in homeostasis to life-threatening outcomes (Yaribeygi et al. 2017). Individuals who are in stressful environments are more inclined to develop mental and physical disorders that harm bodily functions, such as the nervous system, which controls cognition. For example, as cognition contributes to learning, decision-making, attention, and judgment, individuals undergoing stressful changes fail to remember information and concentrate, ultimately struggling to learn as their cognition is impaired (Yaribeygi et al.

2017). Apart from cognitive effects, this chronic stress can lead to mood and mental health disorders, such as depression and feelings of defeat. With this, Ji-Kang Chen, a Professor at the Chinese University of Hong Kong, and Esther Pui Yung Chyu, a Doctorate entry-level professional, claim that empirical studies have shown that mental health disorders strongly correlate with academic stress, especially among undergraduate and college students (Chen and Chyu, 2022). However, unlike college students close to earning a university degree, high school students are still going through a critical, transformative period, unsure of what is to come in their future. (Chen and Chyu, 2022). Therefore, adolescents in high school are at a greater risk of exposure to academic stress, leading to detrimental effects on their mental well-being due to academic expectations, stress from parents, teachers, and students themselves, constant comparisons, and extravagant demands (Chen and Chyu, 2022). As a result, their academic performance may be hindered due to demotivation, inability to retain information, and procrastination. Overall, excessive stress leaves a profound mark on individuals experiencing chronic stress, particularly among high school students.

Herbs and Their Effectiveness in Reducing Stress

Seeking relief from stress is pivotal for individuals' physical and mental well-being. Therefore, herbs that contain natural healing properties may help remedy stress. According to UCLA Health, a public healthcare system affiliated with the University of California, adaptogens are active ingredients in certain plants, such as herbs, that aid the body in handling stress through consumption by adapting to stressors and restoring balance (What Are Adaptogens and Should You Be Taking Them 2022). For example, Ashwagandha

(*Withania somnifera*), in the form of a supplement including adaptogenic properties, is known for reducing stress, anxiety, and depression by lowering stress hormone levels (Burns 2022). In a clinical trial by Kalvakuntla Chandrasekhar et al. in the Department of Neuropsychiatry and Geriatric Psychiatry, “There was only a 5.5% reduction in...[stress]...scores in the placebo group, compared to 44.0% in the Ashwagandha group,” proving the supplement’s potential to be an effective remedy for stress management (Chandrasekhar et al. 2012).

Correspondingly, Rhodiola (*Rhodiola rosea*), a traditional adaptogenic herb, is a supplement primarily for reducing mental and physical fatigue, pain, and depression (Burns 2022). As stress creates feelings of being emotionally drained, Siegfried Kasper, a psychiatrist, and Angelika Dienel, a pharmaceutical researcher, conducted a clinical trial testing Rhodiola's efficiency in treating symptoms of burnout for 12 weeks. It was concluded that Rhodiola was an effective reliever by reducing fatigue induced by stress and helping individuals perform better mentally (Kasper and Dienel 2017). Additionally, Passionflower (*Passiflora incarnata*) has been consumed for its ability to calm nerves and provide mild sedative effects (Burns 2022).

Katarzyna Janda et al., nutritionists, claim that Passionflower “Helps reduce stress and can therefore be helpful in the treatment of insomnia, anxiety, and depression” (Janda et al., 2022). Similarly, Onyoo Yoo has a Ph.D. in Biology, and Sin-Ae Park, an Assistant Professor in Environmental Health Science, asserts that lavender (*Lavandula angustifolia*), known for its anxiety-reducing properties, is commonly used in aromatherapy (Yoo and Park 2023). Its essential oil from plant extracts is inhaled to help treat insomnia, stress, anxiety, and mental health disorders (Yoo and Park

2023). Yoo and Park conducted 11 studies with 972 participants, finding that 10 of the studies reported significantly alleviated anxiety levels after inhalation of lavender oil (Yoo and Park 2023). Hence, the consumption of supplements such as Ashwagandha, Rhodiola, and Passionflower and the inhalation of Lavender oil is a safe and feasible anxiety-reducing intervention for treating people with diverse types of anxiety and stress, including high school students seeking stress relief. Ultimately, stress-relieving properties within herbs offer promising alternatives to alleviate stress and mental health issues without pharmaceutical medicines.

The Angelica Herb

Specifically, the root of the angelica herb has often been used in Asian countries as a traditional herbal medicine. Sutanu Sarkar, a physicist, and Lutfun Nahar, an Adjunct Professor at Liverpool John Moores University, claim that the angelica genus, part of the Apiaceae family, includes over 60 medicinal plant species. Therefore, many angelica species have been used in traditional medicine in East, North, and Southeast Asia for centuries to treat health issues such as inflammation, colds, flu, coughs, indigestion, arthritis, headaches, fever, infections, and urinary problems (Sarker and Nahar 2004). They also serve as treatments, including mucus thinners, joint pain relievers, cough and lung soothers, and motion sickness aids (Sarker and Nahar 2004). The most significant species of angelica are *Angelica sinensis*, *Angelica dahurica*, and *Angelica archangelica* (Sarker and Nahar 2004). According to Healthline, an American website and provider of health information, *Angelica sinensis*, known as dong quai and female ginseng, is native to China and East Asian countries used primarily in traditional medicine or supplements for women's health

to treat female hormonal issues and liver protection (Angelica Root: Benefits, Uses, and Side Effects 2020). *Angelica dahurica*, also known as Bai Zhi, is more commonly used to relieve headaches and toothaches, skin disorders for acne, and respiratory problems like colds and sinus infections (Angelica Root: Benefits, Uses, and Side Effects 2020). *Angelica archangelica*, also known as wild celery or Norwegian angelica, grows mainly in European countries. It's used in specific culinary practices to add flavor and as supplements and herbal medicine to reduce anxiety, insomnia, digestive issues, skin diseases, and respiratory problems (Angelica Root: Benefits, Uses, and Side Effects 2020). Additionally, Gaber Batiha et al., part of the Department of Pharmacology and Therapeutics at Damanhour University, claim *Angelica archangelica* is known for its strong, musky smell and effective healing properties, exemplifying its primary use in aromatherapy to decrease anxiety, stress, and fatigue (Batiha et al. 2022). All in all, the angelica species has successfully provided healing benefits among individuals through a natural herbal remedy.

Conclusion & Gap in Research

For centuries, herbs have been used as natural medicine for their healing properties. With herbs in medicine and cuisine, people began expanding the use of herbs into essential oils and supplements, as it has been proven to enhance overall well-being. However, the direct impact of the aroma of an herb is not well known to the public. A gap lies in whether the scent of an herb can reduce stress just like herbal medicines, essential oils, and supplements do. Therefore, can the scent of the angelica herb, in its plant form, alleviate academic stress among high school students? With stress prevalent among most high school students in America, finding an alternative

stress-relieving method to aid them when facing academic pressures is essential. Hence, this study intends to see if the angelica herb can decrease academic stress among high school students.

Hypothesis

Before conducting my research, I hypothesized that the scent of the herb angelica (*Angelica archangelica*) would successfully reduce stress among high school students facing academic pressures, as its stress-relieving properties can be inhaled, even without being in the form of a supplement or essential oil.

Methods

For my research, I aimed to determine whether the scent of an herb, such as angelica, can reduce stress among high school students facing academic pressures. Therefore, I began with a survey asking high school students in Florida about their stress levels in school. I distributed my survey by sharing a QR code throughout my high school in Florida and sent it to friends at other Florida schools to gather a broader perspective. Questions included:

1. On a scale of 1 to 5, how stressed are you in school?
2. What causes you to be stressed in high school?
3. Do you use any strategies to manage your stress in school?
4. If you have any diagnosed mental conditions, how do they contribute to your stress at school?
5. Do you believe that the scent of an herb can be a helpful strategy when in a stressful situation at school?
6. Would you like to participate in a one-week research study exploring whether the scent of a herb can help relieve stress in school?

The one-week study occurred from Monday, December 9, 2024, to Sunday, December 15, 2024. The study included three groups: an angelica herb group, a basil

placebo herb group, and a no-herb group. Out of the angelica species, *Angelica archangelica* was chosen as it contains a therapeutic scent and stress-relieving properties. Basil, specifically *Ocimum basilicum*, was used as a placebo in the study to test the angelica herb's effectiveness, as it has no stress-relieving properties, and the no-herb group was used as a control group. The volunteers in the angelica herb group and the basil placebo herb group were supplied with the angelica herb or the basil herb in a mesh bag. Whereas the volunteers in the no-herb group were not provided with any necessary materials. When stressed due to academics, the volunteers of the angelica and basil herb group were instructed to smell the herb consecutively for one week, and the volunteers in the no-herb group were instructed to use a stress-relieving strategy of their choice. At the end of each day, each participant filled out a form specific to each group.

Questions for the angelica and basil herb groups included:

1. On a scale of 1 to 5, what was your stress level today?
2. What caused you to be stressed today?
3. What approximate time did you get stressed today?
4. When you got stressed today, what approximate time did you smell the angelica/basil herb?
5. What approximate time were you not stressed after smelling the angelica/basil herb today?
6. If you were stressed today, did the angelica/basil herb help with your stress by making you feel calmer and less stressed?
7. How did the scent of the angelica/basil herb help or not help you manage your stress with your diagnosed mental health condition?

Questions stayed the same for the no-herb group, except for a modification in four questions for the reason of not having a herb:

1. “When you got stressed today, what approximate time did you smell the angelica/basil herb?” was now asked, “When you got stressed today, what approximate time did you possibly use a stress-relieving strategy?”
2. “What approximate time were you not stressed after smelling the angelica/basil herb today?” was now asked as “What approximate time were you not stressed after possibly using a stress-relieving strategy?”
3. “If you were stressed today, did the angelica/basil herb help with your stress by making you feel calmer and less stressed?” was now asked as, “If you used a stress-relieving strategy, did your stress-relieving strategy help in reducing your stress today?”
4. “How did the scent of the angelica/basil herb help or not help you manage your stress with your diagnosed mental health condition?” was now asked as, “How did the stress-relieving strategy help or not help you manage your stress with your diagnosed mental health condition?”

To determine if individuals with diagnosed mental conditions could vary my results from those who do not, I included a question in the forms asking the volunteers if the herbs or stress-relieving strategies helped in maintaining their stress. The results of these forms enable me to evaluate the efficiency of the aroma of herbs, specifically angelica, in decreasing stress among high school students.

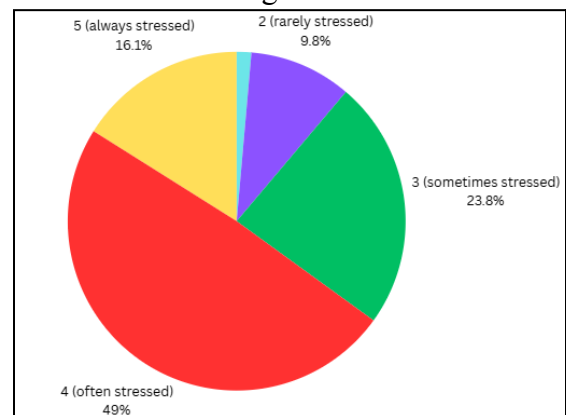
Results

Survey

The survey consisted of 143 respondents and began with a question

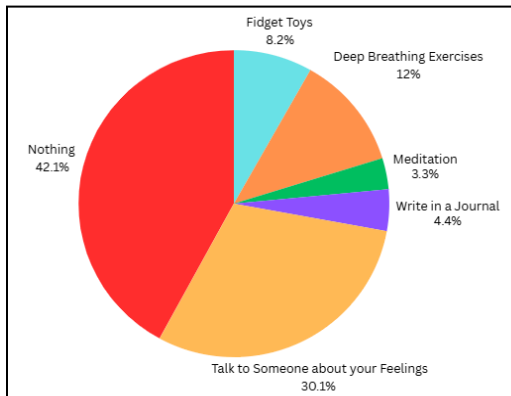
asking participants how stressed they felt in school on a scale of 1 to 5. Out of those one hundred forty-three respondents, two respondents reported never (1) being stressed in school, fourteen respondents reported rarely (2) being stressed in school, thirty-four respondents reported sometimes (3) being stressed in school, seventy respondents reported often (4) being stressed in school, and twenty-three respondents reported always (5) being stressed in school (See Figure 1).

Figure 1



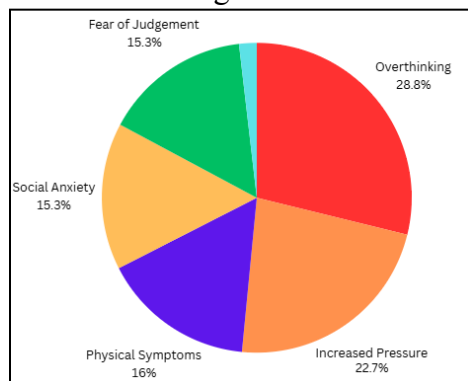
Then, respondents were asked a multiple select question about the stress-relieving strategies they use when stressed about school. Out of a hundred forty-three respondents, seventy-seven reported using no stress-relieving strategies, fifty-five reported talking to someone about their feelings, twenty-two reported using deep breathing exercises, fifteen reported using fidget toys, eight reported writing in a journal and six reported using deep breathing exercises as a stress-relieving strategy when stressed about school (See Figure 2).

Figure 2



Moreover, respondents were asked a multiple-select question about how their diagnosed mental health conditions contribute to their stress in school. Of the one hundred forty-three respondents, fifty-nine reported having been diagnosed with mental health conditions. Their mental health conditions contribute to their stress in school as out of fifty-nine respondents, forty-seven reported experiencing overthinking, thirty-seven reported feeling increased pressure, twenty-six reported enduring physical symptoms such as headaches, fatigue, and increased heart rate, twenty-five reported facing social anxiety, twenty-five reported fear of judgment, and three reported not being able to focus (See Figure 3).

Figure 3



Study

In the study, there were 55 participants in total: 16 participants in the angelica herb group, 19 in the basil placebo

herb group, and 20 in the no-herb group. The following three tables display some data based on the majority of respondents, including the stress level, causes of stress, whether herbs or strategies were helpful, and whether the herbs or strategies helped individuals with mental health conditions. Moreover, the three tables also present data averages, including the time of stress, the time the herb was smelled/the time the strategy was used, and the time not stressed anymore after smelling the herb or using a strategy. On some days, specific participants in all groups were not stressed or did not use an herb or strategy, so they were excluded from the data for those days, as seen in the red descriptions in the tables.

Table 1: Angelica Herb Group

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Stress level on a scale of 1 to 5 (anxiety)	4 (often stressed) (37.5%)	4 (often stressed) (37.5%)	3 (sometimes stressed) (25%)	4 (often stressed) (37.5%)	3 (sometimes stressed) (43.8%)	1 (not stressed) (62.5%)	4 (often stressed) (37.5%)
Cause of stress (anxiety)	Test (56%)	Test (62.5%)	Test (56.3%)	Test (56.3%)	Test (43.8%) Test & Studying	Nothing (62.5%) Studying (37.5%)	Studying (37.5%)
Average time of stress	11:18 am	12:33 pm 5 were not stressed	10:35 am 4 were not stressed	1:31 pm 5 were not stressed	12:31 pm 5 were not stressed	11:21 am 10 were not stressed	12:14 pm 6 were not stressed
Average time Angelica was smelled	12:26 pm	1:46 pm 5 were not stressed	10:54 am 4 were not stressed	1:55 pm 5 were not stressed	12:45 pm 5 were not stressed	12:47 pm 10 were not stressed	12:28 pm 6 were not stressed
Average time not stressed anymore	1:55 pm	3:13 pm 5 were not stressed	1:33 pm 4 were not stressed	2:58 pm 5 were not stressed	1:05 pm 5 were not stressed	1:30 pm 10 were not stressed	2:01 pm 6 were not stressed
Helped or not (anxiety)	Yes (56.3%)	Yes (37.5%) 5 were not stressed	Test (37.5%) Yes & No 4 were not stressed	Yes (56.3%)	Yes (50%)	Yes (25%) 10 were not stressed	Test (31.3%) Yes & No 6 were not stressed
Helped or not individuals with mental health conditions (anxiety)	Did not help (66%)	Did not help (100%) 2/5 volunteers with conditions did not smell Angelica	Did not help (100%) 2/5 volunteers with conditions did not smell Angelica	Helped (75%) 1/3 volunteers with conditions did not smell Angelica	Helped (66%) 2/3 volunteers with conditions did not smell Angelica	Did not help (66%) 2/3 volunteers with conditions did not smell Angelica	Helped (66%) 2/3 volunteers with conditions did not smell Angelica

As displayed in Table 1, in the angelica herb group, most participants reported a stress level of 4 due to tests. The majority of participants reported that angelica's scent helped reduce their stress levels and calm them down, however, the majority of participants with diagnosed mental health conditions reported that the smell of angelica did not help reduce their stress.

From Monday to Sunday, participants became stressed around late morning to early afternoon (10:35 am-1:31 pm). Then they smelled the angelica herb before the afternoon to mid-afternoon (10:54 am-1:55 pm). Finally, stress relief occurred in the afternoon (1:05 pm-3:13 pm) as students were no longer stressed.

On Monday, after smelling the angelica herb, it took 1 hour and 29 minutes for participants to not be stressed anymore. On Tuesday, after smelling the angelica herb, it took 1 hour and 27 minutes to not be stressed anymore. On Wednesday, after smelling the angelica herb, it took 2 hours and 39 minutes to not be stressed anymore. On Thursday, after smelling the angelica herb, it took 1 hour and 3 minutes to not be stressed anymore. On Friday, after smelling the angelica herb, it took 20 minutes to not be stressed anymore. On Saturday, after smelling the angelica herb, it took 43 minutes to not be stressed anymore. On Sunday, after smelling the angelica herb, it took 1 hour and 33 minutes to not be stressed anymore.

Table 2: Basil Herb Group

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Stress level on a scale of 1 to 5 (emergency)	4 (often stressed) (43.8 %)	4 (often stressed) (36.8 %)	4 (often stressed) (36.8 %)	3 (sometimes stressed) (36.8 %)	4 (often stressed) (36.8 %)	1 (not stressed) (36.8 %)	1 (not stressed) (36.8 %)
Cause of stress (emergency)	Test (73.7 %)	Test (63.2 %)	Test (52.6 %)	Test (36.8 %) Test & Studying	Test (42.1 %)	Nothing (37.9 %) Studying (31.6 %)	Test (36.8 %) Nothing & Studying
Average time of stress	12 pm	12:50 pm	12:49 pm	12:22 pm	12:41 pm	1:09 pm	2:13 pm
Average time Basil was smelled	1:06 pm	1:24 pm	1:49 pm	1:45 pm	2:01 pm	2:14 pm	2:20 pm
Average time not stressed anymore	3:22 pm	2:55 pm	4:51 pm	2:54 pm	2:56 pm	3:16 pm	2:34 pm
Helped or not (emergency)	Did not help (37.9 %)	Did not help (42.1 %)	Did not help (52.6 %)	Test (36.8 %) Helped & Did not help	Did not help (42.1 %)	Test (21.1 %) Helped & Did not help	Did not help (36.8 %)
Helped or not individuals with mental health conditions (emergency)	Did not help (100%)	Did not help (66 %)	Did not help (100 %)	Did not help (66 %)	Did not help (66 %)	Did not help (100 %)	Did not help (66%)

As displayed in Table 2, in the basil herb group, most participants reported a stress level of 4 due to tests. Most participants reported that the basil's scent did not help reduce their stress levels or calm them down. The majority of participants with diagnosed mental health conditions reported that the smell of basil did not assist in alleviating stress.

From Monday to Sunday, participants became stressed at noon (12 pm-2:13 pm). Then, they smelled the basil herb around early to mid-afternoon (1:06 pm-2:20 pm). Finally, stress decreased in the mid to late afternoon (2:34 pm-5:16 pm) as participants were no longer stressed.

On Monday, after smelling the basil herb, it took 2 hours and 16 minutes for

participants to not be stressed anymore. On Tuesday, after smelling the basil herb, it took 1 hour and 31 minutes to not be stressed anymore. On Wednesday, after smelling the basil herb, it took 3 hours and 2 minutes to not be stressed anymore. On Thursday, after smelling the basil herb, it took 1 hour and 9 minutes to not be stressed anymore. On Friday, after smelling the basil herb, it took 45 minutes to not be stressed anymore. On Saturday, after smelling the basil herb, it took 3 hours and 2 minutes to not be stressed anymore. On Sunday, after smelling the basil herb, it took 14 minutes to not be stressed anymore.

Table 3: No-Herb Group

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Stress level on a scale of 1 to 5 (emergency)	4 (often stressed) (33 %)	4 (often stressed) (45 %)	3 (sometimes stressed) (30 %)	4 (often stressed) (40 %)	3 (sometimes stressed) (45 %)	2 (rarely stressed) (33 %)	2 (rarely stressed) (33 %)
Cause of stress (emergency)	Test (40 %) Test & Studying	Test (40 %)	Test (30 %)	Studying (35 %)	Test (45 %)	Test (40 %)	Test (40 %)
Stress-relieving strategy used (emergency)	Nothing (37.9 %)	Nothing (40 %)	Nothing (35 %)	Nothing (35 %)	Nothing (40 %)	Nothing (35 %)	Nothing (35 %)
Average time of stress	11:46 am	4:42 pm	10:43 am	1:49 pm	9:17 am	3:46 pm	1:10 pm
Average time use of stress-relieving strategy	2 were not stressed	2 were not stressed	5 were not stressed	4 were not stressed	4 were not stressed	4 were not stressed	5 were not stressed
Average time not stressed anymore	5:51 pm	4:18 pm	11:14 am	2:42 pm	10:13 am	6:47 pm	1:17 pm
Helped or not (emergency)	Helped (26.7 %)	Test (20 %) Helped & Did not help (11 did not use a strategy)	5 were not stressed, and 11 did not use a strategy	4 were not stressed, and 10 did not use a strategy	5 were not stressed, and 11 did not use a strategy	10 were not stressed, and 7 did not use a strategy	6 were not stressed, and 8 did not use a strategy
Helped or not individuals with mental health conditions (emergency)	Helped (100 %)	Helped (100 %)	Helped (66 %)	Helped (66 %)	Helped (66 %)	Helped & Did not help	Helped & Did not help

As displayed in Table 3, in the no-herb group, most participants reported a stress level of 4 due to tests. The majority of participants reported a lack of use of a stress-relieving strategy. The participants who used a stress-relieving strategy reported that the strategies did not help reduce their stress levels or calm them down. The majority of participants with diagnosed mental health conditions reported that stress-relieving strategies did not help in decreasing their stress.

From Monday to Sunday, participants became stressed around the morning to late afternoon (9:17 am-4:42 pm). Then, some participants used a stress-relieving strategy from noon to the evening (11:14 am-6:45 pm). Eventually, stress relief occurred from mid-afternoon to

evening (2:20 pm-8:40 pm) as volunteers were at ease.

On Monday, after using stress-relieving strategies, it took 2 hours and 2 minutes for participants to not be stressed anymore. On Tuesday, after using stress-relieving strategies, it took 17 minutes to not be stressed anymore. On Wednesday, it took 3 hours and 6 minutes to not be stressed anymore after using stress-relieving strategies. On Thursday, after using stress-relieving strategies, it took 2 hours and 28 minutes to not be stressed anymore. On Friday, after using stress-relieving strategies, it took 5 hours and 36 minutes to not be stressed anymore. On Saturday, after using stress-relieving strategies, it took 1 hour and 55 minutes to not be stressed anymore. On Sunday, after using stress-relieving strategies, it took 5 hours and 37 minutes to not be stressed anymore.

Discussions

The study's findings suggest that Angelica's scent alleviates academic stress levels among high school students. The majority of participants in the angelica herb group reported a high stress level of 4 due to upcoming assessments. For this reason, most participants in the angelica group inhaled the scent of the Angelica herb, reporting that their experience was calming. Participants claimed, "It was soothing" (Student 1) and "Made me less anxious as a distraction" (Student 2). The majority of participants with and without mental health conditions stated that the scent of the angelica herb made them feel calmer, reminded them to take a breath, and helped relieve their anxiety. However, a minority of participants with mental health conditions reported that even when they smelled angelica, they were still anxious; it did not provide any relief, and the smell was overstimulating. For example, Student 3 claims, "I think my anxiety was too potent for the angelica to

affect," indicating that the scent did not have a strong enough effect for students with mental health conditions; however, for the majority, it did. The majority of the volunteers reported that the angelica herb reduced their stress to a considerable degree within a notable time frame. Time from smelling angelica to no longer being stressed includes the most prolonged stress at 2 hours and 39 minutes on Wednesday and the shortest time on Friday at 20 minutes. On Wednesday, most participants were stressed as it was the middle of the school week, with the most mental impact of school pressures, such as assessments and AP classes. On Friday, participants had reduced stress levels as they completed all the necessary school work as the school week ended. All in all, the angelica herb was efficient in decreasing academic-induced stress levels among high school students.

Moreover, the results indicate that the aroma of the basil herb did not decrease academic stress levels, as volunteers experienced a high stress level due to upcoming tests at a majority level of 4. After smelling the aroma of the basil herb, most participants with and without mental health conditions reported that basil's scent did not help lessen their academic stress and enhance calmness. Participants with and without mental health conditions reported that "It did not help me manage my stress" (Student 4) and "It was just a temporary distraction. I got stressed again right after" (Student 5). As the basil herb provided temporary relief when actively inhaling the scent, participants became stressed as soon as they did not smell it anymore. Therefore, this suggests that the participants truthfully answered the forms for the angelica and basil herbs, as the basil herb does not and can not psychologically affect their stress levels, as basil was used as a placebo. This can be seen through the participants' reported time frames from smelling basil to

no longer being stressed, including the most prolonged time frame of stress at 3 hours and 2 minutes on Wednesday and Saturday, and the shortest time on Sunday at 14 minutes. On Wednesday, students were stressed due to studying, assignments, and tests as they got loaded with work in the middle of the school week. On Saturday, participants focused on completing their tasks and studying, so their academic work was completed by Sunday, leading to a stress-free environment. Accordingly, the scent of the basil herb did not help in stress reduction as basil did not provide relief for participants with and without mental health conditions.

Furthermore, the findings reveal that the stress-relieving strategies used by the participants in the no-herb group did not help diminish their academic stress or promote relaxation for participants with and without mental health conditions when the volunteers experienced elevated stress due to upcoming tests at a majority level of 4. This suggests that even with all the available stress-relieving strategies, such as fidget toys, deep breathing exercises, essential oils, and more, most participants reported that they did not help or use them, indicating that stress-relieving strategies do not have a substantial effect to decrease their stress or that students are unaware of how to manage their stress. The majority of participants reported, "I do not use stress-relieving strategies because my stress is overpowering" (Student 6) and "I do not believe fidget toys can help" (Student 7). Data analysis suggests that most participants do not use stress-relieving strategies because they do not believe it can work, as they are unknowledgeable about managing stress. Additionally, the participants who used stress-relieving strategies reported the time frames from using stress-relieving strategies to no longer experiencing stress, including the most lengthened stress time frame at 5

hours and 37 minutes on Friday and the shortest time on Tuesday at 17 minutes. Friday demonstrates that participants were in a state of "chronic" stress due to various academic responsibilities and the inability to use stress-relieving strategies to work quickly. Tuesday displayed quickening relief as the participants who used a stress-relieving strategy performed deep breathing exercises. Ergo, most participants with and without mental health conditions reported that available stress-relieving strategies were not successful in reducing their academic stress levels.

In summary, the basil group's most extended duration of stress lasted 3 hours and 2 minutes on Wednesday and Saturday, and the no-herb group's longest stress duration was 5 hours 37 minutes, showing the ineffectiveness of the scent of basil and available stress-relieving strategies and management. In contrast, on Wednesday, the angelica group's most prolonged stress period was 2 hours and 39 minutes, which was the shortest compared to the basil and no-herb groups, suggesting greater efficiency. Hence, the aroma of the angelica herb was the quickest to alleviate school-induced stress among most participants, proving angelica to be the most effective stress reliever.

Limitations

This study has to be recognized for its limitations, too. The study was performed to see if the scent of herbs can reduce stress; however, only one herb was used, angelica. In addition, midterms were approaching therefore, the study had to be conducted quickly before midterms as testing during midterms leads to irregular, elevated stress levels, which could hinder my results. Due to this, I compiled 67 high school volunteers willing to participate in the study; however, some participants did not comply with the study's expectations by not submitting a form each day or by providing unclear

information. As a result, 12 participants were removed from the study, leaving 55 who complied with the study's expectations correctly. Lastly, most volunteers were private school students, as I could not gather a similar number of public school students within a small time frame. However, all the volunteers are only from South Florida, indicating that my research findings may not apply to other students except those from South Florida. Thus, further research is advised to perform my study more efficiently and smoothly.

Implications

This study's findings suggest that academic pressures cause teenagers to be unnecessarily stressed, leading to the need for an alternative stress-relieving strategy. To cope with the stress, the angelica herb was a successful stress-relieving strategy that calmed and lowered the stress levels among students. The study additionally displayed that students lack the use of stress-relieving strategies when stressed through the no-herb group. Most of the no-herb group volunteers chose to not use the available stress-relieving techniques, such as stress balls, fidget toys, essential oils, and all the other strategies, as they have been overwhelmingly loaded with stress, to which they no longer believe anything can help manage their stress. To help students decrease their stress, the angelica herb can be used in the form of jewelry, where companies should create herb bottle necklaces so that when students are stressed, they can open the bottle and smell the herb inside to calm them down. To implement this further, a daily reminder on students' phones, reminding them to smell the angelica herb, will relieve most of the stress students acquire. Thus, introducing angelica into society as a stress-relieving strategy and promoting it through jewelry and daily reminders can decrease stress levels among

high school students facing academic pressures.

Conclusions

This research paper has investigated the scent of the angelica herb, shedding light on the pivotal role the aroma of herbs can have on high school students by enhancing calmness and reducing anxiety when academically stressed. The study proves that angelica's scent successfully lowers academic stress levels among high school students in South Florida. This can be further demonstrated by the placebo herb, basil, which was proven to be unsuccessful in decreasing elevated stress levels. Even though most students with diagnosed mental health conditions reported the angelica herb to be ineffective in lowering anxiety, the angelica herb is sustainable enough for students without mental health conditions. The results indicate that inhaling the smell of the angelica herb benefits most high school students by promoting soothing effects.

Future Directions

Further research is recommended to understand if the scent of other herbs containing calming and stress-relieving properties can help decrease stress adequately through experimentation, as my study only investigated the angelica herb. This can lead to the question: can the aroma of other herbs that acquire stress-relieving properties also reduce stress among high school students? This can help us understand if other herbs can aid in reducing academic stress faster and more effectively. Instead of only conducting further research on high school students, it should be extended to an extended scope of people of all ages and individuals worldwide. As children, adults, and seniors globally encounter stress, other herbs apart from angelica can be studied to see if herbs can help reduce stress related to social life, workforce, family, health, and

finances. To ensure participants fully adhere to future studies, regular reminders and constant follow-ups should be enforced to remind them of their crucial importance and commitment to the study. If future research proves the effectiveness of many other herbs containing stress-relieving and relaxation properties in helping decrease any form of stress, this will lead to a more natural approach to stress management, reducing reliance on pharmaceuticals, improving mental well-being, and encouraging a healthier, more well-rounded society. These limitations and proposed solutions for future research will help researchers continue to broaden the understanding of the positive impact of the scent of herbs containing stress-relieving properties on stress. The use of herbs to alleviate stress can become a new trend that allows society to use natural remedies to live more relaxing and healthier lives.

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Old Age and Navigating the Digital World

Rebecca Elitzur

Introduction

As technology continues to advance at a rapid pace, older generations face increasing challenges in keeping up with digital tools and platforms. While younger individuals have grown up in a world dominated by smartphones, social media, and online services, older adults often struggle with technology due to physical limitations, cognitive barriers, and unfamiliarity with digital interfaces. This technological gap risks isolating older individuals from essential services, digital communication, and even social engagement, reinforcing generational divides and increasing dependency on younger family members or caregivers. Despite these challenges, many older adults express a willingness to engage with technology if provided with the necessary support and accessible designs. However, the barriers they face—including physical impairments like hand tremors or visual difficulties, cognitive decline affecting memory and processing speed, and psychological factors such as fear of making mistakes—can make technology use daunting and frustrating. To explore these issues further, this research aims to investigate the role support systems play in helping older generations navigate technology. Through surveys and qualitative analysis, this study will identify the most significant challenges preventing older adults from effectively using digital tools and how support systems, such as family members, caregivers, and community programs, can bridge this gap. By understanding these dynamics, we can develop more inclusive technological solutions that empower older adults to

remain connected, independent, and active participants in an increasingly digital world.

Literature Review

As technology use rapidly increases, the gap between the younger and older generations widens, and older generations risk becoming disconnected from younger, more technology-reliant generations. According to Michelle Faverio, a research associate at Pew Research Center, 96% of people aged 18 to 29 own a smartphone, compared with 61% of those 65 and older (Faverio 2022). Furthermore, according to Monica Anderson, the director of Internet and Technology research at Pew Research Center, “just 26% of internet users ages 65 and over say they feel very confident when using computers, smartphones or other electronic devices” (Anderson 2017). Malihe Yazdani Darki, at the Kashan University of Medical Sciences, stated that this could be partially due to physical limitations, including visual impairments, back pain, and hand tremors, making technology difficult for the older generation (Yazdani-Darki et al. 2020). Conducting further research in this area, Mujtaba Awan in the Department of Software Engineering at the University of Gloucestershire finds that technology such as smartphones may also be difficult for the older generation to manage, as they may have a hard time with small fonts, screen size, font type, buttons, and color contrast (Awan 2021). Exploring this from a different perspective, Charness and Boot, researchers in cognitive aging at Florida State University, highlight that reduced fine motor skills in aging adults make swiping or tapping on a touchscreen more challenging, increasing the risk of mistakes and, consequently, discouragement, especially since many devices have low-contrast displays or small text (Charness & Boot 2009).

According to Dr. Sara Czaja, a behavioral scientist and Professor of Gerontology in Medicine, older adults' ability to operate electronics such as smartphones and tablets is significantly affected by age-related impairments in motor control and dexterity, which can cause them to feel frustrated and reluctant to use technology (Czaja et al. 2006). Additionally, Tracy Mitzner et al., a senior research scientist at Georgia Institute of Technology, discovered that aging can oftentimes bring a decline in working memory and processing speed, which can make it difficult to learn and retain new technological skills. Compared to younger users, who often have stronger cognitive flexibility and more prior experience with technology, older individuals need more time and repeated exposure to learning new digital technologies (Mitzner et al. 2018). As an example of Mitzner et al.'s findings, Daniel Morrow et al., a professor of Educational Psychology at the University of Illinois Urbana-Champaign, finds that when applications for tracking medical related information required multiple steps and quick recall, older adults demonstrated significantly higher error rates and frustration levels than younger users (Morrow et al. 2021). Cognitive limitations not only slow down technology adoption but also reduce confidence in using technology. Many people avoid digital tools entirely because they are afraid of making mistakes, accidentally deleting important documents, or falling victim to internet scams. Heart and Kalderon, researchers at Ben-Gurion University of the Negev, found that older adults who lacked experience with technology had increased insecurities when using devices (Heart & Kalderon 2013). Furthering this point, Eleftheria Vaportzis et al., a senior lecturer at the University of Bradford, highlights that feelings of incompetence and exclusion can be

reinforced when technology is viewed by older adults as being primarily made for younger users (Vaportzis et al. 2017). Overall, the older generations' adoption and use of technology are severely hampered by the aforementioned obstacles which they may encounter. Digital interactions become more difficult because of medical conditions like impaired motor control, slower processing speed, memory loss, and psychological issues, including social rejection and mistake fear. This highlights the need for more inclusive technology design and educational programs to close the generational technology divide.

Research indicates that this digital divide is expanding due to older adults being unable to overcome technological issues independently. According to Kathleen Schreurs et al., a research and statistics expert at Western University, adults frequently depend on younger family members for digital assistance, which can affect their self-esteem and sense of autonomy (Schreurs et al. 2017). Building on this research, Charlene Quinn, an Associate Professor at the University of Maryland, finds that many older adults also rely on caregivers for technological support with mobile health management and online communication (Quinn et al. 2019). This leads to older generations relying on others, as "nearly 50% of older adults 65 and older and 40% of those ages 50-64 feel they need someone to assist them in learning and using a new technology device", as stated by Deborah Vollmer Dahlke, an associate Professor at Texas A&M University (Vollmer Dahlke 2019). This reliance is often due to a lack of digital literacy, as older adults may not have had the same exposure to evolving technologies as younger generations. Healthcare and financial management are among the most common areas where older adults require digital assistance. Nancy Gell et al., an

assistant professor at the University of Vermont, states that older adults with physical impairments are less likely to use technology independently, often requiring assistance for tasks such as online banking and accessing health information (Gell et al. 2015). Guo Yin et al., at the Sanquan College of Xinxiang Medical University, explore this idea and conclude that this reliance on others not only limits their independence but also creates security risks, as they may share sensitive information with family members or caregivers rather than managing it independently. Additionally, older adults who lack confidence in their digital skills are more likely to depend on others to manage personal information online, increasing their vulnerability to privacy breaches (Yin et al. 2023). The combined findings of Gell et al. and Yin et al. indicate that the lack of confidence in using technology also contributes to older adults' reluctance to explore digital tools independently. Many older adults depend on family members, caregivers, or professional assistance to navigate digital technology, which can reinforce the generational digital divide that results from younger generations viewing older adults as inept with technology.

Additionally, technology interfaces are often designed with younger users in mind, making them less intuitive for older generations. This ongoing reliance on others for digital navigation underscores the importance of targeted training programs and simplified user interfaces which have been found to improve confidence, increase their likelihood of independent technology use, and reduce their reliance on others (Xie 2011). However, according to Yvonne Barnard at the University of Leeds, programs that incorporate peer mentorship—where older adults teach each other digital skills—are more effective than traditional classroom settings (Barnard et al.

2013). Without these interventions, older adults may continue to depend on family members and caregivers, further limiting their independence in an increasingly digital world. Overall, a major obstacle to older persons' technological independence is their reliance on others for digital help. This dependence is exacerbated by low digital literacy, confidence problems, and technology designed for younger users, which limits their independence and puts them in danger of security breaches. By implementing focused training programs and peer mentorship activities, older persons can become more digitally inclusive and less reliant on family members and caregivers by learning how to use technology with confidence.

Many older adults also struggle with technology because of design choices that do not consider their needs. According to Sergio Sayago et al., an Assistant Professor in Human-Computer Interaction at the University of Lleida, many digital devices prioritize aesthetics and innovation over accessibility, which can make them hard for older adults to use (Sayago et al. 2011). Professors of Psychology at the Georgia Institute of Technology, Rogers and Fisk, highlight some examples such as small text, complex menus, and touchscreen sensitivity issues, which make technology challenging to use, in turn leading to frustration and lack of a desire to use (Rogers & Fisk 2010). Jia Zhou et al., a researcher in human-computer interaction and co-chair of the International Conference on Human Aspects of IT for the Aged Population (ITAP) states that older adults are significantly less likely to use smartphones and tablets when the interface requires precise motor control or involves a lot of scrolling and tapping (Zhou et al. 2012). According to Dan Hawthorn at the Unitec Institute of Technology, many seniors benefit from larger font sizes, high-contrast displays, and simplified navigation

(Hawthorn 2007). When technology incorporates adjustable text size and voice commands, older adults are more likely to engage with digital devices and have a better user experience (Charness & Boot 2009). According to Alisha Pradhan, an assistant professor at the New Jersey Institute of Technology, voice-activated assistants, such as Amazon Alexa and Google Assistant, can help older adults interact with technology more easily, particularly those with vision impairments or limitations with mobility (Pradhan et al. 2020). A survey of technology developers, conducted by Dr. Joao Leitão et al., an associate Professor of Economics with Habilitation at the University of Beira Interior, found that only 20% of professionals considered older adults a primary audience when designing new digital tools (Leitão et al. 2021). Considering the current state of technology development referenced above, Siân Lindley et al. at Microsoft Research share that because of this, older adults often feel alienated from technology and struggle to integrate it into their daily lives. The implementation of design principles, such as intuitive layouts, clear instructions, and multimodal interaction options, could help improve accessibility for the older generations (Lindley et al. 2009). By prioritizing user-friendly features, incorporating accessibility tools, and considering seniors in the design process, technology companies can create more inclusive products.

Older adults face significant challenges in adopting technology due to physical limitations, cognitive decline, reliance on others, and poor design choices that fail to accommodate their needs. These barriers make digital engagement frustrating and discourage seniors from using technology independently. Many older adults risk losing access to essential services and communication tools without targeted

interventions, as they increasingly shift online. To improve accessibility, technology companies must prioritize senior-friendly designs, such as larger text, voice commands, and intuitive interfaces. Additionally, structured training programs and peer mentorship can help older adults develop digital confidence and reduce reliance on family members for assistance. By addressing these issues, society can ensure that older adults remain engaged, independent, and empowered in an increasingly digital world, allowing them to benefit from technological advancements rather than being excluded.

Gap

The culmination of research on technology usage amongst the older generation addresses what percentage of older adults are online, what technology they use, how they may benefit from technology, and more. While there have been studies that have explored older adults' confidence with technology (Yin et al. 2023), specific aspects that make it more user friendly (Charness & Boot 2009), and the individuals that older adults rely on for technology problems (Schreurs et al. 2017), no published studies have tried to connect all three of these factors in the same study. The lack of research around this points to the gap that this study aims to fill. With this understanding, this paper's research question is: To what extent do technology features and support systems play a role in confidence levels with digital devices among adults aged 65 and older?

Hypothesis

The researcher hypothesizes that the users who had the most ease with technology features and who relied on support systems less frequently would report higher confidence levels with technology. Participants who have more difficulty with

features or regularly seek technology support would feel less confident with technology and therefore use it less frequently.

Methods

The study on older generations' technology usage uses a survey to gain an understanding of the technology experience, challenges, and perspectives of members of the older generations. For this study, the goal was to understand the relationship between confidence and specific aspects of technology; using a survey was the most efficient way as it allowed to gain a larger number of participants in an unbiased setting. The goal of maximizing the number of participants was to gain more accurate findings. Participants, aged 65 and above, were selected from retirement homes using paper surveys as well as WhatsApp group chats using digital surveys (see Appendix A) to ensure a broad representation across different age groups and technology skills. Data collection methods include surveys to gather data on the amount of screen time, technology use, technological help, and health aspects. The researcher asked participants these specific questions as it allowed for data to be collected to identify a potential correlation between age and confidence level specific to usability features or types of technology. Additionally, it aims to identify the specific challenges they face when using technology, explore the assistance they rely on, to develop strategies that can enhance their ability to adapt to technological advancements. The researcher decided to specifically identify through the survey some specific features such as small text, touchscreen sensitivity, or confusing interfaces to confirm the findings of other researchers. However, other features such as battery life or popups were not expected to have as high results but were included to

determine if other factors contribute to a lack of confidence among older adults using technology. By addressing these barriers, the research aspires to improve the overall quality of life for older adults by developing technology that is easier for them to use. The researcher included children, grandchildren, technology professionals, Information Technology (IT) service providers, as well as assistants, nurses, and aides, as these are thought to be the most often sought out support when it comes to technology help for older adults.

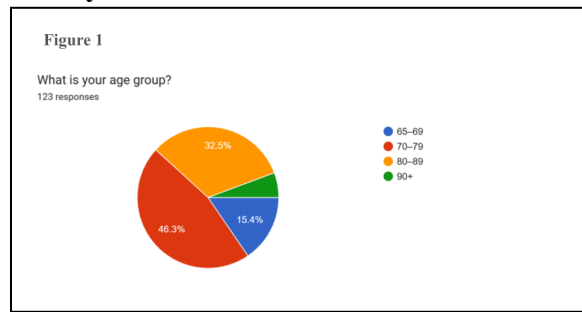
Participants

There were 123 respondents to the survey, sent to people aged 65 and older, asking how often they use technology, their confidence with it, what they struggle with, and more. In this method, 5.8% of the respondents were 90 and older, 32.2% were aged 80 to 89, 46.3% of the respondents were aged 70-79, and 15.7% of the respondents were aged 65 to 69 years old. The resulting age gap allowed the researcher to gather information from diverse ages among the older generations. A varied age group was used to determine differences between all selected age groups amongst the older generation. Participants were not given an incentive and instead participated out of the desire to increase research on technology to better accommodate the older generation.

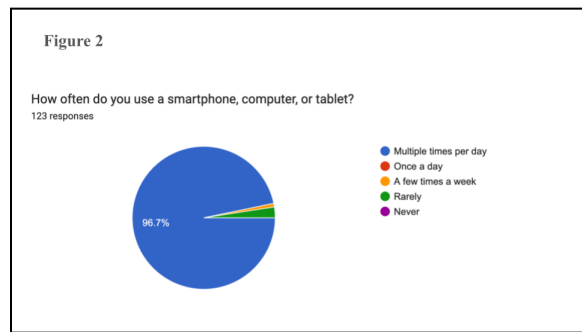
Procedure

Paper surveys were handed out to residents at a South Florida Nursing Home, and were given assistance by the researcher if they needed clarification on what the survey asked, or needed help writing down answers. Surveys were also forwarded through WhatsApp groups digitally. This ensures a diverse age range, technological skill, and mental awareness level.

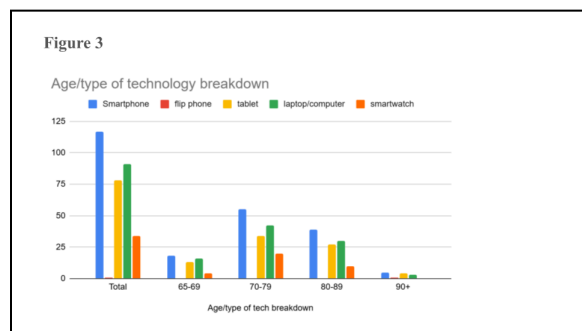
Survey



Out of the 123 survey respondents, the majority (46.3%) were between the ages of 70-79, and the minority was ages 90+ (5.8%).

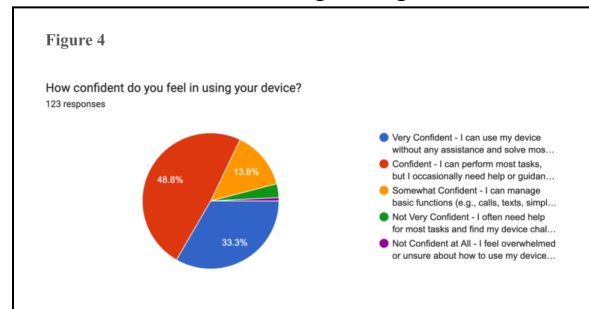


The majority of the respondents (96.7%) use a smartphone, computer, or tablet multiple times per day. 2.4% of the respondents use an electronic device rarely, and 0.8% of the respondents use an electronic device a few times a week.

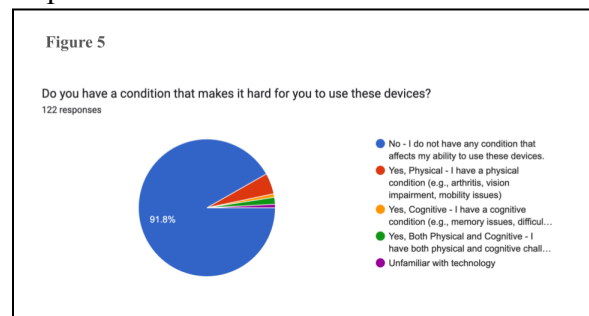


Out of 123 responses, the total section of this graph indicates that nearly all participants (95.1%) use a smartphone. Most of the respondents have a laptop/computer (73.9%) or a tablet (63.4%). Many fewer have a smartwatch (27.6%) and barely any own a flip phone (0.8%). Based on this, the researcher can conclude that the majority

owns a smartphone, and within the 60s, 70s, and 80s age groups, more than 95% of the participants had a smartphone. Also, in each of these age ranges, 60% or more had a tablet and/or a laptop/computer. The 90s group also mirrors this; however, it is more difficult to be certain because this age range had the least number of participants.

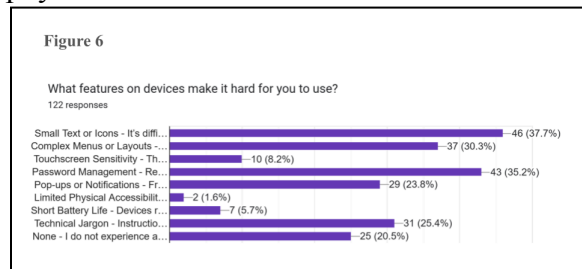


Most participants feel confident using their devices, with 48.8% saying that they are “Confident” and 33.3% saying that they are “Very Confident.” A smaller group of 13.8%, said that they are “Somewhat Confident,” meaning they can handle basic tasks online but may struggle with more advanced ones. Few participants fall into the “Not Very Confident” or “Not Confident at All” categories, indicating that only a small percentage frequently need assistance. While most respondents can navigate their devices well, some still require occasional help.

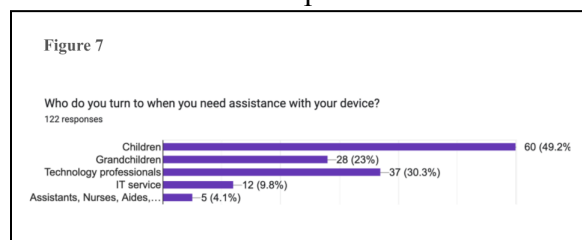


The majority of respondents (91.8%) do not have a condition that affects their ability to use electronic devices. A small percentage face physical challenges, such as arthritis or vision impairment, while others experience cognitive difficulties like

memory issues. Some participants have both physical and cognitive challenges, making devices more difficult to use. While most participants have no accessibility barriers, a small group may need additional support or accommodations due to cognitive or physical issues.



This chart indicates that 20.5% of respondents report no challenges. However, among the remaining 79.5% there were a variety of features that made technology difficult to use. The results found that the most common device features that participants find challenging include small text or icons, password management, and complex menus or layouts, as well as pop-ups and technical jargon. Some of these findings, such as difficulties with small text, complex menus, and touchscreen sensitivity, mirror the findings of Rogers and Fisk (2010). An unanticipated finding was the difficulty of managing passwords (35.2%), which is not a device-specific difficulty because it relies on the user to be able to remember or recall the password.



Nearly half of the respondents (49.2%) turn to their children for assistance with their devices, making them the most common source of help with electronics. The combined 72.2% of children and grandchildren show the role of family members in technology assistance for older

adults. This is similar to the findings of Schreurs et al., who found that older adults often turn to younger relatives for assistance (2017). Technology professionals (30.3%) are also significant sources of support, and a smaller percentage (9.8%) rely on IT services, while only 4.1% seek help from assistants, nurses, or aides.

Analysis

I hypothesized that those who reported difficulty with technology features would indicate lower levels of technological confidence. This was different from my findings since the majority of respondents (82.1%) feel a sense of confidence using their devices; however, at the same time, 79.5% reported difficulty with features. These features include small print (37.7%), password management (35.2%), and complex menus (30.3%). This shows that confidence does not necessarily equate to ease of use, and underscores the need for a more user-friendly design. This could include voice-activated assistants as shown by Pradhan et al. (2020); however, this was not specifically investigated in my research, as it is a growing technology that fewer individuals currently have access to. Revisiting Leitão et al.'s (2021) findings, which showed consideration of older adults as a minority (20%), these findings indicate a significant need for the older generation's voices when designing new technology.

While development is part of the issue, further consideration needs to be given to the personal support that older adults may need. These results echoed those of Schreurs et al. (2017), finding that people rely more on relatives than any other group for assistance. Nearly half (49.2%) of parents turn to their kids for help, with technology workers (30.3%) and grandkids (23%), who also play important roles. Few turn to aids (4.1%) or IT services (9.8%) for assistance, indicating a preference for

unofficial support. While many of the participants rely heavily on family members, there is still a greater preference for help from actual people rather than automated systems as indicated by multiple responses to question 10 of the survey (Appendix A).

Limitations

The main limitation present in this study arose when recruiting participants to answer the survey. Some older adults may have a hard time answering a digital Google Form. To combat this limitation, the researcher printed out the surveys and handed them out at a local nursing home. The researcher helped some of the residents in the nursing home to fill in the questions or to clarify the questions if needed. Additionally, the sample size is limited and, therefore, may not capture generational trends in countries outside of the United States and with people from different socioeconomic backgrounds. Individuals' self-reported perceptions of their technological abilities may be biased and not standardized.

Future Directions

The findings of this study can be used by technology companies and app developers to create more user-friendly technologies for older adults. This can be implemented in technology companies such as Apple, Samsung, Microsoft, and Google to develop smartphones, tablets, or even software updates that address the key challenges faced by the older generation identified in this study. Phones such as Lively's Jitterbug offer larger buttons and emergency features that could be useful for older adults, however, they still fall short with slow performance, required PINs, no biometric logins, and limited apps (Lively 2025). Since around 30% of my participants struggled with password management my findings suggest that software-based

solutions—not just physical design—are essential. To address this, technologies such as Lively's Jitterbug phone can incorporate facial or fingerprint recognition, reducing the need for memorized passwords. Additionally, the major technology companies mentioned above could make facial and fingerprint recognition setup easier to follow, reducing the reliance on pincode passwords for older adults. Greater ease of use would likely lead to a decreased reliance on other people for help, which could boost confidence when using technology.

Companies can also use this feedback to understand that despite existing options for increasing font size, older adults may need assistance and education on how to set this up. The findings indicate that many older adults still struggle with preventable issues, which points to an existing need to guide older adults to better understand the capabilities that the technology they are purchasing may already include. Building off of these findings as well as those of aforementioned studies (Zhou et al., 2012; Hawthorne, 2007; Charness & Boot, 2009; and Pradhan et al., 2020), companies can design technology that incorporates step-by-step instructional guides that walk users through downloading and navigating apps during the initial setup of the device. These guides could include interactive tutorials, voice-assisted instructions, and demonstrations tailored to different skill levels, to ensure that older adults can use their devices confidently, and without external assistance.

While my research focused on confidence among participants, further studies can be conducted into the cause of a lack of confidence, especially regarding falling for scams, making mistakes, and deleting important files (Morrow et al. 2021; Heart & Kalderon 2013). Technology companies can incorporate built-in fraud

alerts that warn about clicking on certain links or visiting potentially fraudulent websites, to protect users from online threats and boost their confidence when using technology, as discussed by Brands and van Wilsem (2021). By implementing these recommended improvements, technology companies can help make the online world more inclusive and less divided. Improving accessibility will allow seniors to reap the benefits of the digital age and businesses to benefit from increased usability across more generations—given that it can be designed with their needs in mind.

Conclusion

This study aimed to address the gap of whether confidence among older technology users was impacted by various technology features and the support that they received from others. The findings draw attention to the major obstacles older adults encounter while utilizing technology, such as physical restrictions, cognitive decline, dependence on others for assistance, and subpar design decisions that do not meet their needs. Even though many of the participants reported feeling some level of confidence with technology, issues like small font, complicated menus, and password management still make it difficult for them to do so. Implementing more user-friendly design concepts and offering structured educational programs are crucial to ensuring older individuals stay connected and independent in an increasingly digital culture. Technology developers may help create a more inclusive digital environment and enable older generations to use technology with increased confidence and effectiveness by tackling these issues. While the speed of technological development continues to get faster, technology developers can be more intentional about making sure that older adults are not left behind.

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Aging on the Silver Screen: An Analysis of Portrayal and Impact

Annabel C. Silverstein

Abstract

Ageism has become quite prevalent in American society, and especially so among young adults and teens. Evidence points to the increased popularity of anti-aging media, products, and services, particularly on social media, as a reason for the influx of this sentiment among this age group. However, a perpetuator for these sentiments is the American film industry, whose sometimes stereotypical depictions of life for older adults (65+) support a deeply rooted fear of aging in younger generations. A three-part method was developed in order to evaluate the ability of negative depictions of older adults in American films to alter adolescents' (14 to 18 years old) attitudes towards aging and the population, including a film analysis, image-based survey, and video-based survey. This method revealed that the visually negative depictions of older adults in films have the ability to increase adolescents' fears of aging by between 23.91% and 25.12%, depending on the viewer's gender. On a five-point scale of fear level (1 lowest; 5 highest), between a 0.95 and 1.14 mean difference was recorded between the control and test groups' fears of aging after viewing short clips in which older adults were negatively portrayed. These results were cited despite the general reverence of older adults by the surveyed population, indicating that the films had the power to alter perception regardless of prior notions or experiences. All in all, the study concluded that the American film industry sometimes encourages an ageist view of older adults, urging further social and monetary discrimination of older adults. Keywords; ageism, film analysis, age-based discrimination, gerontophobia, anti-aging

Introduction

Film is a powerful tool for communication and has the ability to achieve widespread influence. Attracting individuals of all ages, races, and socioeconomic backgrounds, movies dictate how the world, communities, and individuals are perceived. Jack Lule, Iacocca Professor of Journalism and Communication at Lehigh University, comments on the influence of film on society, stating that "Just as movies reflect the anxieties, beliefs, and values of the cultures that produce them, they also help to shape and solidify a culture's beliefs. Sometimes the influence is trivial...However, sometimes the impact can be profound, leading to social or political reform, or the shaping of ideologies" (Lule, 2016). When applying these notions to American film and culture, Lule asserts that "American identity in mass society is built around certain commonly held beliefs, or myths about shared experiences, and these American myths are often disseminated through or reinforced by film," helping to homogenize American culture across the nation (Lule, 2016). Ageism is a common theme among these "American myths". This research paper investigates how specific depictions of characters 65 and older impact adolescents' perceptions of and attitudes towards aging. The following literature review explores Americans' fear of aging, the translation of this fear into film, and the perpetuation of this fear through its cinematic manifestation.

Literature Review

Americans' Fear of Aging

Americans are particularly fearful of aging, which has led to hostility towards aging and negative health effects. According to a survey administered on behalf of Pfizer's Get Old Campaign, "87% of Americans have at least one fear when they think about getting old" (Robinson, 2014).

This culturally embedded gerontophobia, as defined by Dictionary.com, describes “an irrational or disproportionate fear of old age, especially of growing old,” as well as a “disdain for, or aversion to old people (“Gerontophobia Definition & Meaning,” n.d.). Permeating American society, this hostility towards older people and fear of aging leads many to *shun* the older population, resulting in age-based social segregation. While some, like Lawrence R. Samuel Ph.D., an American Cultural Historian, believe the phenomenon is rooted in a basic need to project internal fears of aging onto those who personify them, others, like Anna Gustafsson, a researcher in social anthropology, conclude that this disdain may derive from beliefs in stereotypes regarding older people being a “burden” to the American economy (Gustafsson, 2023; Samuel, 2021). Either way, the impact of such sentiment reaches beyond hurt feelings and sustained myths, as concluded by Becca Levy, Professor of Epidemiology at Yale School of Public Health and Psychology at Yale University (Span, 2022). In one study, investigating the physical effects of attitudes towards aging, Levy concluded that the median survival of residents over 50 in a small town in Ohio was “seven and a half years longer for those with the most positive beliefs about aging, compared with those having the most negative attitudes” (Span, 2022). The study also found that a gerontophobic mentality puts individuals at a greater risk for cardiovascular disease, reduced physical abilities, Alzheimer's disease, and more, showing the counterintuitive nature of negative conceptions toward aging (Span, 2022). Although aging is universal, individuals treat it as a disease associated with the “symptoms” of decrepitness and isolation, something that should be avoided. In trying to alleviate these crippling fears,

many turn to vilification—a tactic that serves more like a mirror than a shield.

Fear Translated into Film

Many claim that the American film industry is a major propagator of the myths and stereotypes surrounding age that plague the nation. These myths are conveyed through underrepresentation, stereotypical depictions, and ageist commentary of older adults. Dr. Stacy L. Smith and Katherine Neff, communications researchers at the University of Southern California, studied the top 100 grossing films of 2015 and found that “just 11 percent of characters evaluated were aged 60 and over” (Communication and Marketing Staff, 2018; Neff et al., 2024). This statistic has not dramatically changed in the years since, and older characters continue to be restricted to side roles (Communication and Marketing Staff, 2018; Neff et al., 2024). “When older characters [do] play primary roles, males [are] mentors, rulers, and members of the clergy, whereas the [] role dominated by older females (66.7%) [is] the role of villain” or grandparent as concluded by researchers Atkins and Plew of the communications departments of Georgia State University and Georgia Southern University respectively (Atkinson & Plew, 2017). Atkinson and Plew also observed that “the most common traits assigned to older characters, regardless of role played, included angry/grumpy/stern (35% of all older characters), friendly (25%), intelligent/wise (22%), loving/caring (19%), eccentric (14%), and happy/content (10%)” (Atkinson & Plew, 2017). Further, Jennifer Burton, Professor of Theatre, Dance, and Performance Studies at Tufts University, explains that most older characters are “someone who’s basically fodder for a younger character’s joke... They’re not complex, developed human beings” (Baskin, 2024). As a comedic tool for writers, older

characters function as a way for society to validate its fears of aging, regardless of the accuracy of experiences depicted. As long as older characters are fulfilling the joke-provoking role of senile neighbor, clueless store clerk, or lonely grandparent, they will continue to have at least some role on screen. While these demeaning portrayals are often tucked into visuals, they are most commonly scattered through scripts in the form of nonchalant commentary (Communication and Marketing Staff, 2018). Reference examples include characters being called “old and decrepit,” “grumpy old rat,” “crazy old man,” or “negative references regarding the health of seniors, including remarks about mental well-being, memory, and hearing” (Communication and Marketing Staff, 2018). These portrayals are most often found in popular, mainstream films marketed for popular appeal (Communication and Marketing Staff, 2018). Thus, the fears of American society towards aging manifest in the films they produce, often depicting older adults in negative and often derogatory ways.

The Perpetuation

After the laughs are over, these often-degrading portrayals leave audience members believing in misconceptions, augmenting the already negative feelings Americans have about aging. David Gittins, the executive director of Age Inclusion in Media, a “nonprofit campaign to change the way older adults are portrayed in film, TV, and advertising,” was interviewed on the spread of these misconceptions via film (Friedman & Gittins, 2024). He revealed,

What we show on screen teaches us what to believe and that then teaches us how to act. So, if we see older characters being portrayed as passive morons who are just leaching on society, then we start to treat older

people like that... We know they're useless because we've seen [that] on TV and we believe it. (Friedman & Gittins, 2024)

The “passive moron” type portrayal discussed by Gittins was further explored in a study by Ruben Ng Ph.D. and a team of researchers from Lee Kuan Yew School of Public Policy of the National University of Singapore, which examined keywords used to describe older people in 3384 movies from 11 global regions, ranking the depiction of older characters on a scale of 1 (most negative) to 5 (most positive) (Ng et al., 2023). In North America, key associations were drawn between older characters and death, murder, religion, and familial obligations, which are consistent with the findings of Atkinson and Plew (Ng et al., 2023). Such associations also correlate to the social stereotypes surrounding older individuals, which, according to the National Institute on Aging, include depression, loneliness, fragility, a lack of technological understanding, memory loss, and much more (*10 Common Misconceptions about Aging*, 2024). These associations again contribute to audience members' negative feelings towards older people, translating into discriminatory actions. This assertion is supported by the findings of Julie Ober Allen Ph.D. and a team of researchers from the Department of Health and Exercise Science at the University of Oklahoma who found that discrimination is experienced by up to 93% of older adults, making it “the most common and socially acceptable form of discrimination in the US” (Allen et al., 2022). When such associations are constantly driven into the minds of Americans by the film industry, they are left with gerontophobic ideas. Ideas propel action, causing many to seek refuge in the massive American anti-aging industry, opening the door for financial and physical

health consequences. The industry, whose worth is estimated to be over 20.52 billion USD, dangerously preys on individuals as young as 5th grade, according to Precedence Research, a U.S.-based business consulting firm (*Anti-Aging Market Size to Surpass around US\$ 119.6 Bn by 2030*, 2024).

Forced into Retirement: The Developing Genre

As a result of mainstream underrepresentation, misrepresentation, and social fears, some actors and actresses have turned to a new comedy sub-genre in order to continue working. Kent Sanderson, the president an independent film company, explains that films of this genre are geared towards “a certain generation”, which, according to Esther Zuckerman, a journalist of film and television for the Washington Post, simply means that these “movies touch on serious topics related to aging, [but] their main goal is goofiness” (Zuckerman, 2024). Though some, like film journalist John Nugent, regard these as “children’s film[s] for pensioners,” actresses such as Jane Fonda and Diane Keaton make these films “to show older women onscreen as more than just a punchline,” as Fonda revealed to Rebecca Keegan of The Hollywood Reporter (Keegan, 2023; Nugent, 2023).

The Gap

Collectively, these articles depict a society apprehensive about succumbing to the gerontophobic stereotypes endorsed and popularized through the depictions of older adults in film. However, studies have yet to investigate the quantitative extent to which negative portrayals of older adults in films affect audience members’ fears of aging, especially those of adolescents. Research on the adolescent audience is especially scarce as even “Studies on the [basic] attitudes of adolescents towards older adults have been relatively scarce compared to research on

the attitudes of young adults [18 to 24] and children,” according to Dawn Magoffin, a senior film and media studies research student at Brigham Young University (Magoffin, 2007). Hence, by investigating the portrayals of characters 65 and older in popular films and their effect on adolescent audiences’ attitudes, a greater understanding of the role of film in American social and physical anti-aging phenomena can be ascertained.

Research Questions

The researcher sought to investigate the following questions:

1. What are the current attitudes of adolescents (14 - 18) in South Florida toward the 65 and older adult population?
2. To what extent do negative portrayals of older adults in American films affect adolescents’ fear of aging and understanding of the process?

Hypothesis

The researcher hypothesized that the current attitudes of adolescents in South Florida towards the 65 and older adult population will be generally positive but will align with commonly held negative stereotypes that surround the physical abilities, appearance, and demeanor of individuals 65 and older. The researcher also hypothesized that negative portrayals of adults 65 and older in film will significantly increase adolescents’ fear of aging and alter their understanding of the aging process and population as a whole.

Methods

The investigative process utilized contained three parts: a film analysis, independent survey, and a guided survey. All participants were from the South Florida region, between the ages of 14 and 18, and survey responses were recorded with

distinctions based on the gender they indicated.

Film Analysis

Ten PG-13 films with a main character 65 or older were selected for analysis. The portrayal of the main characters of each film within the 65 and older age group was analyzed within the categories of appearance (clothes, hairstyle, etc.), physical abilities (mobility), position in society, mental faculties, and demeanor. See **Appendix A** for the full list of films and analyzed characters.

Independent Survey

The independent survey consisted of two individual surveys administered to separate adolescent populations. The cross-sectional design included three sections for data collection that sought to identify a participant's preconceived notions about aging and how those perceptions are impacted by static depictions (images) taken from 10 films starring a character 65 or older. Example questions for each section can be located in **Appendix B**.

Section One:

The first section contained questions that identified the frequency and depth of interactions a participant had with the 65 and older population in America, how they viewed this population's role in society, and what they understood to be a day in the life of an individual within this demographic. This section also asked participants to rank their initial fear of aging on a scale of 1 to 5 in order to gauge their level of gerontophobia, followed by a question instructing the participant to select the primary reason behind their fear. This section was mirrored across both surveys.

Section Two:

The second section contained questions asking the participant to indicate the percentage of the 65 and older

population that they believe experience a physical infirmity (i.e. blindness) or life circumstance (i.e. living alone). This section gauged whether the participant has any preconceived stereotypes regarding persons 65 and older, which, when taken with the responses to section one, provide insight into their reasoning. This section was mirrored across both surveys.

Section Three:

Images from each film, consistent with the depiction of this population, were selected and paired with a related statement about individuals ages 65 and older for use in the Test survey. The Control survey omitted the images but contained the same statement about other adults. The participant was required to select either "I agree", "I do not agree", or "I somewhat agree" in both versions. When compared with a participant's responses to sections one and two, this section will assist in collecting data regarding what role the images played in their understanding of the population 65 and older. The final question of section three asked participants to again rank their fear of aging on a scale from 1 to 5, disclosing whether their level of gerontophobia had changed after viewing a negative portrayal and/or depictions of older adults.

Guided Survey

Participants of the guided survey were asked to rank their fear of aging before watching a series of clips from five of the analyzed films. Clips were taken from *Thelma* (00.06.22 to 00.08.22), *Poms* (00.37.52 to 00.38.10), *80 for Brady* (00.15.42 to 00.16.14), *A Man Called Otto* (00.01.33 to 00.03.48), and *Jerry and Marge Go Large* (00.06.09 to 00.07.46). After watching all five clips, the participants then re-indicated their level of fear, and their two responses were compared.

Results and Analysis

Film Analysis

Out of the ten films, 21 main characters aged 65 or older were analyzed, of which 57.14% (12) were female and 42.86% (9) were male. The five broad categories of analysis were narrowed to examine more distinct trends in how characters were depicted in the ten films.

33.33% (7) of the characters' lives were impacted by cancer, which correlates to the national level of adults in the 65 and older age group who are living with cancer (30%) as indicated by the American Cancer Society (Siegel et al., 2024).

47.62% (10) of the characters were widows which is more than double the national level (20%), as indicated by Researchers at the National Center for Family and Marriage Research at Bowling Green State University (Loo & Brown, 2022).

9.52% (2) of characters were living in assisted living facilities which is similar to the range (1% to 8%) reported by the Administration for Community Living under the U.S. Department of Health and Human Services ("2023 Profile of Older Americans," 2024).

28.57% (6) of characters were shown to have significant financial struggles which is double the number of individuals 65 and older who live in or near poverty (11.3%) according to the United States Census Bureau and the Administration for Community Living ("2023 Profile of Older Americans," 2024; *Child Poverty Rates Dropped in 8 States While Poverty Rates for Older Population Rose in 10 States*, 2024). The results are summarized in **Figure 1**.

Figure 1

Observation	Level Recorded Among Characters	National Average
Cancer	33%	30% (Siegel et al., 2024)
Assisted Living	9.52%	1-8% ("2023 Profile of Older Americans," 2024)
Widowed	47.62%	20% (Loo & Brown, 2022)
Financial Struggles	28.57%	11.3% (<i>Child Poverty Rates Dropped in 8 States While Poverty Rates for Older Population Rose in 10 States</i> , 2024)

While some aspects of aging were proportionally portrayed in the ten films analyzed, others were slightly exaggerated. Understandably, the aim of most Hollywood films is often not to educate viewers, and these films were not meant to represent the statistical experiences of the 65 and older population. However, these common exaggerations can have adverse impacts on viewers' perceptions of aging and may enhance the deeply held fears of aging among Americans.

Additionally, the analysis revealed that 65 and older characters were almost always positively portrayed. However, most of these films still had elements of age-related stereotypes such as being slow, needy, or longing for the past/being nostalgic. While this analysis slightly deviates from what was reported by the literature, it has been similarly concurred by researcher Dawn Magoffin in her 2007 thesis, wherein she conducted a content analysis of the portrayal of older adults in teen films. As such, it becomes evident that the negative stereotypes present in films as well as ageist commentary (present in all 10 analyzed films) is what troubles the affected population most.

Participant Survey Section 1:

Of the 232 female responses in the participant survey, the majority of participants reported interacting either "daily" (32.33%) or "every few days" (18.97%) with individuals 65 and older, and in these cases, most often with grandparents

or teachers. In multiple-select questions, the most selected negative descriptions of individuals 65 and older were “forgetful” (102 selections) and “prescribing to old-fashioned beliefs” (74 selections). The most selected positive descriptions were “experienced” (205 selections) and “wise” (138 selections). 59.91% of participants stated they were not looking forward to life after they turned 65. On a scale of 1 to 5, the mean level of fear of aging was 2.94, with the most selected reasons to fear aging being increased forgetfulness (154 selections), reduced mobility/physical independence (146 selections), followed by loneliness (111 selections). The most popular method to combat the “side effects” of aging, though, were physical therapy (137 selections) and medication/medical procedures (119 selections).

Of the 164 male responses in the participant survey, the majority of participants reported interacting either “every few days” (20.12%) or “daily” (18.29%) with individuals 65 and older, and in these cases, most often with grandparents or teachers. In multiple-select questions, the most selected negative descriptions of individuals 65 and older were “have mobility issues” (69 selections) and “forgetful” (55 selections). The most selected positive descriptions were “experienced” (139 selections) and “insightful” (78 selections). 54.81% of participants indicated that they were not looking forward to life after they turned 65. On a scale of 1 to 5, the mean level of fear of aging was 2.43, with the most selected reasons being increased forgetfulness (111 selections), reduced mobility/physical independence (96 selections), followed by loneliness (39 selections). The most selected means of combating the “side effects” of aging, though, were physical therapy (79 selections) and medication/medical procedures (68 selections).

As such, both male and female participants reported having frequent interactions with individuals 65 and older with either a grandparent or teacher. However, males were more likely to characterize older adults according to their physical abilities rather than their mental faculties or belief systems, though both groups positively characterized older adults as experienced. Although both groups shared similar levels of fear towards the aging process (mean difference = 0.51), and both indicated that forgetfulness was the primary reason for their fears, females were 5.1% more likely to express a negative view of their future as aging adults.

Participant Survey Section 2:

Of the female participants, 46 (19.83%) correctly believed that 30% of individuals 65 and older had some form of cancer, compared to the 33 (20.12%) male participants (Siegel et al., 2024). 45 (19.4%) of the female participants and 41 (25%) of the male participants correctly believed that 20% of individuals aged 65 and older are widowed (Loo & Brown, 2022). 47 (20.26%) female and 54 (32.93%) male participants correctly placed the range of individuals living in assisted living facilities or nursing homes between 1% and 8% (“2023 Profile of Older Americans,” 2024). 34 (14.66%) female and 26 (11.21%) male participants correctly believed that 11.3% of individuals 65 and older live in or near poverty (“2023 Profile of Older Americans,” 2024; *Child Poverty Rates Dropped in 8 States While Poverty Rates for Older Population Rose in 10 States*, 2024)

The results of Section 2 of the survey indicate that the majority of the survey population is largely ill-informed about the experiences of older adults concerning health, marital status, residence situation, and financial security. Such misconceptions

likely contribute to the fears expressed by participants in Section 1.

Participant Survey Section 3:

The five most notable image and data correlation pairs are reported and analyzed below.

(**Figure A4** Still from *The Bucket List*
01:23:40)



In Section 2, 91.67% of the total study population believed that older adults had generally good health. However, after viewing **Figure A4**, 61.4% of females and 60.82% of males from the test group indicated that they “agree” that adults 65 and older had generally “poor health”, compared to 22.9% of females and 24.32% of males from the control group who did not view the image. Thus, the evidence suggests that the negative image shown to the test group had a significant impact on the participants’ beliefs regarding the general health of adults 65 and older, making them believe that older people have poor health.

(**Figure A7** Still from *A Man Called Otto*
00:24:02)



In Section 2, 83.33% of the total study population believed that widows make up a minority of the 65 and older population. However, after viewing **Figure A7**, 49.5% of females and 46.39% of males from the test group indicated that they “agree” that most adults 65 and older are widowed, compared to 22.1% of females and 22.97% of males from the control group. Though the image shown had a material impact on participants’ beliefs regarding the realities of widowhood, the impact was less remarkable compared to **Figure A4**.

(**Figure A5** Still from 80 for Brady
00:23:08)



In Section 2, only 10% of the total study population believed that the majority of adults 65 and older reside in assisted living facilities. However, after viewing **Figure A5**, 33.7% of females and 31.96% of

males from the test group indicated that they “agree” that most adults 65 and older reside in assisted living facilities, compared to 19.9% of females and 13.51% of males from the control group. These findings indicate that the image was successful in convincing some participants that most adults live in assisted living facilities, but not as successful as the prior two images.

(**Figure A1** Still from *Thelma* 00:05:24)



In Section 1, the majority of all participants indicated that they visited an individual 65 years or older “daily” or “every few days”. Extrapolating this behavior to the adolescent population, in general, compels the conclusion that older adults are visited frequently, and are therefore unlikely to be lonely. However, after viewing **Figure A1**, 53.5% of females and 53.61% of males from the test group indicated that they believed individuals 65 and older to be lonely, compared to the 24.4% of females and 22.97% of males from the control group who agreed with the statement. This data indicates that the image had a significant impact on misleading participants’ understanding of the social life of adults 65 and older.

(**Figure A2** Still from *Going in Style* 00:32:19)



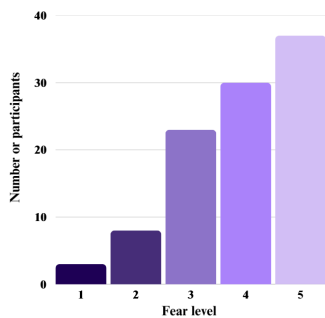
In Section 1, reduced mobility/physical independence was among the most selected reasons for fearing aging in both males and females. Further, physical therapy/mobility training was the most selected means of combating the “effects” of aging in both groups. Because the majority of participants fear reduced mobility/physical independence as an effect of aging, adolescents are likely to perceive it as common and vice versa, which is supported by the data. However, after viewing **Figure A2**, 64.4% of females and 65.98% of males from the test group indicated that they agreed that older adults had reduced mobility, compared to 49.6% of females and 55.4% of males in the control group. This data demonstrates that the image had an impact on participants’ understanding of the physical abilities of adults 65 and older, specifically supporting this widely held fear.

Overall, the average change between the control group and test group was 25.12% for females and 23.91% for males, indicating that the effect of the negative depictions presented in the images on adolescents’ perceptions and attitudes toward aging was significant. There was no statistically significant difference in the changes recorded by males and females.

When asked to re-rank their fears of aging, the mean fear for females in the test group was 3.89 and 3.57 for males. This

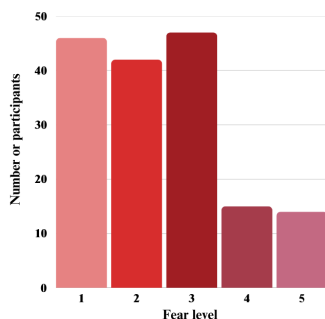
data represents a 0.95 mean difference for females and a 1.14 mean difference for males between their initial and final fears of aging (**Figures 2-4**). This result is profound, confirming that the negative portrayals of aging found in films do increase adolescents' fears of aging. (**Figure 2**)

Indicate your level of fear towards aging (Female Test Final)



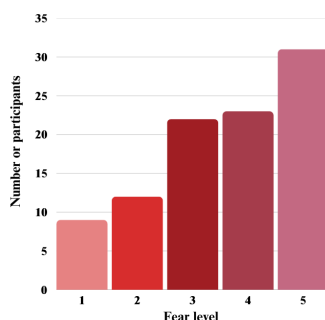
(**Figure 3**)

Indicate your level of fear towards aging (Male Overall Initial)



(**Figure 4**)

Indicate your level of fear towards aging (Male Test Final)



Guided Survey

102 individuals participated in the guided survey, 68.6% were females and 31.4% were males. The initial mean fear for females was 3.46 and 2.87 for males. After viewing the five clips, the mean fear for females was 3.86 and 3.29 for males. This data indicates a 0.4 mean difference between both genders' initial and final (post-viewing) fears. However, this degree of change is less than the fear change ascertained from the independent survey, indicating that the images had a stronger impact on the participants' fears of aging. Although the initial fears for females in the independent survey were lower than those in the guided survey, the difference between the mean value of their final fear was only 0.03. This close relationship, however, was not shared by the data collected from male respondents whose independent and guided survey final fears were 0.28 apart.

Discussion

Implications

Prior to conducting the study, the researcher hypothesized that negative portrayals of adults 65 and older in films would significantly impact adolescents' understanding of this demographic. This hypothesis proved correct and provided insight into adolescents' general sentiments towards adults 65 and older prior to the films' influence. While some negative stereotypes were indicated, adolescents do largely respect adults 65 and older for their "life experience", but they remain largely ill-informed on the realities of daily life for this age group. Approximately 20% of adolescents identified the correct percentage of adults 65 and older dealing with various aspects of aging, but most overscored common stereotypes such as health and relationships. After being shown images from films in which adults 65 and older were negatively portrayed, adolescents shifted their agreement with generalized

statements by over 20%, and their mean fear increased by more than 32% for females and 46% for males. Similarly, after watching clips of films negatively portraying the 65 and older population, viewers' mean fear increased.

As established in the literature review, Americans fear aging, but these fears find no solace in the film industry which profits from negative portrayals of aging. A study commissioned by LG Electronics concluded that Americans enjoy watching movies, evident in the sheer number of films the average American views over their lifetime (over 3600 films) (Anderer, 2019). While it is unclear exactly how many of these films may contain negative portrayals, as concluded by the portrayal analysis (see **Appendix A**), if a film has a character 65 or older, it is likely that there will be negative aspects of their portrayal of aging, feeding these fears. With ever-expanding access to media, American adolescents are bombarded with messages that demonize the aging process and those going through it. This creates a willingness of adolescents to take drastic measures that have unintended financial and health-related costs. These measures pose risks to their personal safety as well the safety and well-being of older Americans.

Adolescents need to be more conscious of the realities they know to be true of older adults and use those to resist the false notions being pushed through media, cinema included. However, not all the responsibility lies with the viewers; directors and writers must also be conscious of the narrative they are presenting to audiences. With regard to the results of this study, perhaps filmmakers should more closely align their depiction of the experiences of older adults with their realities, as the storyline permits.

Limitations

Certain limitations must be taken into account while understanding the implications concluded by the study. Among these limitations include the size of the study population, the use of images and short clips rather than full-length films, and the use of films from a single genre.

The study population included only 396 participants aged 14 to 18, which represents .0018% of the United States population in the same age group (*United States Population by Age and Sex*, 2025). As such, extrapolating these methods to the entirety of the adolescent population of the United States might yield different results. This is especially true of the comparison of the guided survey to the participant survey in terms of their mean fear. The difference in the number of independent and guided survey participants was significant, so repeating the study with two equinumerous groups might alter the relative strength of clips' influence on adolescents' fear of aging. Additionally, only ten films were analyzed and presented to participants. As such, the portrayal of adults 65 and older in these ten films might not represent the general portrayal of older adults in all films starring a character 65 and older.

Another limitation posed by the methodology of the study is that only static portrayals (images) and short clips were provided to participants in the test groups. Viewing a full-length film could affect how these portrayals are internalized by the participants, providing additional context surrounding the portrayals as well as elements of additional character development. Watching the films would also have enabled the viewer to observe the most common means of negative portrayal: brief passing commentary from other characters, which was strongly present in the 10 films analyzed. Additionally, watching the entire film could have fostered a deeper connection

or understanding between the character and the viewer, making their experience more likely to impact the viewer's attitude toward the population.

Further, only one of the films analyzed was not a comedy, which affects the function of each character within the context of the film and the nature of their portrayal. However, the researcher observed that comedy films were among the most common genres starring characters 65 or older, exclusive of fantasy or film series.

Lastly, the implication directed at writers and directors might be limited in its success as these types of portrayals are what audiences are accustomed to. Changing the nature of the depiction of older characters might not be well received by audience members who rely on the film industry's comedic approach to aging as a coping mechanism regarding their own fears on the subject. As production houses are gradually becoming more conservative in their approach to successful film construction, new depictions might not exude the same monetary incentives.

Future Directions

The results of this study open the door for a multitude of additional research endeavors. For example, the use of positive portrayals to reduce one's fear of aging might be of interest to researchers as the current sentiments have shown to wreak havoc on society. Further research into positive portrayals, including the replication of this present study (with positive depictions), might demonstrate the ability to mitigate the harm precipitated by these fears. Additionally, researchers may want to consider the effect of participants' culture, race/ethnicity, or religion on the effectiveness of these films to impact one's fear of aging and understanding of the aging process. Participants who share a character's culture, race/ethnicity, or religion may be

differently affected by their portrayal in film as more personal associations may be drawn between themselves and their relatives.

Researchers might also want to investigate if different results are achieved when participants watch the entire film, as it might facilitate closer connections between participants and characters, making them more invested in the story. Audience members being more invested in films with accurate portrayals of life past 65 could educate viewers. Education is clearly needed, as, through Section 1 of the independent survey, one can plainly see that adolescents are largely unaware of the realities of this period. Participants of the study most often used descriptors associated with overly generalized stereotypes and routines, such as "Wake up, eat breakfast, watch the news, eat lunch," followed by other activities and mealtimes. Diversifying adolescents' understanding of the realities of the lives of individuals 65 and older could help bridge the gap between generations beyond the familial or instructor relationships that dominate group interactions, forging more age-integrated communities.

Further, the incremental differences among each age group might be relevant to future researchers. Through this course of study, one could further investigate the development of aging-related fears and how they change from year to year during adolescence. This would pave the way for effective means of preventing such fears from developing and mitigating the negative effects on American society.

In addition to the aforementioned nuances proposed for investigation, the researcher also recommends that the present study be repeated with a larger participant group, a larger film sample size, and that the participants should be shown the entirety of the films in an effort to reduce the limitations of this particular study.

Conclusion

In conclusion, the adolescent population in America is fearful of aging. Their fears are fed, among many sources, by the American film industry, whose negative portrayal of older adults can enhance previously held fears. However, the portrayal of older adults in films is not always negative, and more accurate, positive portrayals could be used to educate misinformed populations about the reality of aging and the lives of Americans 65 and older. This could also reduce the fears of aging held by Americans as they realize the stereotypes their fears were grounded in, not the facts. With the power to dictate how individuals, communities, and the world perceive aging, it is up to the makers of Hollywood to take a more proactive approach in combating the fear and destructive forces of evil that are gerontophobia. After all, in the words of Ferris Bueller, “Life moves pretty fast. If you don't stop and look around once in a while, you could miss it” (Hughes, 1986). More need to embrace the scooters and sweater vests without fearing wrinkles; they are part of the adventure.

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Appendix A

Film Summaries and Portrayal Analysis Film 1: *Thelma* (2024), Comedy/Action, Directed by Josh Margolin

Brief Summary -

After 93-year-old widow Thelma Post falls for a call scam, she sets out, aided by her long-time friend, Ben, to retrieve the ten thousand dollars taken from her account. While navigating the limitations thrust upon her by society and her own physical limitations, Thelma defies all odds to retrieve the funds and re-establish respect of her family.

Portrayal Analysis Overview -

Thelma Post (93) and Ben (81) are the two main characters in this film. Both characters have a stereotypical appearance with costume components such as sweaters, hearing aids, a “life alert” bracelet, sneakers, glasses, and white/grey hair. Thelma and Ben’s physical abilities are limited to the extent they walk slowly and labored, Ben uses a mobility scooter which Thelma later borrows. In one scene, Thelma falls and cannot get up, but Ben is there to help her up as he learned to do at his assisted living facility. Thelma, a widow, lives alone and is visited by her grandson who takes many of her gestures with humor. Ben lives in an assisted living facility and is well regarded because he remains highly mobile. Both Thelma and Ben are largely ignored outside their immediate social circles and not taken seriously. The story revolves around them using this “invisibility” as a means of achieving their ultimate goal. Thelma is often called a “crazy old lady” and treated as senile by her family members. She is shown several times interacting with people she thinks she has met before, but then realizes she has had no previous interaction with them. Ben is never depicted as having diminished mental abilities. Thelma’s demeanor is kind and caring towards her friends and family but is frustrated by the

realities of her aging life. Ben is portrayed as being very content with his relatively stress-free life in the assisted living facility.

Image selection -



(Figure A1 Still from *Thelma* 00:05:24)

Figure A1 was selected because it conveys the emotion portrayed in the opening scenes of the film, where Thelma is moving alone through her monotonous life. Thelma, sitting alone at the table, seemingly lost in thought, conveys the notion that people within this age group may experience loneliness. Within the context of the film, contrasting the experience of Ben, who lives among other people, the message is clear that older people who keep their independent lifestyle risk becoming quite lonely.

Film 2: *Going in Style* (2017), Comedy/Crime, Directed by Zach Braff

Brief Summary -

Three longtime friends and retired colleagues, Willie Davis, Joe Harding, and Albert Garner, set out on a quest to avenge their union whose pensions were canceled by the bank. While each brings with them their unique set of motivations, together they utilize the invisibility that comes with age to carry out a series of heists and ultimately avenge the place of older adults in society.

Portrayal Analysis Overview -

Willie Davis (79), Joe Harding (84), and Albert Garner (83), the three main characters, are each in the 65 and older age group. All three are ex-factory workers who are treated as “old timers” in society. While each of the three possesses a unique style, common elements of costume include slacks, button-down or golf shirts, and hats with either sneakers or loafer shoes. Slowness was a key factor in the portrayal of their physical abilities. In one scene, Willie and Joe utilize an electric scooter to escape after a supermarket heist. Yet, later, they are shown going on walks to “get in shape.” Their “worthlessness” is depicted when their pension is cancelled, conveying the message that members of this age group are not self-reliant, helpless, and ignored. In one scene, Willie is disregarded by the police despite accurately describing a unique feature of a robber. Joe has a kind and willful demeanor; Willy is kind and gentle but longs for his family who lives far away; and Al is content as the “Lady’s man”.

Image Selection -



(Figure A2 Still from *Going in Style* 00:32:19)

Figure A2 portrays the characters as immobile, riding in tandem on an electric scooter. An element of humor is present but delivers a message of age related immobility.

Film 3: Mrs. Harris Goes to Paris, Comedy/Drama, Directed by Anthony Fabian

Brief Summary -

After finally accepting the death of her husband, Mrs. Harris, a 1950s housekeeper widowed during the Second World War, sets out to purchase her dream dress from The House Of Dior. After saving enough money and planning her entire journey, Mrs. Harris finds herself in Paris and makes her way to the House of Dior. Through her kind selflessness, Mrs. Harris makes friends throughout her adventure, something that ultimately helps her achieve the goal of owning a spectacular Dior gown.

Portrayal Analysis Overview -

Mrs. Harris (65), an aging cleaning lady, is the only main character in the film who falls into the 65 and older age group. Mrs. Harris’s attire is difficult to distinguish as ‘stereotypical’ as the film is set in the 1950s; however, she is always ‘put together’ with a complete outfit comparable to those of younger characters. She does not have grey hair, nor does she wear glasses. Mrs. Harris is physically strong and agile with no obvious physical limitations. As a cleaning lady, she is largely neglected by her bosses and initially deemed unimportant by the manager of the House of Dior. Mrs. Harris is told “You’re a nobody” but later works to break the social barriers thrust upon her. Mrs. Harris’ demeanor is kind, caring, gentle, empathetic towards the plight of those around her.

Image Selection -



(Figure A3 Still from *Mrs. Harris Goes to Paris* 00:25:41)

Figure A3 reflects the loneliness felt by Mrs. Harris. Selected to investigate the ability of the still image to influence the audience, Mrs. Harris is seen staring into the mirror, surrounded by darkened colors, the sadness expressed by Mrs. Harris is palpable.

Film 4: The Bucket List, Comedy/Adventure, Directed by Rob Reiner

Brief Summary -

Carter Chambers, a 66-year-old car mechanic, and Edward Cole, a 70-year-old billionaire randomly share a hospital room after learning they both have terminal cancer. Initially, they share little in common other than cancer, but upon reflection they quickly learn that both are questioning their life choices and accomplishments. Despite being rather grumpy, they jet off together in the hopes of doing everything they have always dreamed of doing, before they die. In the midst of their adventures, they build a true friendship, helping each other heal and mend fractured relationships.

Portrayal Analysis Overview-

Carter Chambers (66) and Edward Cole (70) are the two main characters 65 or older in this film. Both characters' wardrobes fit their various adventures, i.e., wearing typical clothing of India while visiting the Taj Mahal. Carter and Edward's immediate physical abilities are not impaired, although their gait is slow and impaired after chemotherapy treatment. Edward, an accomplished businessman, is a father and grandfather who lives alone. He is sharp and witty, yet short-tempered, bold, and expects to be waited on. Carter, a seasoned car mechanic who has earned the respect of fellow workers as being "all-knowing" and wise, is married, with three grown children and young grandchildren. He is distant and a bit down, feeling rather useless.

Image selection -



(Figure A4 Still from *The Bucket List* 01:23:40)

Figure A4 was selected to portray one of the main characters receiving medical care. While there is no indication as to the specific medical issue, the hospital bed and hospital gown make clear that he is sick.

Film 5: 80 For Brady, Comedy/Sport, Directed by Kyle Marvin

Brief Summary -

Inspired by a true story, *80 for Brady* tells the story of four New England Patriot-obsessed best friends, Lou, Trish, Maura, and Betty who set out to live their dream of attending the Super Bowl and cheering on Tom Brady.

Portrayal Analysis Overview-

Lou (83), Trish (85), Maura (91), and Betty (76), the four main characters in this film, are all 65 and older. They wear Patriot team Jerseys, with three of the four wearing heavy makeup and are often seen wearing large jewelry with dyed hair. The youngest main character, Betty, wears no makeup and appears with natural brown hair color. All four main characters have no physical limitations, they drive cars, are agile but slow, and talk about not having strong taste buds anymore, "unless there is extreme flavor". Lou lives alone and has one daughter. She uses avoidance and clings to her friends hoping to live out their dreams, rather than face the reality of her own oncology test results. Trish has an active social life, admiring younger men in "tight

pants”, lives alone, and is an author. Maura is a widow and lives in an assisted living facility after longing for her husband who passed. After taking anti-depressants and realizing there is much more life in her, she moves back home. Betty is married, living with her husband and is a retired MIT math professor. She regrets the sacrifices that she has made and stands up for herself, leaving with her friends so as not to miss out on the adventure. Lou, Trish, and Maura are intuitive and have full mental capabilities, while Betty exhibits strong math abilities and uses her knowledge to help them understand and play poker in a room full of younger serious poker players.

Image selection -



(**Figure A5** Still from 80 for Brady 00:23:08)

Figure A5 was selected to portray adults 65 years and older living in an assisted living facility. There is no evidence of the circumstances behind them living there, with the exception of Maura (91) who moved there for companionship after becoming a widow.

Film 6: Jerry & Marge Go Large, Comedy/Drama, Directed by David Frankel

Brief Summary -

Based on a true story about Jerry and Marge Selbee winning the lottery by discovering a mathematical loophole in the Massachusetts lottery system. They are from a small sleepy town in Michigan. Jerry secretly begins to buy lottery tickets, keeping them secret from Marge. Yet as he begins to win, he shares his secret with Marge, later including friends in town,

quickly gaining investors to pay into their lottery scheme. The lotto group ultimately uses their winnings to rebuild their hometown of Evart, Michigan, resulting in Jerry and Marge becoming town heroes.

Portrayal Analysis Overview-

Jerry (65) and Marge (66) are the two main characters in this film, both 65 and older. Jerry wears short-sleeved button-up shirts with ties, a shirt pocket with a pen protector, pen and notepad. Marge wears a nondescript shirt and jeans, along with sneakers and light makeup. They are both agile and move about without assistance. Jerry and Marge are in their golden years, married with grown children and grandchildren. Jerry is a bit disconnected from his community and rather lost after forced retirement. However, he uses his gifted math ability to connect to people. Marge is an encouraging wife and a beloved neighbor. Jerry is reflective as he tries to find things to replace his boredom after retiring. He takes no risks yet is always polite and noticeably excited when explaining math. Marge is very matter of fact and begins to take charge as the movie unfolds. She is peppy and sociable within the small community of friends and neighbors.

Image selection -



(**Figure A6** Still from *Jerry and Marge Go Large* 00:36:16)

Figure A6 was selected to portray the clothing and appearance of adults 65 and older. Jerry is sitting at the diner wearing a short sleeve button-up shirt, notebook

visible in his shirt pocket with a pocket protector, jeans and nondescript sneakers.

**Film 7: A Man Called Otto,
Comedy/Drama, Directed by Marc
Forster**

Brief Summary -

Otto Anderson was a grumpy man, living with hypertrophic cardiomyopathy in a rowhouse in Pittsburgh. He was recently widowed after his wife passed away from cancer. While his neighbors attempt to remain friendly after his wife's passing, Otto has no desire to interact with anyone. Feeling as if there was nothing to live for, he turned off his utilities and set plans in motion to take his own life. Unfortunately for Otto, a young family moves across the street with young children and is expecting another. Marisol introduces herself and her family to Otto, but despite her pleasant manner, he is grumpy and determined to avoid them. Marisol is relentless in getting to know her neighbor and, unknowingly, repeatedly thwarts Otto's plans to take his own life. Throughout the movie, Otto is learning to live and love again, while becoming part of the neighborhood family.

Portrayal Analysis Overview-

Otto (65) is the main character in this film and is 65. He is always dressed in a professional manner, always in slacks and a sweater. He wears reading glasses around his neck and uses a paper phone book to locate telephone numbers. Otto is extremely agile, walks with purpose, and is very handy with machines. Yet, Otto is an older, angry and rude neighbor, always telling people which "community rule" they have broken, such as leaving garbage bins out past pick-up. Despite this reputation, his neighbors seek him out for help with things like fixing household appliances. Otto is very strong in math, extremely methodical and organized. He rarely waivers from his routine and is systematically driven to accomplish his daily tasks. Additionally,

throughout the movie, Otto is portrayed as angry and lonely. He is belligerent, rude, and obnoxious to those he encounters. Short tempered, he loses control easily thinking everyone is an "idiot". However, Otto's unique compassion is on display when his neighbor, thought to be in a catatonic state, is forced to move to a nursing home because his wife is thought to be unable to care for him any longer. Yet, Otto fights for them to stay and offers his wife some help. He is kind in his own way despite trying to find meaning in his life without giving into his painful desire to join his wife.

Image selection -



**(Figure A7 Still from *A Man Called Otto*
00:24:02)**

Figure A7 portrays Otto as a widower, visiting the grave of his deceased wife, looking lonely and contemplative on a chair with flowers.

**Film 8: Book Club, Comedy/Romance,
Directed by Bill Holderman**

Brief Summary -

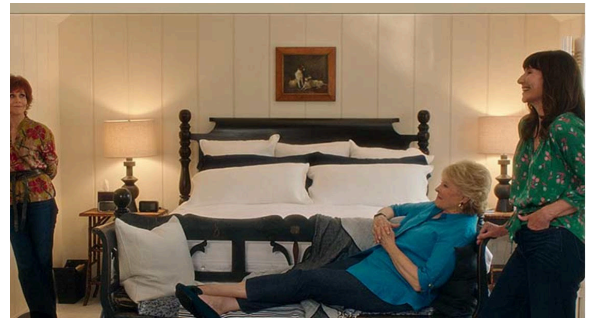
For forty years, longtime friends, Diane, Vivian, Sharon, and Carol have shared a book club in the hopes of staying connected despite their busy lives. However, when they realize their lives have become mundane as they have gotten older, they decide to read the infamous "50 Shades of Grey" as their next book. The group quickly realize that they are longing for more

excitement in their older years and push each other to find adventure.

Portrayal Analysis Overview-

Diane (72), Vivian (80), Sharon (71), and Carol (65), are the four main characters in this film, all over 65. All four main characters are fashionable, wearing stylish clothing, jewelry and glasses. They are agile and have no mobility issues of any kind. Diane is a widow with two grown children who feel their mother needs to move on and move closer, so they can take care of her. Vivian is a wealthy hotel owner, very independent, and has a fear of commitment. Sharon is a federal judge, divorced with a son who is engaged, and lives with her cat. Carol is the youngest, married but feels lonely and underappreciated by her husband. All four characters joke throughout the movie about their occasional memory loss but, in reality, they are all very sharp and always present. Diane is independent despite her two daughters treating her like a child, forcing her to pack up her house and move-in with one of them (Adrienne). Sharon is a bit uptight, conservative, hesitant, and unsure of herself. While Vivian is cheerful and ambitious. Diane is retrospective and cultured. In contrast, Carol is feeling useless and “pathetic”, going to great lengths, like slipping Viagra in her husband’s beer, to reconnect, feel loved, and excited by her husband. Older age has taught these main characters that they want happiness, love, and by letting go they are able to live in the present. Once they embrace aging, they live happily ever after.

Image Selection -



(**Figure A8** Still from *Book Club*
00:31:26)

Figure A8 was selected as it portrays a group of 65-year-old women hoping to find excitement despite being sedentary, as they sit in Diane’s bedroom.

Film 9: Poms, Comedy/Sport, Directed by Zara Hayes

Brief Summary -

Martha has been living in the same apartment in New York City for the past 46 years. After discovering she is dying of cancer, she decides to stop treatment and moved to a retirement community in Georgia. After arriving, she is given a tour by a few residents, who explain that every resident must belong to one of the community’s clubs. Dismissing most of what she is told, Martha sets out to find her house. While carrying a moving box up the walkway, Martha is stopped by her next-door neighbor, Sheryl, who introduces herself. Despite being exasperating and having loud parties, Sheryl and Martha quickly find comfort in each other and become friends. Sheryl finds out that Martha was a cheerleader when she was younger, quitting to take care of her mother. Subsequently, they form a cheerleading club in the community and recruit people to try out for their squad. Martha and Sheryl encourage the women to train hard and defy all the odds, landing a spot at a local cheerleading competition, being by far the oldest squad there.

Portrayal Analysis Overview-

Martha (73) and Sheryl (71) are each over 65. Martha has grey hair, wears jeans, a button up shirt, sneakers, a scarf around her neck, and a jacket. She is agile but looks a bit uncoordinated when she begins dancing until muscle memory helps her glide into some of her younger moves. She lived in New York City for 46 years in the same apartment before moving to the retirement home and trying to keep to herself. Sheryl is mobile, has red hair, a full face of make-up, wears leggings, a jacket, and large colorful earrings. She is a risk taker and talkative while Martha is a loner and wants to keep to herself. Martha is impatient, extremely matter of fact, and blunt. She tells Sheryl that she moved to the retirement facility “to die”. She is irascible yet a leader and coaches the newly formed cheerleading squad. Sheryl is funny and ambitious. She is positive and a true cheerleader for the squad in more of a figurative manner, cheering for her neighbors’ successes.



(**Figure A9** Still from *Poms*
00:06:16)

Figure A9 portrays a group of 65-year-old women walking on the pool deck of their retirement community. No one works by nature as people move there to retire from work and are able to spend their time in community clubs.

Film 10: Space Cowboys, Adventure/Action, Directed by Clint Eastwood

Brief Summary -

After being replaced by a monkey to be the first Americans in space, military personnel Frank, Hawk, Jerry, and Tank are called back into service four decades later as the only individuals able to save the earth from disaster by a malfunctioning Russian satellite.

Portrayal Analysis Overview -

Frank (70), Hawk (53), Jerry (65), and Tank (72) are the main characters in the film and are all 65 or over. All four characters are visibly aged with grey, white, or thinning hair but wear “up to date” clothes. Jerry wears dentures and glasses which are the source of some comedy within the film. Frank, Hawk, Jerry, and Tank are all active, agile, and strong but noticeably less than the younger astronauts training with them. They initially struggle, but build the endurance and strength required to pass a mandatory physical examination. While mocked in the beginning, the group gradually gain the respect of the younger astronauts, NASA executives, and the American public as they are welcomed onto talk shows and other media appearances. All the characters remain sharp-minded and, after some trial and error, are able to adapt to the “modern” technology of the training program, able to solve problems that the younger crew cannot. Frank is strict and desires redemption for the humiliation he underwent years prior and tries to keep the group focused. Hawk is the pilot of the group and is lighthearted and gregarious. Jerry is overly flirtatious and embraces the aspects of old age that some of the other characters ridicule. Tank often goes along with the group and does as he is told to by the leaders.

Image Selection -



(**Figure A10** Still from *Space Cowboys*
00:44:53)

Figure A10 portrays the group of older characters engaging in physical activity in contrast to the younger characters. The older characters appear to be struggling while the younger characters are up and ready to start the exercise, conveying the message that older adults have reduced physical capabilities compared to younger individuals.

Effects of Religion on Screen Time Usage and Family Relationships

Rachel Ghitelman

Literature Review

Introduction

Have you ever found yourself in a situation where you and your family members are sitting around a table, mute, staring at a screen? According to Langford et al. from the Division of Comparative Effectiveness and Decision Science at NYU School of Medicine, “In 2018, approximately 95% of Americans owned a mobile phone of some kind” (Langford et al.). It's unbelievable right? In this modern day society, in the United States, anywhere one goes, a cell phone is insight. According to Award-winning Special Contents Producer for WCNC-TV Meilin Tompkins, “Since 2020, the average screen time for American adults has increased over 80%” (Tompkins). Children in the ages 8-10's average screen time is 6 hours a day, while children 11-14's screen time is about nine hours a day (Tompkins). The mobile device industry's significant impact on people all around the United States has led to extensive research about the effects of immoderate screen time. The effect is so strong that CNBC writes that the average American checks their phone 144 times daily (Renée Onque). The Addiction Center, an informational web guide for those who are struggling with keeping themselves from limiting their phone usage states that “chronic phone use is a recently developed form of addiction” (Gomez). Consequently, this paper will explore the impact of screen time on Americans through medicine, news outlets, policies, and history.

Medical

Screentime, the time that one spends looking and using screens, has a significant impact on people's health. A pediatrician at the PES Institute of Medical Sciences and

Research, Muppalla Kumar, states that “Children's heavy reliance on screen media has raised serious public health issues since it might harm their cognitive, linguistic, and social-emotional growth,” this is why action must be taken (Kumar Muppalla et al.). Kumar continues to state that “media multitasking was found to have a negative impact on executive functioning in teenagers, notably on working memory, inhibition, and the capacity to switch between tasks” (Kumar Muppalla et al.). Kumar's findings clearly show that the effects of surplus phone usage is not merely an annoying recommendation that parents say to their children, it is a real problem that can have real consequences to one's mental health. Furthermore, Gadi Lissak, a behavioral medicine psychologist lists some side effects that come with excessive screen time; some include: “poor sleep and risk factors for cardiovascular diseases such as high blood pressure, obesity, low HDL cholesterol, poor stress regulation (high sympathetic arousal and cortisol dysregulation), and Insulin Resistance” (Lissak). As shown, exaggerated screen usage leads to health risks, potentially leading to death. Additionally, spending so much time on screens also has an extremely harsh and negative impact on the eyes. The Children's Hospital of Philadelphia states that it can cause eye fatigue, dry and irritated eyes, loss of focus flexibility, and nearsightedness (Children's Hospital of Philadelphia). Overall, excessive screen time is a significant cause of many health issues, and as technology advances, and new generations are raised with screens surrounding them, the urgency of controlling this problem rises.

Organizations and News Outlets

Organizations and news outlets use personal stories from different people to clearly show screen time's effects on the population. High 5 Inc., is a family-first

multi-purpose facility, dedicated to positively impacting the lives of residents in Florida and beyond. They state that “Parents might find themselves absorbed in work emails or social media, while children immerse themselves in virtual worlds or the latest trending videos. Consequently, these fragmented interactions lead to a weakening of the familial ties that are meant to provide support, love, and a sense of belonging” (“Screen Time vs. Family Time”). When parents are not focused on their children it leads to excess freedom for kids who need boundaries, weakening family relationships. Jennifer Jolly from USA Today gives an example of her screen-addicted niece who “taps and swipes and stares, totally hypnotized by its magnetic pull. Screens are already her go-to method of comfort, her favorite reward – even better than candy!” (Jolly). Jolly’s niece is only two years old, and she is already restrained to a screen. Michelle Marchante from the Miami Herald also writes an article on the effects of screen time. Furthermore, she states “research shows a correlation between the internet, social media and an increase among children for suicidal thoughts and other health-related concerns, experts say” (Marchante). This is extremely significant because not only is screen time correlated to health issues but also suicidal thoughts. She continues to explain that data shows “that teens who spend more than three hours daily on electronic devices have a 34% increase of likely experiencing suicidal ideation or attempts” (Marchante). Organizations like High Five Inc. and news outlets give a crucial perspective on screen time’s effects, as they provide a detailed insight to individuals’ personal stories.

Policies

The effects of screen time are so impactful that several countries, including Taiwan, China, and Sweden, have policies against them. Melissa Lockers, a reporter for

the Time, states that “Taiwanese parents are now legally obligated to monitor their children’s screen time” (Locker). She continues to explain the Child and Youth Welfare and Protection Act, an act that allows the government to fine parents who allow their underaged children to use electronic devices for extended periods of time. The fact that the United States government recognizes that there is a problem with screen time usage, and acts upon it, goes to show how urgently people must seek to control screen time. Along with Taiwan, China has also created a set of laws that restrict screen time for children, the MIT Technology Review states that “the rules are *incredibly* specific: kids under eight, for instance, can only use smart devices for 40 minutes every day and only consume content about “elementary education, hobbies and interests, and liberal arts education”; when they turn eight, they graduate to 60 minutes of screen time and “entertainment content with positive guidance” (Yang). The reason why these countries set several extremely specific laws is that they want to increase enforcement and eliminate the possibility of any loopholes around said laws. Since they have ensured to maintain a firm front in their goal to reduce screen time for children, the laws they put in place have been extremely effective. France and Sweden have also set restriction recommendations for screen time usage in children. France’s strategy is “pre-installed parental controls,” which are the government’s set laws that prohibit phone usage in schools, and require social media age verification, in order for all children under 15 to require parental consent to use any type of social media (Frattari). Sweden’s recommendations include no more than one hour a day for children 2-5 years old, two hours for ages 6-12, and a maximum of three hours a day for teenagers (Dazio). Ultimately, governments all over

the world have taken action to prevent further damage made by excessive screen time which shows that this is a prominent problem all over the world that must be addressed.

History

Even though cell phones can be used to communicate with family members and bring people that are separated by distance together, for those that are close, they can be a detrimental factor that may affect their relationships. Human Performance Resources, a team of scientists and specialists who translate research into evidence-based resources, states that taking cell phones out during family time, even for work purposes, “can increase distress and strain on a family” (Human Performance Resources by Champ). For example, when children are at the playground 60-80% of parents use their cell phones, which affects their attentiveness toward their children's actions (Human Performance Resources by Champ). In fact, “56% of parents using their phones don't respond to their children's calls for attention on the playground, compared to 11% of parents who don't respond but aren't using a mobile device” (Human Performance Resources by Champ). This research clearly shows that after cell phones were invented parents' ability to build relationships with their children was negatively affected. Not only do phones affect familial bonds, they also have an effect on the creation of families itself. A blog by cjarrettblog, a freelance writer, states that “people's views in the 80's and 90's of what a family is supposed to be and their views on marriage and relationships were obviously different then people's views on those issues today” (cjarrettblog). They say this because communication has changed a lot over the years. Previously couples met face-to-face and got to know each other better than the way people tend to do it now, which is often through dating

apps such as: Bumble, Hinge, Tinder and more. Therefore, not only did cell phones and screen time affect the way that children are raised, it also affected the way that families are created.

Gap/Hypothesis

These findings suggest that there is a gap on the impact that screen time has on family relationships, which is if the amount of time that one spends looking at a screen is correlated with religion and how that may affect family relationships. I believe those who are affiliated with religions that have rules or traditions against phone usage will have stronger relationships with their families.

Inquiry Method Review

For my research project, I created four surveys for the four different groups of people that I tested. The groups are Jewish: non-orthodox parents, non-orthodox children, orthodox parents, and orthodox children. My surveys were completely anonymous so I was not able to determine if some of the participants are related. In the surveys I inquired if the participants are accustomed to having a sit down dinner with their families every night, and if the dinners include their cell phones. For many families dinner is an important factor to their relationships as it is a time that allows for reflection about their day, which is why I chose to specifically ask about dinner. All of the participants in my study are Jewish but not all of them observed Shabbat which was the main component that affected my study. Within the surveys, each group of people was asked questions about their screen time, family relationships, and customs regarding family time that are created specifically for their ages. My population size was 100 people that live in South Florida which will help me answer my research question: do screens impact family relationships and how

might religion play a part in this? Each survey had various multiple choice questions and at least one open-ended question, allowing participants to elaborate on their opinions. After considering the lack of differences between the groups in my first round of surveying, I decided to create a second survey that was sent to people who identify with the following religions: Christianity, Hinduism, Buddhism, Islam, and Mormonism. I created a new survey in hopes of finding a significant nuance, and I did. The second survey followed the same set of questions that I asked the Jewish group of participants but had significantly different results. I had a population of 60 people and was able to question at least one person affiliated to each religion.

Findings/results:

The first question in my survey was: Choose the option that describes you best.

Non-Orthodox Child

Orthodox Child

Non-Orthodox Parent

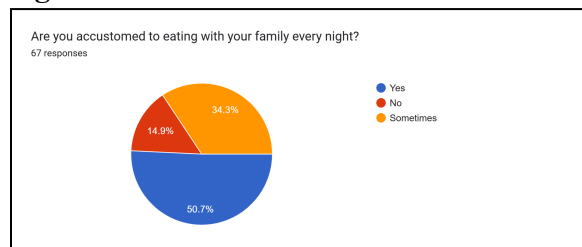
Orthodox Parent

After they answered this question, depending on their answer they would be directed to a specific set of questions.

Non-Orthodox Children:

Most non-Orthodox children answered that they are accustomed to eating dinner with their families at least one night per week.

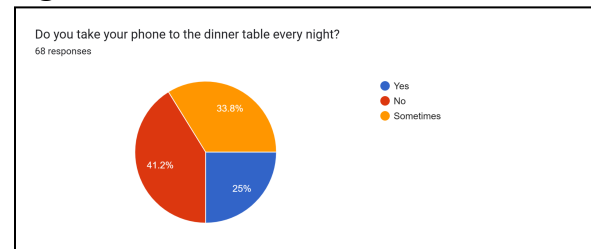
Figure 1:



Most of them also stated that they do not bring their cell phones to the dinner table. This shows that most of the children that I surveyed are not stuck to their phones throughout their entire dinner, rather they

get the opportunity to engage with their family members and bond.

Figure 2:



I then asked the non-Orthodox children group if they believe that having one night per week in which they are obligated NOT to use their phones at the dinner table would help make their family relationships stronger. Seventy five percent of them stated that they did not think it would help at all and that they would be completely opposed to trying it; one even said “none I will never spend more than two minutes without my phone.” This quote from one of the children shows the level of addiction and dependence that today’s generation has on their cell phones. These addictions do not only affect the productivity that they can have during the day but also the relationships they can build and maintain

The participants then answered how close their relationships are with their mother, father, sisters, and brothers (if they have). This was measured on a scale of 1-3, one being not close at all and three being very close. Most in the non-Orthodox group state that the three is what best describes their relationships with family members.

Figure 3:

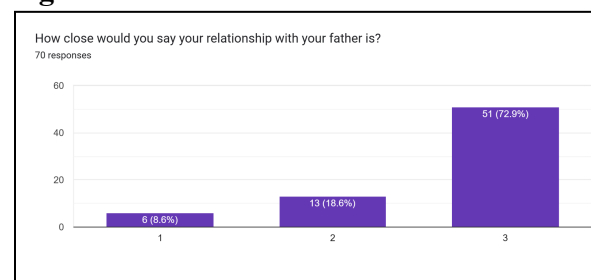
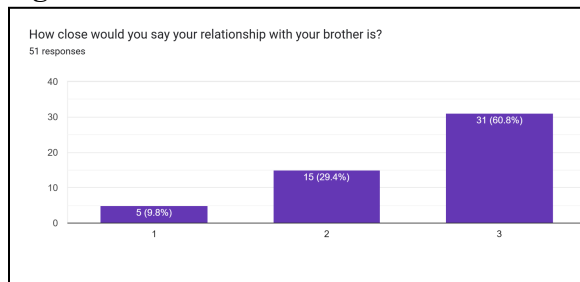
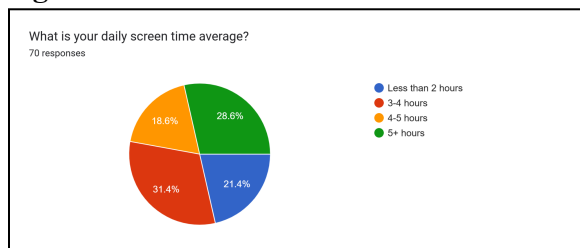


Figure 4:



Even though many of the children stated that they do not think that not using their cell phones at the dinner table makes a difference with their relationships, the results prove otherwise. Forty one percent of respondents stated that they do not bring their phones and as seen in Figures 3 and 4 the majority would describe their relationships as a three, or very close. The non-Orthodox children were then asked what their daily screen time average is:

Figure 5:

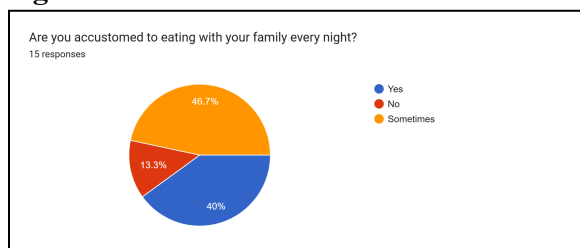


The amount of time that these children spend on their phones proves that there is an extremely prevalent addiction and attachment that non-orthodox children have to their cell phones.

Orthodox Children:

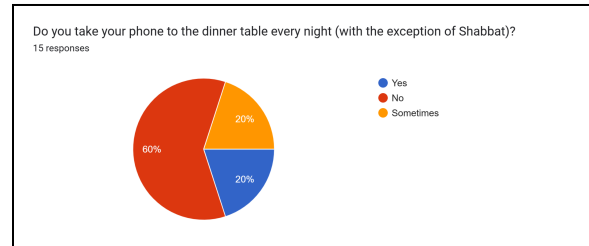
I asked the Orthodox children similar questions to the non-Orthodox. First, they answered if they were accustomed to eating dinner with their families every night.

Figure 6:



Then I asked the non-orthodox children if they bring their phones to the dinner table every night except Shabbat. Most of them stated that they do not.

Figure 7:



The results from the orthodox children are much more coherent as 60% of them never bring their phones to the dinner table. This can be for a variety of reasons, such as family traditions, religious beliefs, or even personal preferences.

Next, they answered two open-ended questions:

Do you feel that having one night per week in which you are obligated not to use your phone helps your family bond be stronger? Would you recommend families having a hard time bonding to have one night a week without electronic distractions?

Eighty two percent of the responses to both questions were yes. This is also a large difference between the orthodox and non-orthodox groups because the non-orthodox kids did not think that having their cell phones on them made a difference. However, majority of the orthodox children did identify a difference.

They then answered the 1-3 scale of how close they are with their family members:

Figure 8:

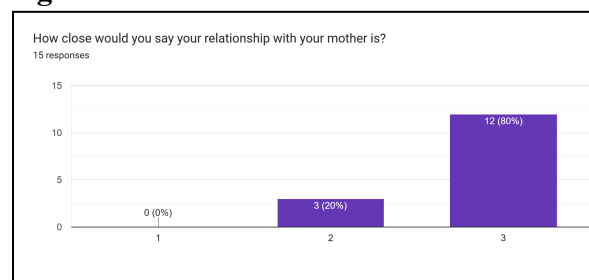


Figure 9:

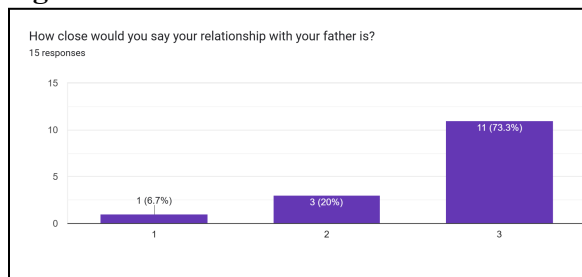


Figure 10:

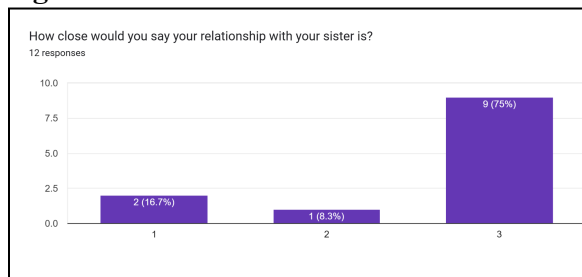
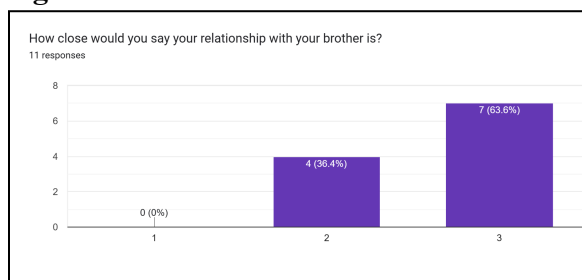


Figure 11:

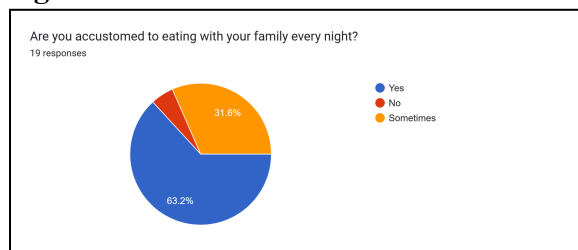


These graphs clearly reflect the results from the questions about the closeness of the Orthodox children's relationships considering that the majority of Orthodox children eat dinner with their families without their cell phones around. Even the ones who do not have one night per week (Shabbat) where they are guaranteed a cell phone-free dinner. This can explain exactly why Orthodox children tend to have closer, healthier relationships with their families.

Non-Orthodox Parents:

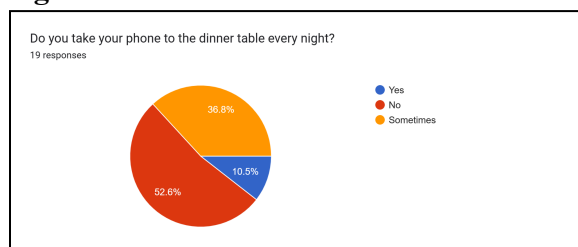
First, I asked the non-Orthodox parents if they are accustomed to eating dinner with their families every night.

Figure 12:



Then, I asked them if they brought their phones to the table while eating dinner.

Figure 13:



The parents' responses were extremely different from the children's responses because 52.6% of the parents do not bring their phones to dinner. The parents think in that matter because they want to set an example, or they want to have an uninterrupted discussion or conversation with their children.

Then I asked them 2 open ended questions:

1. Do you think that if you had one night a week when neither you nor your children could use electronics your family bond would be stronger?
2. Do you think that the time you and/or your children spend using electronics puts a strain on your relationship with your family? If so, explain how and why.

I received several answers pointing to "yes," below are two specific examples:

1. "Yes, more time to share with one another without distraction"
2. "Yes. Everyone is glued to their screens and it hinders conversation at times"

As shown, the parents are extremely aware of the effect that technology has on the relationships that they can build with their

children; however, not all of them act upon it.

I also asked about their relationships with their partner and kids:

Figure 14:

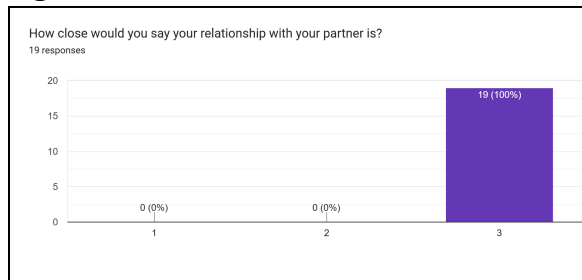
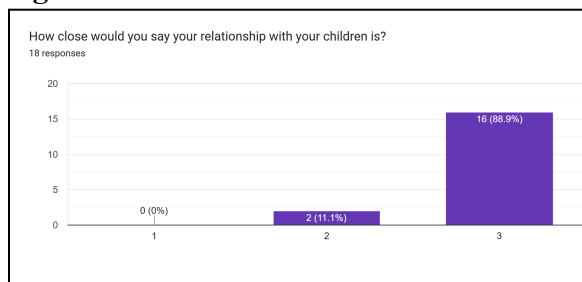


Figure 15:

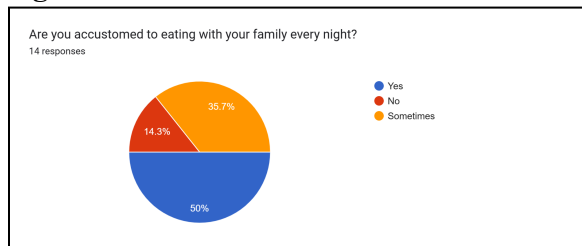


Considering that most of them do not use their phones and try to implement phone-free dinners as a rule in their households, the graphs demonstrate that they have very close relationships with their families.

Orthodox Parents:

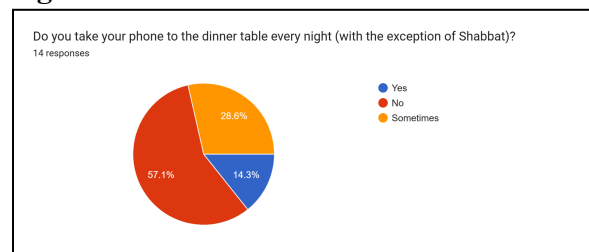
First answered if they are accustomed to eat dinner with their family every night:

Figure 16:



Then the survey asked if the Orthodox parents bring their cell phones to the dinner table every night with the exception of Shabbat:

Figure 17:



As one can see, 57.1% of Orthodox parents do not bring their phones to the dinner table on nights that are not Shabbat. This means that they do it voluntarily, not because of their religious obligations.

Additionally, the Orthodox parents were asked two open-ended questions:

Question 1: Do you feel that having one night per week in which you are obligated not to use your phone helps your family bond be stronger?

Question 2: Would you recommend families having a hard time bonding to have one night a week without electronic distractions?

Every respondent stated that they do believe that having one night per week without distractions coming from their electronics helps their family relationships and that they would definitely recommend other families to do the same.

Figure 18:

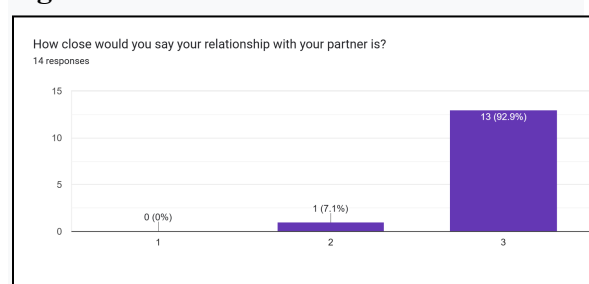
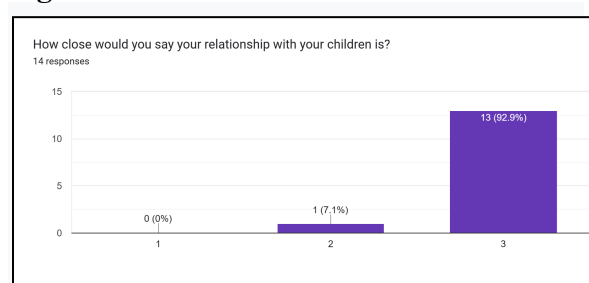


Figure 19:



Again, the graphs are extremely accurate to the responses to the questions about the level of affection that the Orthodox parents share with their families because most of them eat dinner every day without any distractions.

Analysis:

After reviewing the results of my study, I was able to determine that the results between the two groups did not vary by a large amount. Most of the children, Orthodox and non-Orthodox, do not bring their cell phones to their dinner tables resulting in a functioning, close-knit relationship with their family members. For this reason I created a second survey.

Results of second survey:

Christian Parent:

Figure 20:

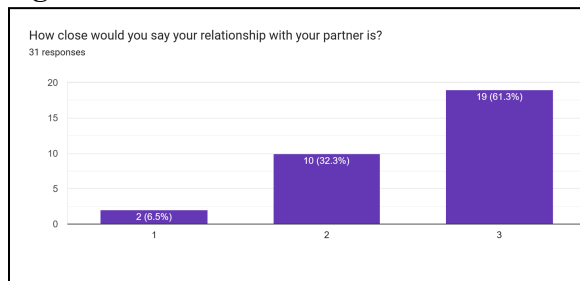


Figure 21:

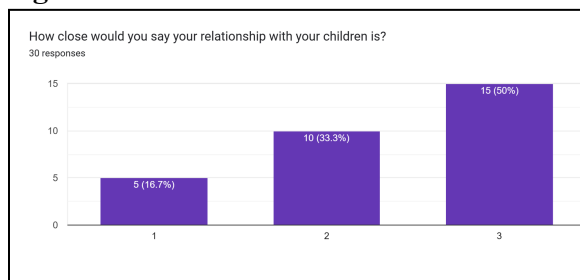


Figure 22:

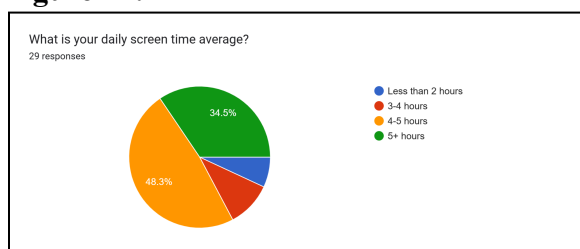


Figure 23:

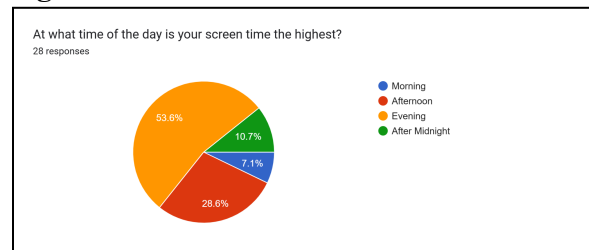


Figure 24:

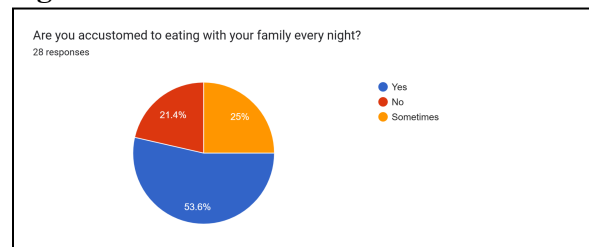
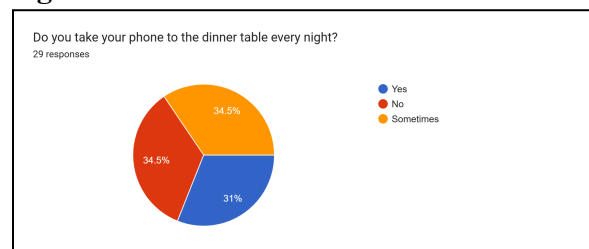


Figure 25:



Christian child:

Figure 26:

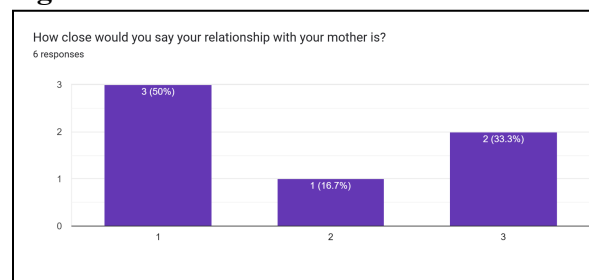


Figure 27:

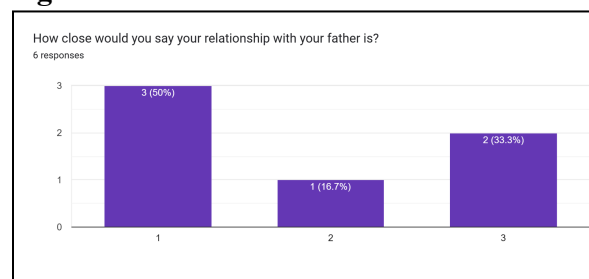


Figure 28:

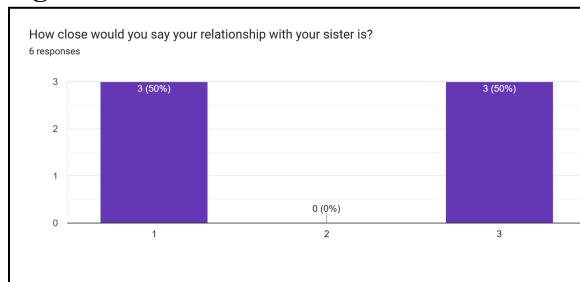


Figure 28:

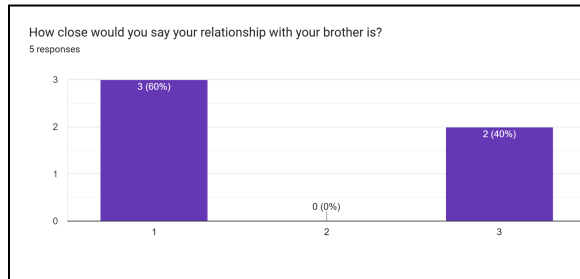


Figure 29:

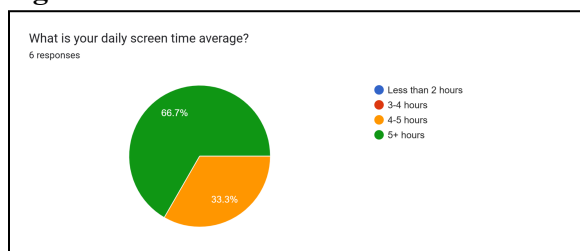


Figure 30:

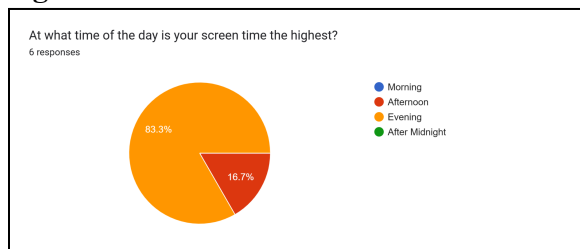


Figure 31:

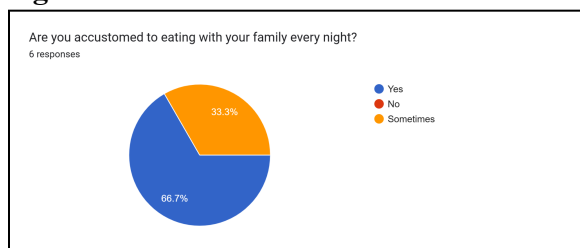
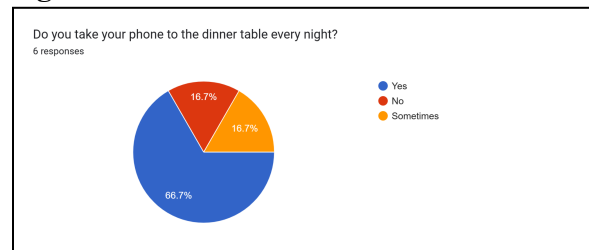


Figure 32:



For the group of Christian parents, it became apparent that there is a clear correlation between phone usage while eating dinner and the closeness of their family relationships. Most of the respondents answered that they are very close to their families and that they eat dinner with them every night; they also either do not use their phones at all while eating dinner or sometimes use them. This shows that because the group mostly does not have any distractions during their bonding time with their family they are able to build stronger relationships. The Christian children on the other hand, mostly said that they were not close with their family members. The majority of them also stated that they take their phones to the dinner table every night meaning that they have a constant distraction that stops them from making the most out of the time that they have with their families.

Muslim parent:

Figure 33:

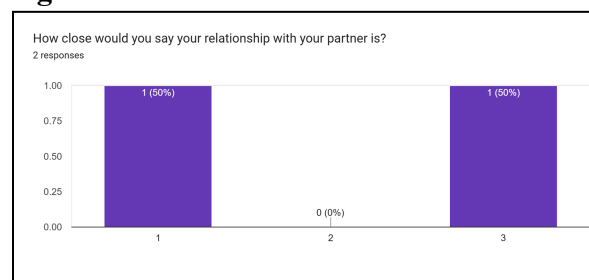


Figure 34:

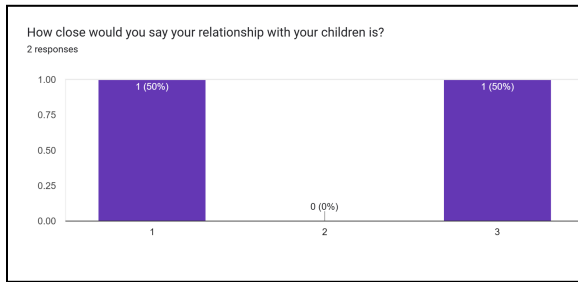


Figure 35:

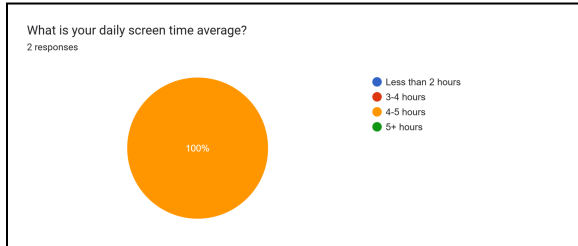


Figure 36:

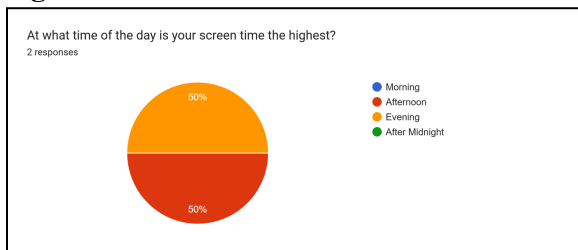


Figure 37:

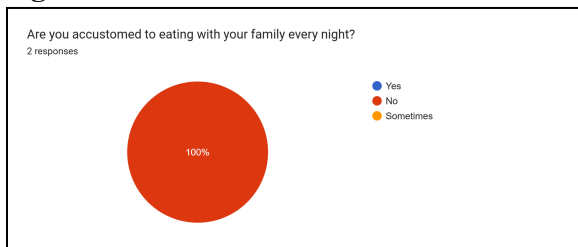
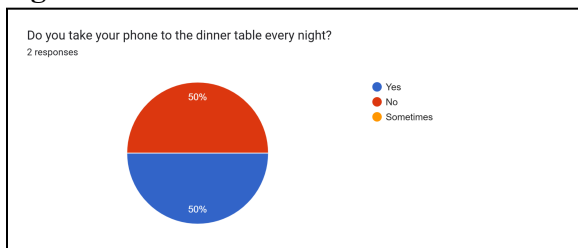


Figure 38:



Muslim child:

Figure 39:

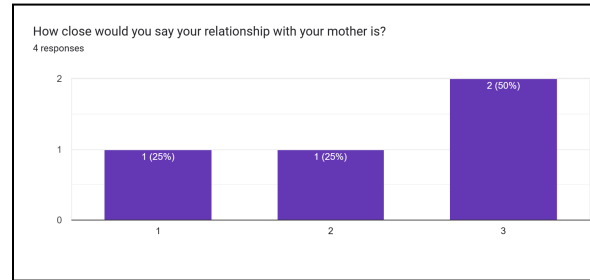


Figure 40:

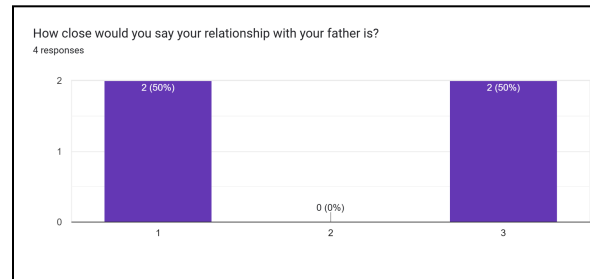


Figure 41:

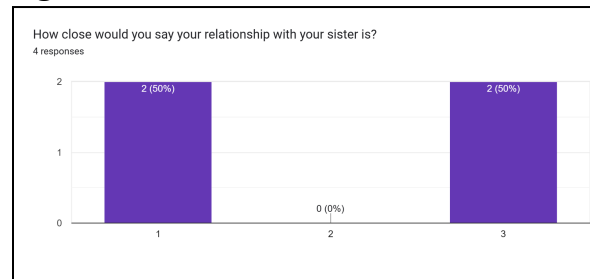


Figure 42:

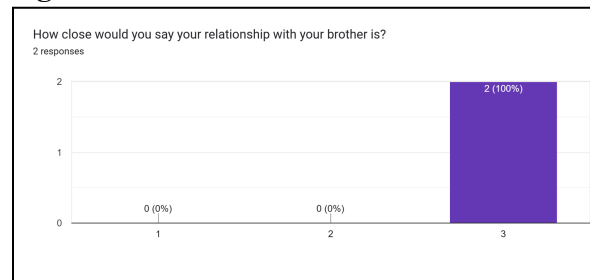


Figure 43:

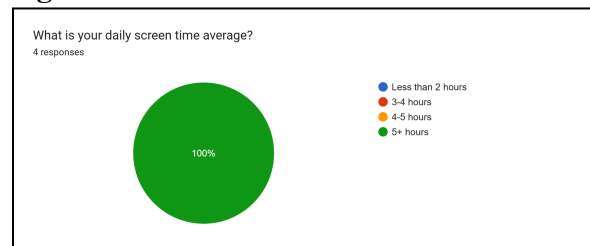


Figure 44:

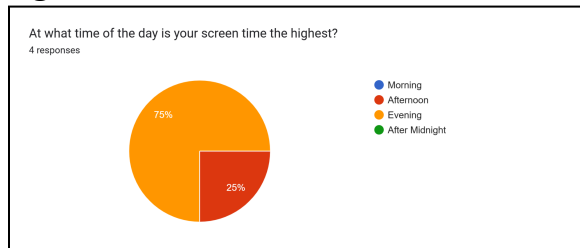


Figure 45:

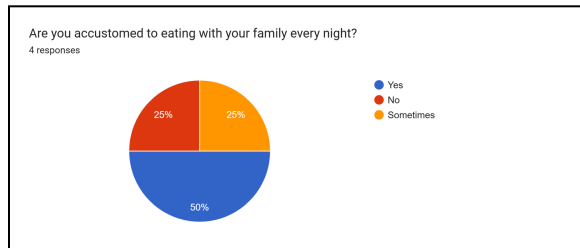
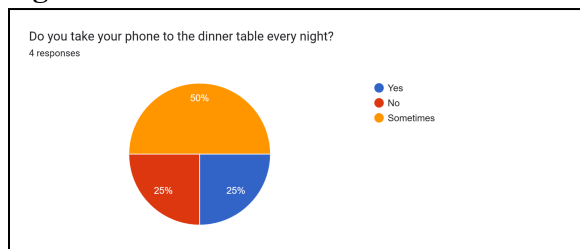


Figure 46:



The group of Muslim parents and children was significantly smaller than the group of Christian parents, but their responses varied. The group of parent respondents stated that they do not have family dinners on a nightly basis, half of them stated that they were very close with their families and the other half said that they are not close. As for the children, half of them stated that they do not either, or that they only have family dinners sometimes. However, the other half of Muslim children stated that they do have family dinners while the majority stated that they sometimes or always bring their phones with them. The children had similar results, in terms of closeness to the parents. Around half said they were not close and the other half said they were. The only family members that differed were the relationship with their mothers and brothers, whom the majority of children are very close with.

Catholic Parent:

Figure 47:

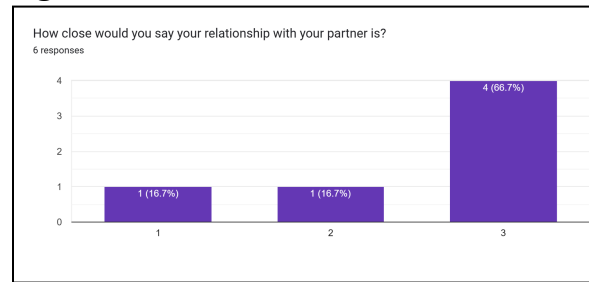


Figure 48:

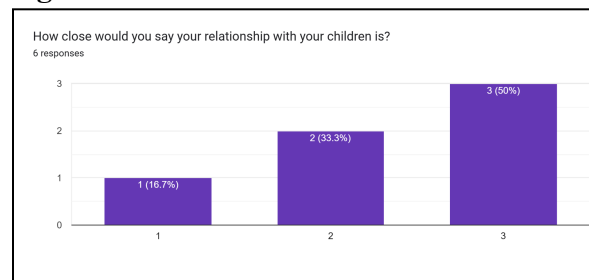


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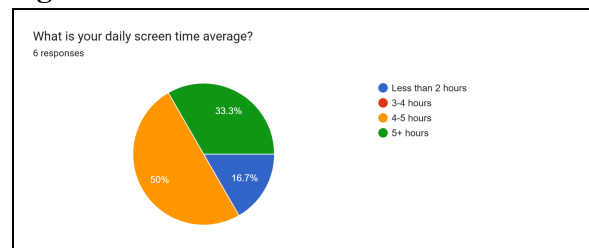


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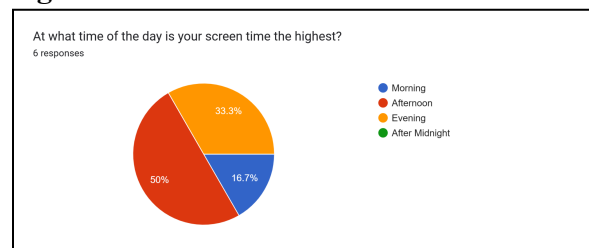


Figure 51:

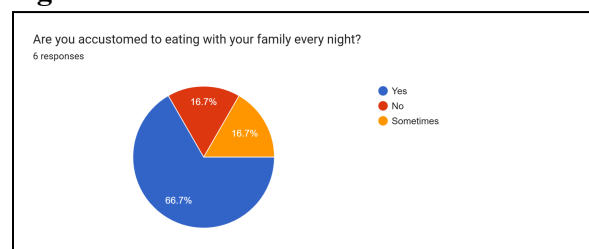
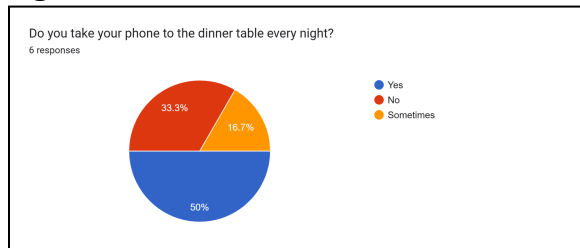


Figure 52:



Catholic child:

Figure 53:

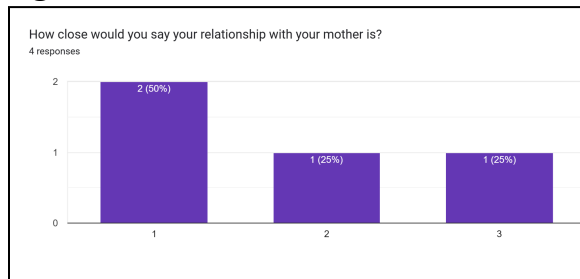


Figure 54:

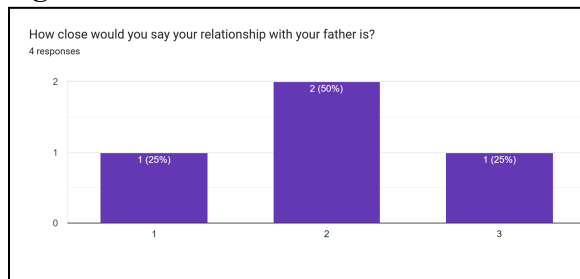


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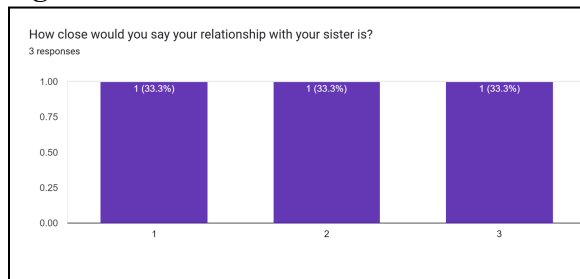


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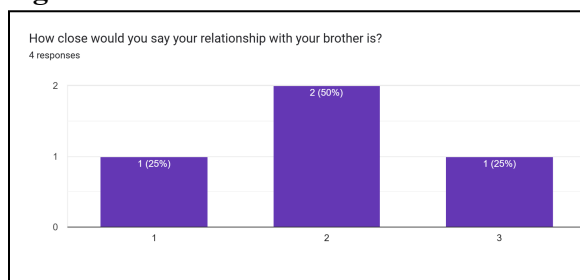


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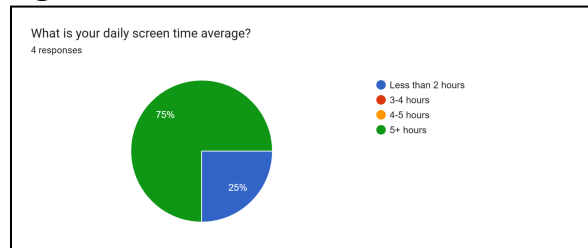


Figure 58:

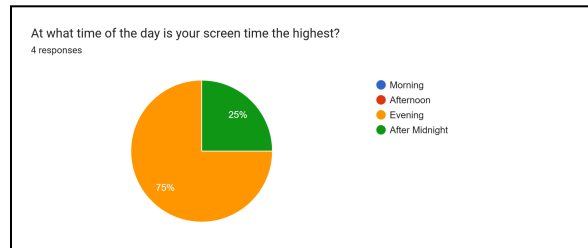


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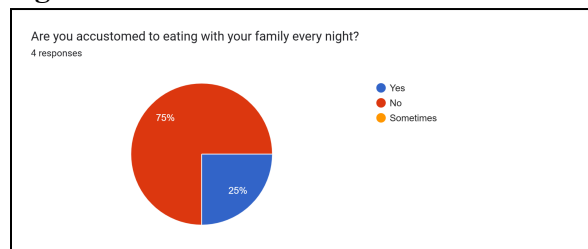
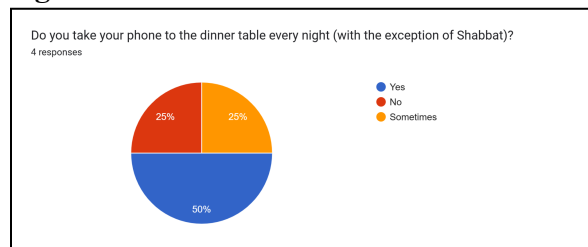


Figure 60:



The Catholic group varied significantly between parents and children. The majority of the parents stated that they eat dinner together every night and half of them stated that they bring their phones with them; the other half however, stated that they do not bring their phones or that they only sometimes do. The majority of the parents also stated that they share a very close relationship with their partners and children. The majority of Catholic children stated that they were not close with their mothers, in the middle with their fathers and brothers, and the result for their

relationships with their sisters was unanimous across the respondents.

Hindu parent:

Figure 61:

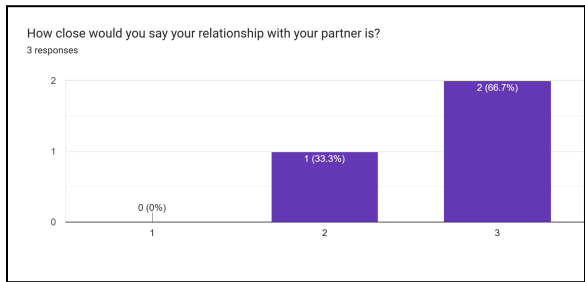


Figure 62:

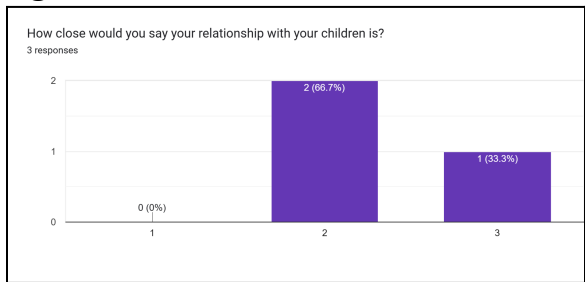


Figure 63:

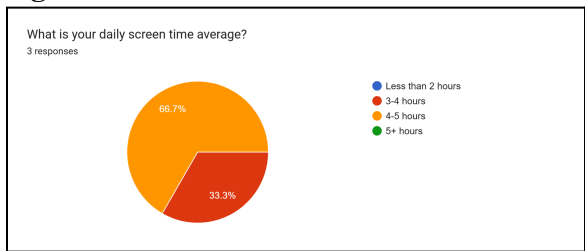


Figure 64:

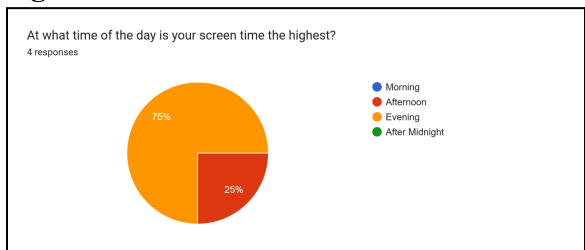


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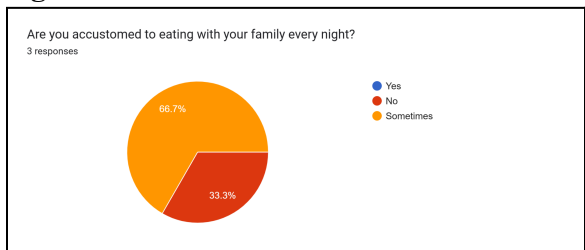
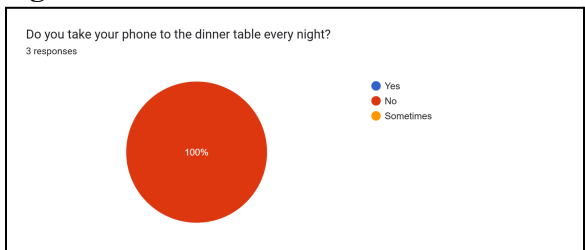


Figure 66:



Hindu child:

Figure 67:

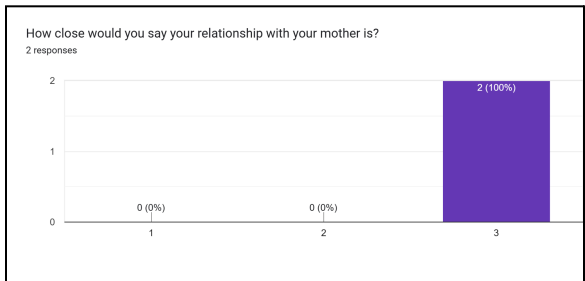


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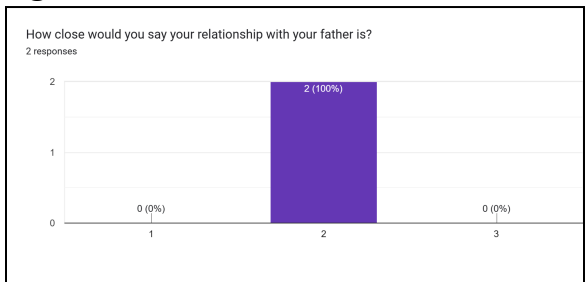


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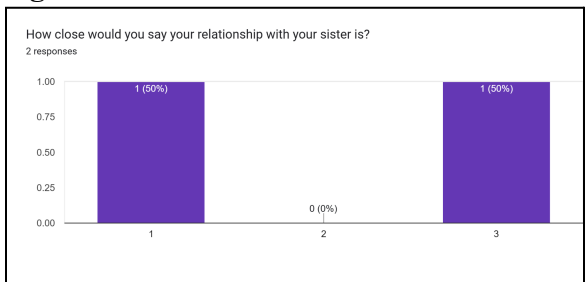


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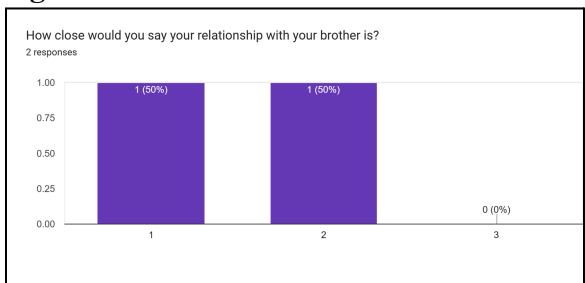


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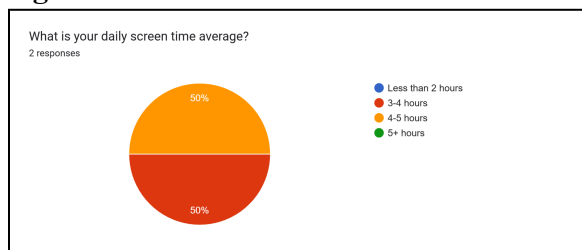


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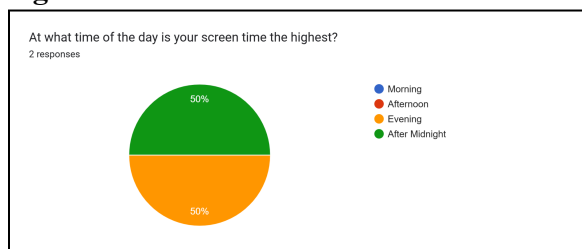


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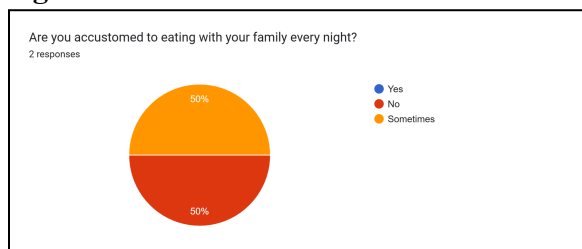
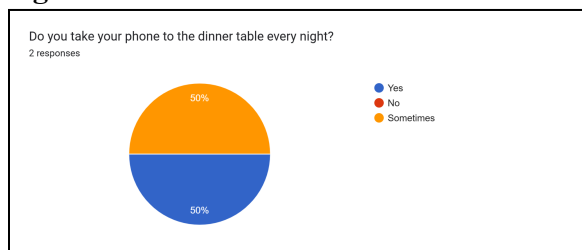


Figure 74:



The respondents that are affiliated with Hinduism varied between the parents that responded and the children that responded. The parents stated that they eat with their families sometimes and that when they do they never have their phones with them. The majority of them said that they are very close with their partners and in the middle with their children. The Hindu children mostly stated that they are very close with their mothers and in the middle with their fathers. Half said they were very close and half said that they are not close with their sisters. Half said that they are not close and half said that they are in the

middle with their brothers. Fifty percent said that they do not eat dinner with their families and the other half said that they sometimes do. Fifty percent said that they bring their phones to dinner and the other half said that they bring them sometimes. The childrens' results were much more unanimous making it difficult to determine whether their religion and screen time is correlated with their family relationships. The parents however, stated that they do not bring their phones to the dinner table when they have family dinners and their relationships were described as a 2 (not distant but not very close) or a three, which shows that having cell phone free dinners contributes to stronger relationships.

Buddhist parent:

Figure 75:

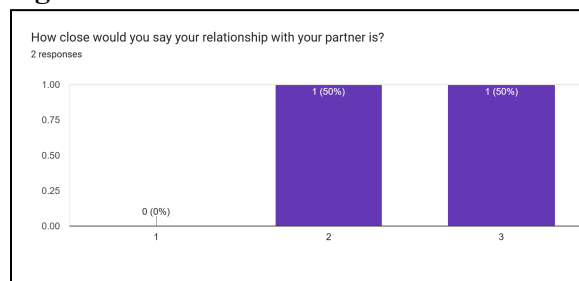


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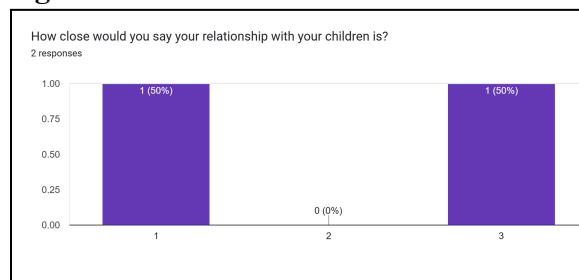


Figure 77

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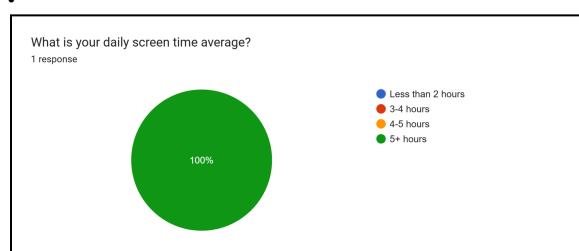


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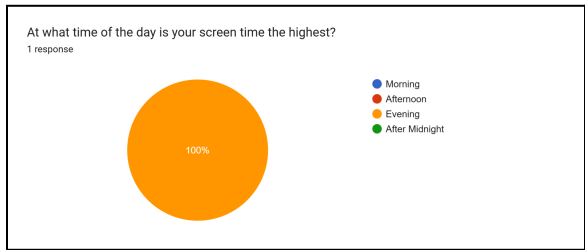


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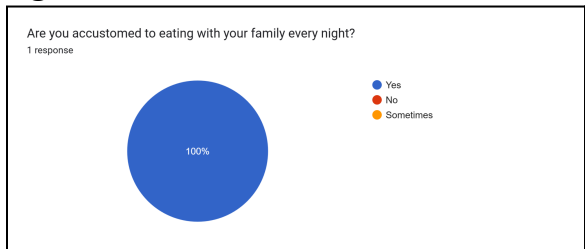
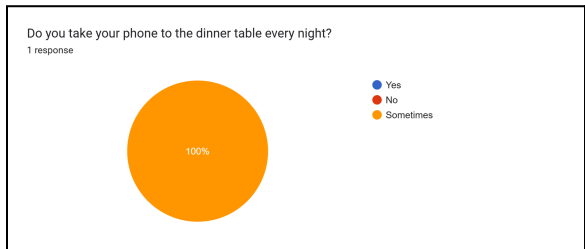


Figure 80:



Buddhist child:

Figure 81:

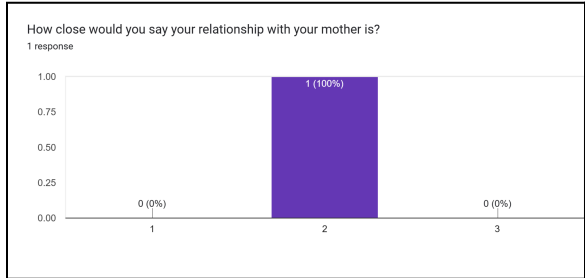


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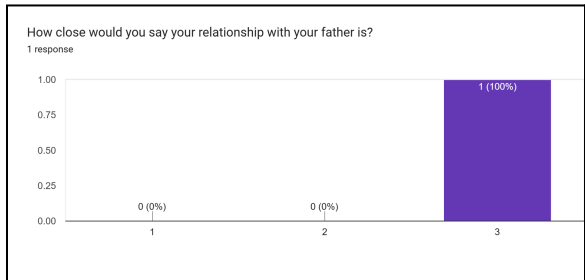


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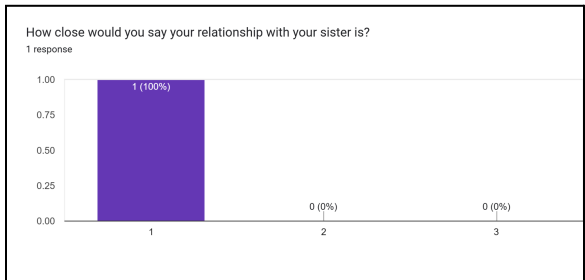


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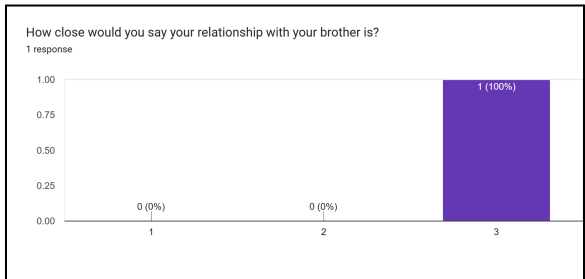


Figure 85:

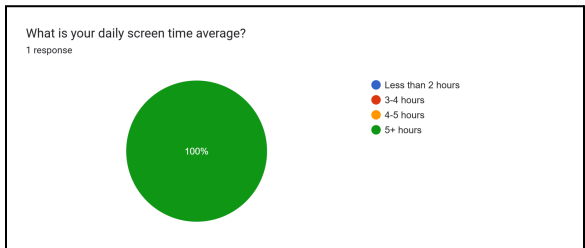


Figure 86:

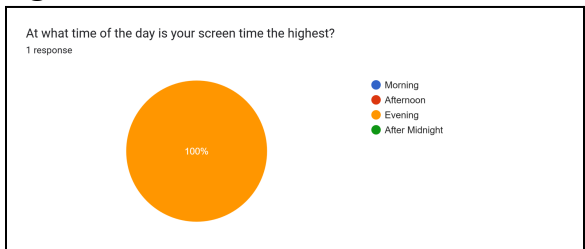


Figure 87:

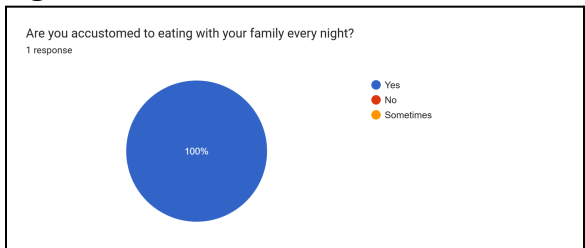
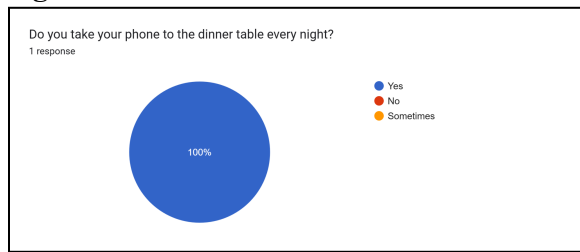


Figure 88:



The Buddhist group had an extremely limited group of respondents which made it difficult to see if there is a correlation between their religion, their screen time, and the closeness of their relationships with their families. The majority of the parents stated that they are very close with their partners, and the results for their relationships with their children were concordant across all three categories. All of them stated that they have family dinners every night and that they only bring their phones with them sometimes. There is only one Buddhist child who answered my survey so these responses are partial. They said that they eat dinner with their family every night and that they bring their phone to the dinner table. The child said that they would describe their relationship with their mother as not distant but not very close, a two in the chart, their relationship with their father as very close, their relationship with their sister as not close, and their relationship with their brother as very close. The limitation in participants within the Buddhist survey made it difficult to create an understanding of the effects that screen time has on their family relationships. Therefore, it would not be credible for me to make a conclusion based on the response I received.

Analysis:

The second survey provided much clearer and prominent results to my question. The responses show that people who have dinners with their families without cell phones tend to have closer relationships

with their families, but this does not necessarily mean that it has anything to do with their religion.

Limitations:

- a. Limited participants
 - i. I had to create a second survey well into the year so I did not have enough time to gather more participants for my second survey, leading my paper to be more narrow in content.
 - ii. Throughout my entire method of surveying, people's honesty is a crucial factor to the verity of my research paper.
 - iii. In my second survey, because I was so limited in time, some of the groups had a significantly larger number of participants than others. This means that because the ratio of participants affiliated with each religion were not equal it may have hindered my research.
- b. Researcher limitation
 - i. When I first started the school year I was doing a completely different research paper and then realized that it was not feasible, so I had to switch my topic. I had to restart my Book of Knowledge and literature review, this limited the amount of time I had throughout the year.

Future Findings:

Other researchers can take my paper and do various things with it. First, they may take my exact methodology and do it over, but with more time and resources they can

create a study that provides a better understanding of the extent that religion affects screen time and how that in turn affects family relationships. They will include a larger sample size and more diversity within the participants to widen the group of people that this research may apply to. Second, researchers can create a long term study in which they ask people of different religions to abide by any rules or customs that their religion entails regarding screen time while with their families. The researchers can then evaluate if participants affiliated with certain religions are more open to having phone free dinners than others, and they can evaluate how much changes within the participants' family relationships while abiding by their religion's specific rules.

Conclusion:

Contrary to my initial hypothesis, the data collected proved that there is no significant correlation between people's religion and their decisions of whether or not to have screen free dinners. However, the orthodox-Jewish group did show stronger family relationships which is due to their religious tradition of having one night and day per week that they are able to bond with their families without electronic distractions. Another significant finding in my research was that jews tended to have overall more family time short of their electronics; this can be because they may know orthodox jews and understand the effects that electronic distractions have on family bonds, or it can be because of the shared value in strong family relationships that Jewish people have. My research, and other projects that ay root from this paper, can lead many around the world to abide by their religion's rules or customs to spend a specific amount of time without their cell phones, as this paper clearly shows that having electronic free family time has a

direct correlation with having strong and tight knit family relationships.

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Pets' Effect on Middle and High School Students' Academic Stress

Anabella Halfen

Introduction

Anxiety in students is a significant concern, as it affects students' mental health and quality of life. Anxiety in students primarily derives from stressors such as academic expectations, as a result of the substantial loads of school work and exams students are expected to take. Thus, methods to ease anxiety have been researched, including mindfulness-based interventions, nature, and in particular, pet interactions. The incorporation of pets as a strategy for easing anxiety has been evaluated on adults, young children, and even college students, nevertheless, the effects of pet interactions on middle and high school students' academic anxiety have not been previously researched. This research will explore this gap through a survey of 176 middle and high school students, and a study involving 125 participants. Both the study and survey will evaluate the extent to which students' anxiety levels and moods changed when experiencing pet engagement. While the results of this research reveal a temporary effect, findings suggest that pet interactions work to diminish anxiety levels and enhance the welfare of middle and high school students. This research offers an innovative approach to strategies for relieving anxiety, which is a significant issue seen commonly in students. Demonstrating that these findings may be of value for students who suffer from anxiety and the general public, as anxiety is a critical societal issue requiring a solution.

Literature Review

Anxiety

According to The National Education Association (NEA), the largest

labor union in the United States, "Today's teens and young adults are the most anxious ever...70 percent of teens say anxiety and depression is a "major problem" among their peers" (Flannery). Anxiety is a detrimental issue teenagers are facing today. One of the main reasons for the substantial amount of anxiety in teenagers is academic stress. The NEA states that for students, "academic pressure tops their list of stressors: 61 percent say they face a lot of pressure to get good grades" (Flannery). Students are constantly pressured to succeed in school and receive numerous daily assignments. Hence, anxiety is becoming extremely common in high school students. Patricia Frazier et al., from the Department of Psychology, at the University of Minnesota, explain that "undergraduate students most often reported that stress...negatively affected their academic performance" (Frazier et al.). Not only does academic stress result in anxiety, but it also affects the student's academic achievements. In a research paper by Alex Connolly, for the Senior Honors Projects at James Madison University, he provides a real life example of a student with anxiety. He states, "Max, a sophomore, revealed that his anxiety began in middle school and has occurred intermittently since then. Both home and school appear to bring about his anxiety. His anxiety worsened as his class load increased" (Connolly). Anxiety is directly correlated to academic stress, as shown by Max. Connolly continues to explain that in a survey of college students, 46.2% "cited anxiety as their highest concern" (Connolly). Anxiety is a widespread issue all over the world, which considerably affects students' mental health and quality of life.

Anxiety-Relieving Strategies

Various techniques to diminish anxiety have been researched, due to the

vast quantity of individuals who are affected by anxiety. Brandon Benchimol-Elkaim et al., from the Department of Educational and Counselling Psychology at McGill University, explain that

One novel way to reduce preoperative anxiety in children in a self-regulated matter could be by offering mindfulness-based interventions (MBIs). Mindfulness is the process of purposefully, and with acceptance, paying attention non-judgmentally to the present moment. MBIs are behavioral interventions that teach mindfulness, following a mind-body medicine view of health by integrating physical, cognitive-affective, behavioral, and social elements. (Benchimol-Elkaim et al.)

Natural treatments to subdue anxiety through the use of the mind, exist. In an article written by Liam Morgan, of the University of Cambridge, Dr. Olivia Remens, a mental health researcher, provides specific MBI methods in which people can alleviate their stress: “The natural world can be a powerful way of relieving anxiety. Researchers have shown that even just viewing representations of nature can have a de-stressing effect on our brains” (Morgan). Additionally, she adds that “Changing your desktop background to one rooted in nature, or putting up posters and pieces of art that depict a natural scene, could boost your wellbeing” (Morgan). The environment an individual is in can greatly affect their stress levels, showing that a change of scenery is capable of reducing anxiety. An article written by Jill Christensen, a Mayo Clinic Health System family medicine provider, displays the use of mindfulness as an approach where individuals concentrate on being aware of their surroundings. “Practicing mindfulness involves breathing methods, guided imagery,

and other practices to relax the body and mind to help reduce stress. Recent research shows mindfulness meditation may be as effective at reducing anxiety as medication for some people” (Christensen). Christensen demonstrates that exercises such as being aware of your surroundings and noticing five items you can see, four items you can feel, three things you can hear, two things you can smell, and one thing you can taste, help improve anxious thoughts (Christensen). The integration of physical, mental, and social components is a strategy that individuals can utilize when dealing with anxiety.

Pet Engagement

Likewise, pet interactions can be used as a method to reduce anxiety. Dr Rosemary Elliot, who studied veterinary science at the University of Sydney, states, “According to a recent national survey of pet owners...almost 90% said their pets have a very positive impact on their lives” (Elliot). Heng Liu et al., from the Institute of Brain and Psychological Sciences at Sichuan Normal University, provide a study that supports Dr Rosemary’s statement. The study consisted of a four week intervention including interacting with dogs. Liu clarifies the result of the study by stating that “animals have a beneficial effect on moderating human stress levels...especially for individuals in high-stress work environments” (Liu et al.). Pets effectively assist individuals in distressing situations and decrease their stress levels. Elliot explains that “our interactions with our pets can reduce our stress hormones (cortisol), [and] increase hormones associated with pleasure and motivation (dopamine)” (Elliot). This describes the relationship between stress and pet interactions, supporting Liu’s study. Another study from the American Psychological Association (APA), the main organization of psychologists in the United States, shows

that spending time with pet dogs can reduce anxiety. The study consisted of presenting a stress evaluation on 73 pet owners and assigning them a condition: “experimental (interacting with their dogs), active control (a stress-reducing coloring activity), or inactive control (waiting quietly). Participants who spent time with their dogs after undergoing a stressful task experienced increased mood and reduced anxiety compared with the two control groups” (Palmer). It is evident through various studies that pets are extremely beneficial in minimizing anxiety. Moreover, Roxanne Hawkins et al., from the School of Education and Social Sciences, at the University of the West of Scotland, provide a story of a girl named Leith who shares her personal experience. Leith expresses,

I used to get like a lot of hallucinations and things which obviously would give me a lot of anxiety...And you know, I think he [dog] can, he can sense it, you know, because once I get into that sense he comes and sits on me or sits next to me and just lays his head on me and sitting there just stroking him. It all, it all just goes away, you know? And it's crazy to think that an animal can do that. (Hawkins et al.)

Pets provide people with a sense of comfort, and as mentioned previously by Ellie, a reduction in cortisol levels. Therefore, animals profoundly reduce stress and anxiety in individuals.

Pets in the Classroom

Pet interactions are exceptionally convenient for students in the classroom environment. Robert Baird et al., from the Faculty of Education at Monash University, studied that dogs in the classroom assist students with their anxiety and social skills (Baird et al.). Precisely, 52 students from the ages of nine to ten, “were surveyed about their mood before (pre-test) and after

(post-test) a one-time interaction with a therapy dog in their classroom. From pre- to post-test, students reported significant improvements in their mood and mental health” (Baird et al.). This study demonstrates pets' immense beneficial impact on elementary students' mental state in the classroom. Dasha Grajfoner et al., from the Department of Psychology at Heriot Watt University, reveal a study on university students, demonstrating “that a short 20 min interaction with a therapy dog improved student well-being and mood and decreased anxiety levels (potentially removing impediments to learning)” (Grajfoner et al.). Considering that the majority of students suffer from anxiety, it is clearly shown that pets are a reliever to stress and eliminate barriers to learning. Moreover, pets provide a sense of comfort to individuals. A blog from Saint Leo University states that a “study from Tufts University's veterinary medicine school on human-animal relationships demonstrates...that people often turn to their pets in times of emotional stress as a source of comfort and psychological support” (Saint Leo University). Katie Reilly et al., from the Department of Educational Psychology at Washington State University, support this claim by stating that a “psychotherapist, found that incorporating his dog into therapy sessions provided children with feelings of comfort and support during difficult situations because of the dog's non-judgmental nature” (Reilly et al.). Children tend to find a sense of solace when pets are present, allowing them to express themselves and behave appropriately. Baird et al. support the idea that pets have positive influences on children. In a study done in an elementary school classroom, a dog was present daily for five hours in the span of three months, “The researchers reported that from baseline to post-intervention, the children were

significantly less alone and more often found in a group, paying attention to the teacher, concentrating on what they were doing individually and making (less) vocal and provocative interactions. (Baird et al.) The use of pets created a stronger and healthier school environment for the children, showing its effectiveness. Undeniably, applying pets to an educational environment has remarkable outcomes.

Anxiety and stress are issues that teenagers struggle with because of the academic pressures placed on them. This negatively impacts their lives by possibly affecting their academic performance. Thus, numerous methods to lessen anxiety have been researched and utilized, such as mindfulness-based interventions. Moreover, pets are used as a way to relieve stress and reduce anxiety, as pet owners claim to feel at ease when they are around their pets. A similar beneficial effect that pet owners experience is seen in elementary and college students in the classroom. This reveals that measures to alleviate anxiety continue to be necessary.

Gap in Research & Hypothesis

Evidently, incorporating pets into everyday tasks is a powerful tool in easing anxiety and offering comfort. However, the effects that pets can have on middle school and high school students' stress levels deriving from academic stresses, have not previously been researched. I hypothesize that pet interaction will help decrease students' stress levels and boost their mood.

Inquiry Method Design

Survey

The survey consisted of 176 responses. This survey asked students about their anxiety levels and their relationship with pets, to observe if there is a relationship between being around pets and the extent to which a student suffers from anxiety. To begin, students were asked if they often feel stressed out or anxious and what their

anxiety level in school on a scale of 1-3 was on average (1 being the least stressed and 3 being the most stressed). This question was important to understand how much the students are struggling with anxiety. The students continued to answer what the factor that makes them most anxious daily is, and if the student feels stressed due to academic expectations, to observe if most students' anxiety mainly comes from academic pressures. Afterward, the students will select all the factors that make them feel anxious at school, such as tests, homework, or grades. Additionally, I asked the students if they feel like being stressed out affects their grades and how they perform academically. The purpose of this is to understand the correlation between anxiety and students' academic performance. Secondly, questions about pets were asked, such as asking the students if they like pets, if they have pets, and if they do, which pets they like or have. Participants were questioned on whether they interact with pets daily to compare their anxiety levels to the number of pet interactions they have. I continued to ask if they commonly see pets at school, to determine the usefulness of pet encounters in a learning environment more often. The students were inquired about different ways that they relieve their stress and anxiety, such as dancing, walking, or hanging out with friends. Furthermore, asking the students how interacting with pets makes them feel, will be beneficial to me when observing their moods and feelings when they see or interact with pets. Students who have pets were questioned on how it makes them feel when they see their pet when coming home from school, for testing if pet interactions were an immediate way to calm down the students. Lastly, I created an open-ended question asking students to explain their relationship with pets and to add other information they believe might help the research. This allows me to

understand what other measures I should take with my survey.

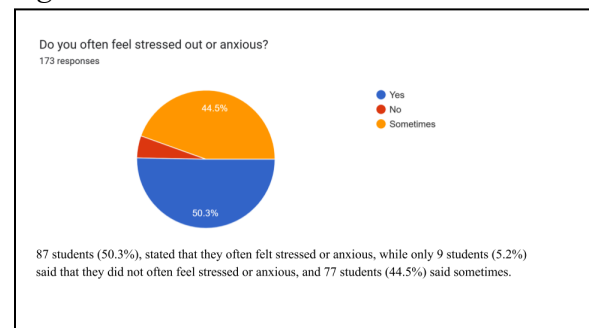
Study

Moreover, I worked with my school's guidance counselor to create a study consisting of bringing therapy dogs to my school for two days and asking middle and high school students to interact with the dogs. This study consisted of 125 participants. The students will fill out the first half of the questionnaire before interacting with the dogs, and the second half of the questions after the interaction. The purpose of this survey is to understand if the interactions with the therapy dogs relieved anxiety in students or improved their mood. The students were questioned on what their current stress level was from 1-3 (1 being the lowest, 3 being the highest). This would allow me to compare their stress levels before and after the pet interaction. The students were further inquired on what the cause of their stress was to see if it was related to academic stress. In addition, the students stated their current mood on a scale of 1-3 (1 being the poorest, 3 being the greatest), to test if the therapy dogs also affected mood changes in students. Furthermore, participants provided ways in which they deal with stress, to know if students already use pets as a coping mechanism. After the pet interaction, students received a questionnaire consisting of the same questions to contrast the results. I also asked the students how they felt after interacting with the dogs, which will allow me to see the shift in mood. Lastly, the students were petitioned to answer an open-ended question asking for any other information they believed would assist this research, and express their feelings about the research.

Results

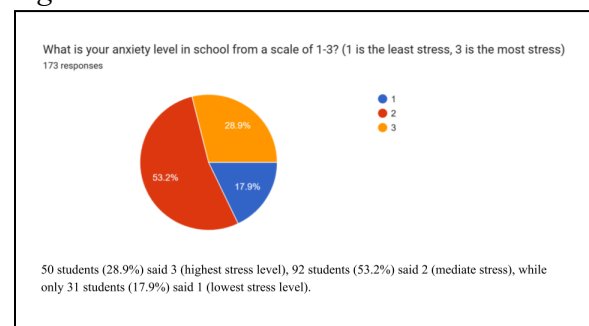
Survey

Figure 1



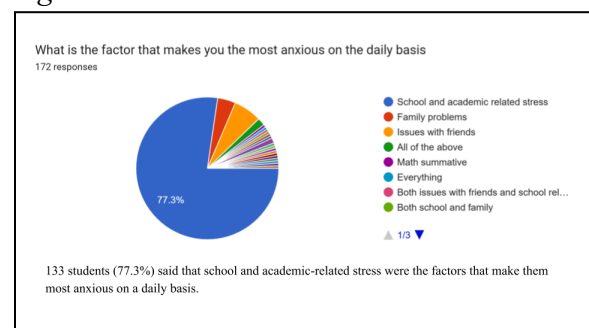
This proves that most students feel anxious and stressed, which addresses the issue of anxiety in students.

Figure 2



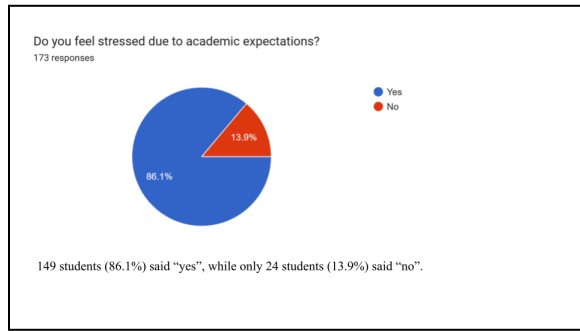
This shows how most students feel some or a lot of stress during school hours.

Figure 3



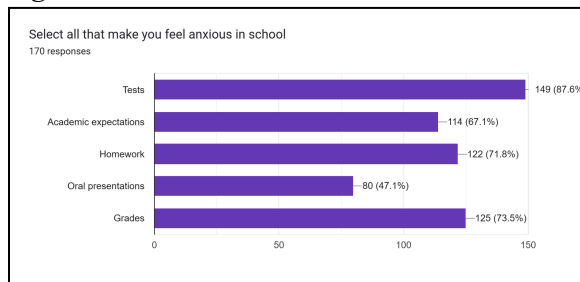
This shows that students' stress mainly comes from academic-related expectations, which is an issue that should be addressed.

Figure 4



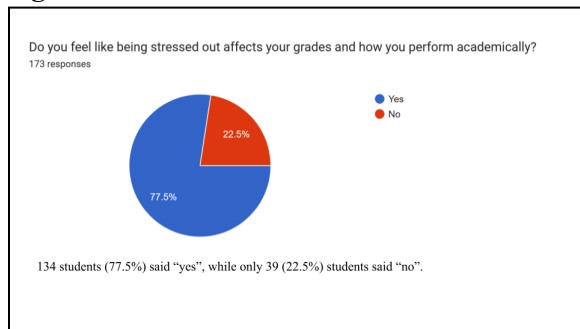
This proves the reason why most students feel stressed out or anxious as seen in Figure 1.

Figure 5



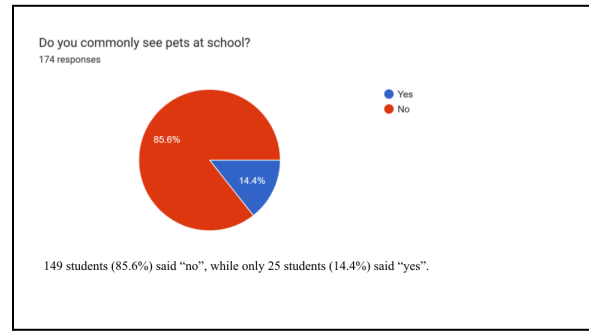
This shows the many reasons why students feel stressed at school, contributing to their academic anxiety. Students often feel pressured to meet the academic expectations.

Figure 6



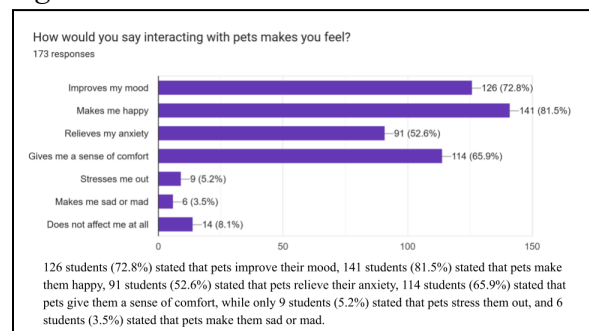
This shows that academic stress can impact a student's academic performance, leading to further issues in addition to anxiety and stress.

Figure 7



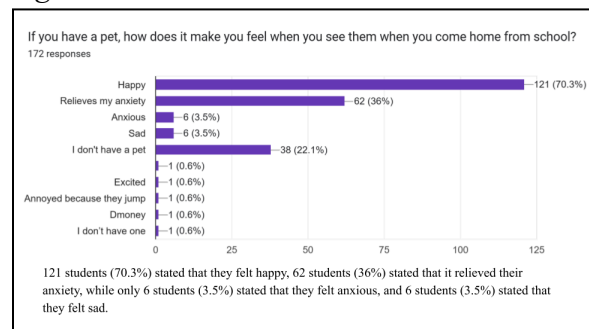
There is a clear lack of pet interactions at school.

Figure 8



There is a clear difference in the number of students who have positive reactions when interacting with pets, compared to those who have a negative attitude towards pet interactions. This shows that the majority of students believe that pets are beneficial in calming them and boosting their mood.

Figure 9



This concludes that pet owners believe that pets can have positive effects on stress and mood. Since most pet owners feel as though their pets benefit their mood and anxiety levels, it can be implied that the same effect could be seen in most students as a way to combat academic stress.

Participants' Responses

Question: After answering these questions, explain your relationship with pets and anything else you feel would help this research.

"I love my pets and every time I see them my mood gets better"
"I love pets and wish I could have a pet dog I can play with every day after school"
"Pets are very happy all the time so it changes our mood to a happier one"
"My pet makes me feel calm, happy, and like I matter."
"Pets improve my mental health"
"When I have problems I tell my dog and it makes me feel like she is listening"
"I love them because they are Always smiling and in a good mood. I think it is a great idea to bring them to school."
"I love pets I really want them I feel like they help out with my anxiety so much"
"When I'm with pets, even though I don't have one, they make me feel really calm and relaxed give me a

Discussion

This survey proves that students undergo stress daily, especially academic stress. Academic expectations in school and out of school cause students to be anxious, and a solution is necessary. Most students do not commonly see pets at school, but pet

sense of comfort and they make me happy to be with them especially dogs"
"I love it when they do pet therapy at school! The animals really help relieve stress and studies also show that animals can reduce stress and boost your mood."
"I love my dog so much she's literally my best friend. My dog actually does relieve my stress a lot just hanging out with her helps."
"I think that pets are amazing for stress and they make me feel so calm. I also feel like they understand emotions because my dogs always can sense when I'm tired or stressed"
"I wish I had a pet because I think it would make me feel less stressed and help when I come home from school"
"My relationship with pets is that they make me feel happy and less stressed and anxious when I pet them and play with them."
"Pets make me happy when they get excited to see me after school or when I come back home from somewhere. Pets make me feel like I'm worth something"

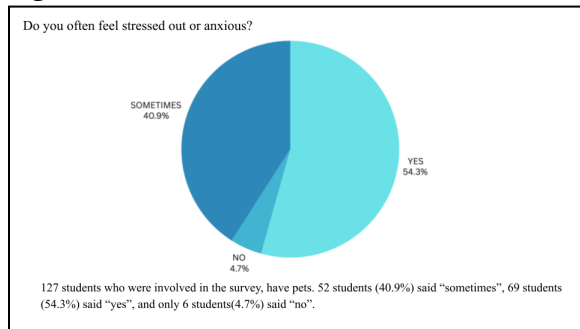
The unanimous opinion of almost all 111 responses received, was that they felt very content and joyful and believed pets could help with stress and anxiety. This shows the positive personal experiences of students and the beneficial results of pet interactions on the students' moods and stress levels.

interactions make students feel happier and relieve their stress. Therefore, pet interactions could be of assistance when combating academic stress.

Correlation Between Students Who Are Pet Owners and Their Stress Levels

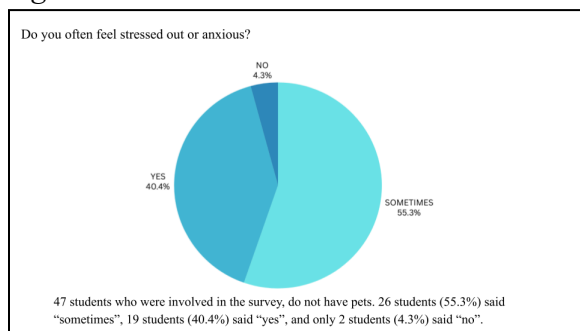
Students who are pet owners:

Figure 11



Students who are not pet owners:

Figure 12

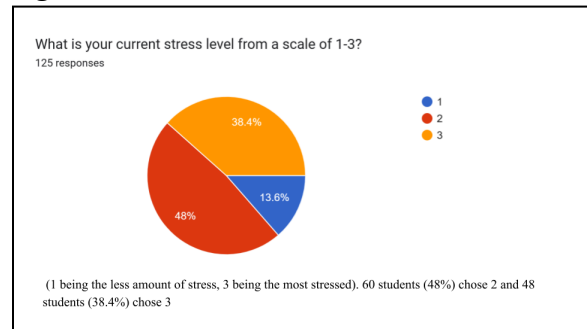


A greater percentage of students who are pet owners (Figure 11) expressed that they often feel stressed out or anxious (13.9% more than the students who are not pet owners). Therefore, this proves that owning pets does not directly have a beneficial effect on students' academic stress or anxiety. A greater percentage of students who are not pet owners (Figure 12) stated that they sometimes feel stressed out or anxious (14.4% more than the students who are pet owners). More students who are not pet owners (Figure 12) are only stressed sometimes. In both the students who are pet owners and students who do not have pets, only a very small percentage of students said that they are never stressed.

Study

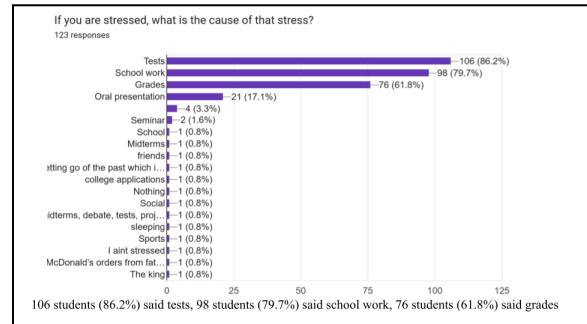
Before dog interaction

Figure 13



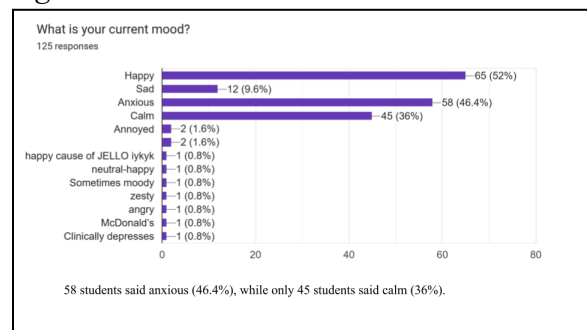
Before the pet interaction, most students participating in the study had a stress level of 2 or even 3, and a minority had a stress level of 1. Therefore, it is clear that stress was very elevated before any pet interaction.

Figure 14



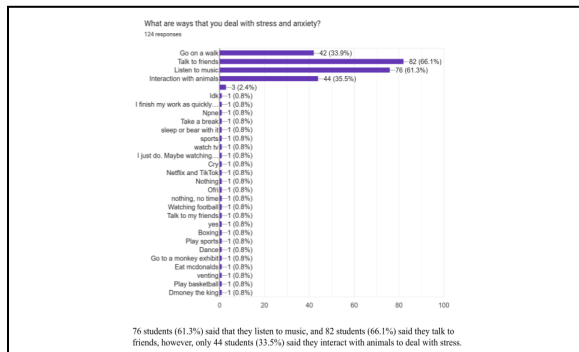
This shows that the cause of students' stress levels shown in Figure 13 is mostly due to tests, school work, and grades. This proves that academic expectations are one of the most common triggers for students to feel stressed out.

Figure 15



Before the dog interaction, a greater amount of students felt more anxious than calm, which shows the results that academic stress has on students' moods.

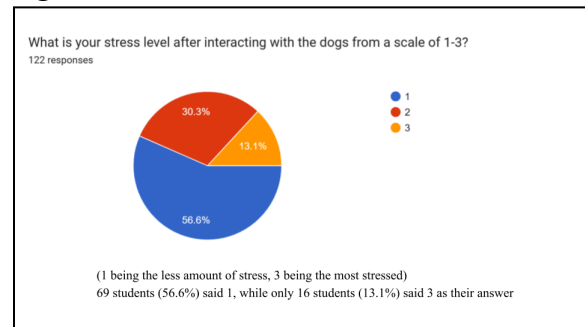
Figure 16



Before interacting with the therapy dogs, most students did not deal with their stress by interacting with animals, instead, they would talk to friends or listen to music.

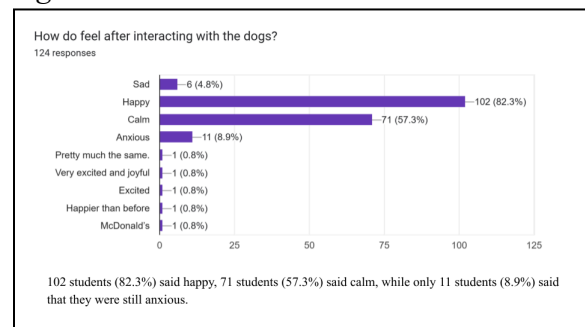
After dog interaction

Figure 17



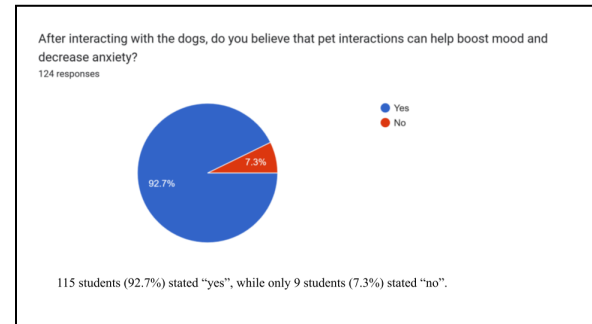
There was an immense decrease in the amount of students picking a higher stress level (2-3) after the dog interaction. In comparison to Figure 13, there was a 43% increase in the students who picked that they felt the least amount of stress after the dog interaction. This shows the impact that the dogs had on the students' stress levels.

Figure 18



In comparison to Figure 15, after the pet interaction the number of students who were anxious decreased by 37.5%. The percentage of students who felt calm increased by 21.3%, and the percentage of students who felt happy increased by 30.3%. This shows the positive impact that pet interactions had on the students, as most students were calm and happy after the dog interaction, instead of being anxious.

Figure 19



This shows the student's opinion on pet interactions. Students felt as if their stress had decreased and they had a better mood after their encounter with the dogs.

Participants' Responses

Question: After spending time with the therapy dog, explain your mood and anything else you feel would help this research.

"It is calming and fun"

"I feel calm and less stressed after interacting with dogs"

"It calmed me down allowing me to better relax and breathe"

"I would feel happy because a therapy dog is a very considerate and special animal that serves only you"

happy and relieved because I was able to myself from my stress"

"I felt a lot calmer and happy to take a break from everyday stresses"

“After petting the dog, I feel much less stressed for my test next period because I realize how quick these anxious feelings will pass”

“Dogs and other animals are amazing for you to be less stressed. They can calm you down very fast and take your mind off things currently happening whether out of school or in school.”

This demonstrates the personal experiences of various participants. Of the 81 responses to this question, the majority of the participants responded that they had beneficial results after participating in the study, showing the effects that pet interactions have on anxious students.

Discussion

This study shows an increase in the students' mood and a decrease in their anxiety levels after they interact with the dogs. Proving that pets have a positive effect on students' academic stress and could be incorporated into learning environments to assist students. By comparing the results in Figures 11 and 12, to the study, it is clear that pets, although temporary, can have a positive effect on students.

Limitations

My research study proved my hypothesis correct, as pets positively impacted students' academic stress and mood. However, part of my survey (Figures 11 and 12), proved that students with pets do not necessarily have a lower stress level than students who do not have pets. Therefore, if I had more time, I would have done further studies to see the correlation between them. My study shows that pets can have temporary beneficial effects on stress and mood, but it does not show the long-term effects of it. Moreover, my study was only done in one school, so the results may vary

depending on the group of students participating.

Future Findings and Implications

If my research and study were to be replicated, researchers should mimic the study with not only dogs, but other types of animals, such as cats or bunnies, or other types of pets that are not as common. Researchers can also examine if the results of the study vary on the type of pet a student has. Moreover, researchers should also consider that the study only showed the temporary effects of pets on students. Therefore, they should continue to monitor the students or make the study several days, in order to observe the long-term effects of pets on the students' academic stress level and even their academic performance. Researchers could attempt this by incorporating a class pet in the classroom environment for a longer period, for example, a month. Researchers can further analyze the effects of pet interactions on students by recording their grades before and after the students have been with pets daily for a month, compared to after, and determine if there is an improvement. This can lead to a decrease in anxiety and stress in educational settings, which can effectually impact the student's life. Pet interactions can be used as a method to soothe anxiety, which is a major issue among students.

Conclusion

As mentioned previously, anxiety is an extremely common and detrimental issue among students. Most students' anxiety comes from academic expectations and assessments or assignments for school. It is clear that a solution to this problem is necessary to improve students' mental health. My survey proved the intense stress that students go through, and that pet interactions helped students feel calmer and satisfied. However, my survey also proved

that these results are temporary, and further research is needed to determine the long-term effects of pet interactions on students. Additionally, my experiment showed high anxiety levels and unpleasant moods in students before the dog interaction. However, these results shifted after students interacted with the therapy dogs, as students' anxiety levels decreased tremendously and their moods improved. Overall, this survey and study bring a new light to solutions that can be implemented in learning environments to settle the widespread problem of students' academic anxiety.

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Influence of Manipulative Marketing Tactics

Gila Berlagosky

Literary Review

Introduction

According to the World Health Organization, a United Nations agency responsible for international public health, amidst the 7.9 billion people in the world in 2022, “2.5 billion adults aged 18 years and older were overweight, including over 890 million adults who were living with obesity” (World Health Organization 2024). Not only that but just in the United States, 67% of individuals were classified as overweight (World Health Organization 2024). Michael Greger, a physician and internationally recognized speaker on public health issues, claims that extensive studies demonstrate that marketing, primarily through advertisement, significantly impacts people's eating behavior, often leading to increased consumption (Greger 2024). This is in light of “Marketing tactics [that] often operate on a subconscious level, influencing decisions without individuals being fully aware of it” (Greger 2024). The American Psychological Association, the largest psychological association in the world, claims that the youth obesity epidemic is a serious public health issue that raises rates of illness and death, bringing substantial long-term economic and social expenses and concerns for the future (American Psychological Association 2010). Accordingly, to remedy this situation, one must understand the youth's role as consumers, different advertisement tactics, and what tactics popular fast-food chains use, which is what this literature review will focus on to provide a basis for my research study.

Teenagers' Role as Consumers

The increase in obesity is not a new phenomenon; in the last quarter century, “rates of obesity in America's children and

youth have almost tripled... In teens ages 12 to 19, prevalence rates have tripled (5.0% to 17.6%)” (American Psychological Association 2010). This results from the idea that today's children, aged 8 to 18, are exposed to various forms of media and spend around 44.5 hours weekly on screens, such as phones, computers, and televisions, making it their main activity aside from sleeping (American Psychological Association 2010). Children and teenagers, just as adults, are impacted by ads on a subconscious level. However, most of them, unlike adults, cannot understand the persuasive intent of advertising, as its very nature is exploitative and specifically directed towards them (American Psychological Association 2010). Jessica Packer et al., writers of the National Library of Medicine, claim that at 16 years of age, reasoning abilities are not fully developed, and they keep maturing into adulthood (Packer et al. 2022). This suggests that young people, including adolescents, may struggle to assess advertising and protect themselves from its potentially harmful effects. Regardless, teenagers continue to be targeted in advertisements. According to Anastasia Tsochantaridou et al., from the Department of Public Health Policy at the University of West Attica, children and teens are valuable consumers and crucial to the market as they buy products directly, influence family purchases, and develop early brand loyalty (Tsochantaridou et al. 2023). These connections optimize the market, ensuring continued sales over time and giving corporations a reason to persist in aiming toward the youth (Tsochantaridou et al. 2023). Nevertheless, through this, the vicious cycle repeats, as targeted advertising leads youth to develop unhealthy eating habits, ultimately contributing to the rise in obesity. Thus, this information highlights the need for increased awareness and action to

reduce the impact of targeted advertising on youth and encourage healthier choices.

Advertisement Tactics

There are two types of advertisements: non-manipulative and manipulative advertising. As stated by Victor Danciu, from the Bucharest University of Economic Studies, non-manipulative advertising presents the product “in the best possible light. The advertiser doesn’t need to lie, omit details or intimidate the consumer. This type of advertising is truthful, that is the facts presented are real, the information is given in a clear, logical manner” to convince through informing (Danciu 2014). On the other hand, manipulative advertising is “focused on getting the consumers to do what the advertiser wants through subversive manners” or simply optimally alter reality (Danciu 2014). This is seen through a number of tactics, such as emotional or guilt appeals, linguistic appeals, and visual appeals. Emotional advertising “consists in an emotional game which has a goal to favorably influence the decision of the consumer” (Danciu 2014). In these, Jacek Michalak and Mateusz Stypiński, both Faculty of Economic Sciences at the University of Warmia and Mazury, state that it aims “to evoke positive emotional reactions in consumers to the products or services being advertised” (Jacek and Stypiński 2023). This could be done through the use of sounds, music, stories, or images that are supposed to arouse specific emotions, such as joy, sadness, anxiety, or frustration, and render a response- making a purchase (Jacek and Stypiński 2023). Then, according to Leanne Proctor, a researcher from Northeastern University, advertisements exhibiting linguistic appeals “are often called “catchy” and are associated with attracting a consumer’s attention” through speech or

writing (Proctor, 2013). For example, evaluative words such as “best,” “perfect,” “ideal,” and “extraordinary” are “popular because they help convince consumers that a product or service is unique, that is, the best on the market” (Jacek and Stypiński 2023). To go on, the use of structures that prevent negation is a tactic where the message is crafted to make refutation difficult. For instance, instead of saying, “Our product is not expensive,” advertisers might say, “If you’re looking for a good-priced product, ours is a great option,” emphasizing the positive while minimizing objections (Jacek and Stypiński 2023). Lastly, incorporating visual elements and graphics has long been a critical, effective strategy in marketing. According to The Yale Ledger, a student-led weekly magazine from Yale University, “By creating an ad that is colorful, well-designed, and attractive, marketers are more likely to catch the attention of their potential customers as well as remain in their memory” (The Yale Ledger 2023). Additionally, visuals, graphics, and photos improve memory retention and recall, as people remember information better when presented visually and create mental associations that make the message and brand more memorable (The Yale Ledger 2023). So, just as all of these tactics are designed to persuade and manipulate consumer behavior, they often target the youth who are especially susceptible to these tactics, as explained earlier. As studies show, these strategies exploit psychological vulnerabilities, leading adolescents to make purchasing decisions that are not based on rational thought. Therefore, with the constant bombardment of advertisements across various media platforms, these persuasive techniques not only influence teenagers’ food choices but also contribute to the rising obesity epidemic through the increase of unhealthy eating habits.

Fast-Food Chains’ Tactics

For a long time now, fast food chains have been leaders in utilizing aggressive marketing strategies, capturing the attention of consumers, particularly young audiences. McDonald's, for example, became globally known through its marketing approach. According to Rahul Arun, a Senior Research Analyst at Simplilearn, in "2018, the company spent nearly \$1.5 billion on advertising in the US alone" (Arun 2023). Its strategies included one of its leading practices of visual marketing, where promotional materials are placed in unusual or unexpected locations to grab attention more memorably (Arun 2023). This strategy not only reinforces their brand recognition but also strengthens their ability to influence purchasing decisions. Similarly, Burger King has become known for its bold campaigns, which often use humor and controversy to engage consumers. For instance, Kevin Urrutia, an E-commerce Marketing Podcast Host, explains that Burger King's use of wit, satire, and humor, mainly through social media platforms like the "'Whopper Sacrifice' campaign, which encouraged Facebook users to unfriend 10 people in exchange for a free Whopper," shows how the brand uses unconventional methods to connect with its audience (Urrutia 2023). Chick-fil-A, in contrast, focuses strongly on emotional marketing to create a personal connection with consumers. According to Justin McLaughlin, Director of Product Marketing at a company, Chick-fil-A's advertisements "highlight family values, kindness, and memorable moments", using an emotional appeal (McLaughlin 2023). With a clever mix of billboards, television, and radio ads, Chick-fil-A has created originality, emphasizing quality food and meaningful emotional customer experiences (McLaughlin 2023). By composing ads that evoke emotional responses, Chick-fil-A builds customer loyalty and makes

consumers feel like part of the family. Hence, as fast food giants such as McDonald's, Burger King, and Chick-fil-A continue to refine their marketing strategies, they ensure they remain top of mind for consumers, particularly teenagers, who are especially vulnerable to their persuasive advertising.

Conclusion and Gap in Research

Ultimately, the manipulation of youth through advertisement is an undeniably complex problem that must be addressed. Regardless of regulations such as, according to Victoria L. Rubin, the director of the Language and Information Technologies Research Lab at the University of Western Ontario, "the U.S. Federal Trade Commission [that] distinguish between puffery and materially harmful misleading ads," this issue continues to persist (Rubin 2022). If this issue is not mitigated, the youth, who are the future leaders, will face lifelong health challenges, potentially including chronic illnesses such as diabetes, cardiovascular diseases, and even certain cancers (American Psychological Association 2010). While much research has examined the impact of advertising on teenagers' behavior and how each tactic works, a crucial gap remains in determining which specific advertising tactic is the most effective in exploiting teenagers' food choices. So, this study intends to decide which tactic is most manipulative and influential towards teenagers and if there is a difference between them. Understanding this could offer insights into mitigating the harmful effects of manipulative advertising, helping to design counter-strategies that promote healthier habits and protect the next generation.

Hypothesis

Before conducting this research, I hypothesized that teenagers would most

likely be influenced by the visual appeal in ads more so than the emotional or linguistic appeal. Paul F. Sable and Okan Akcay, both researchers of consumer psychology, claim that colors, imagery, and overall presentation play a dominant role in decision-making, especially in today's digital world, where apps like Instagram, TikTok, and YouTube constantly enforce visually stimulating content (Sable and Akcay 2011). The Media Education Centre, which is in Consultative Status with the United Nations' ECOSOC and promotes the role of media, digital, visual, social, health, peace, and information literacy in transitioning to a sustainable global society, also shows that the brain processes visual information 60,000 times faster than text, making teenagers particularly responsive to bold colors, striking designs, and high-contrast imagery in advertisements (The Media Education Centre 2010). Moreover, since adolescents' cognitive abilities are still developing, they are more likely to be influenced by visuals and instinctive reactions rather than making a deliberate analysis before a purchase (Luna and Peracchio 2005). So, as past studies support the idea that visuals tend to stand out to individuals, I predict that the visual appeal would have the strongest influence on teenagers' food choices.

Methods

For my methods, I began by researching various articles that gave insight into the rising global obesity epidemic, advertisements' roles in influencing consumers' decisions, teenagers' role as consumers, and how Burger King, McDonald's, and Chick-fil-A, the three fast food chains I am focusing on, manage their marketing and advertisement to make them successful. I ended up compiling 50 sources made up of past research, scientific and medical papers, and articles from consumers

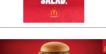
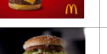
and corporations. Once completing this, I moved on to the next phase of the research process: creating my surveys, which would be anonymous for the participants. To do so, for my first survey, I collected existing "appealing" advertisements used by Burger King, McDonald's, and Chick-fil-A. These included ads with burgers, fries, chicken nuggets, and ice cream as they are more appealing to my target audience, teens. I then selected ads that I considered to be each more dominant in a different type of appeal to the consumer, between emotional, linguistic, and visual appeals. In total, I selected nine ads per business and three ads per appeal for each one as well. I then started to make the survey, wherein in the first section, I asked each participant's demographics. Questions included:

- Gender
- Grade
- Age
- Public or private school
- Place of residence
- Financial status

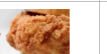
Then, in the following three sections (sections 2-4), I chose one of the three businesses to focus on per section (between McDonald's, Chick-fil-A, and Burger King), where I would ask the participants one question three times, with different answer choices each time the question was asked. Each time I asked the question, I showed the participants 3 ads (one of each appeal) and asked them to read the ads and choose which made them want to buy the product more. The participants were not told which ad or letter option corresponded to each appeal, and all the answers were shuffled. I repeated this process per each section, changing the ads according to the business and products sold. Questions included:

Table 1 Survey 1, Section 2: Burger King Ads			
Question: Which one of these ads makes you want to buy the product more? Please take your time and read the words on the ads (if they have).			
Letter Option	Time 1	Time 2	Time 3
A			
B			
C			

Key
A=Visual
B=Emotional/
Humor
C=Linguistic

Table 2 Survey 1, Section 3: McDonald's Ads			
Question: Which one of these ads makes you want to buy the product more? Please take your time and read the words on the ads (if they have).			
Letter Option	Time 1	Time 2	Time 3
A			
B			
C			

Key
A=Linguistic
B=Visual
Humor
C=Visual

Table 3 Survey 1, Section 4: Chick-fil-A Ads			
Question: Which one of these ads makes you want to buy the product more? Please take your time and read the words on the ads (if they have).			
Letter Option	Time 1	Time 2	Time 3
A			
B			
C			

Key
A=Linguistic
B=Visual
C=Emotional
/Humor

In the last section, I asked the participants what made them *not* want to choose certain ads and what *did*, to truly evaluate if the appeals truly work and determine what the participants look at. Moreover, between 'yes' and 'no' answer choices, I asked the participants if the ads made them hungry and want to buy the product, if they that ads can manipulate them into buying something, and if they think they are aware when it happens (if they said yes) to determine if they think they are conscious when it happens.

Then, for the second survey, I repeated this process in a similar way but altered some of the questions. In the first section, questions included:

- Grade
- Age

- Ethnicity
- Language spoken at home
- Both parents' highest education level

I then decided that for the second section, I wanted to focus on ads that were not necessarily considered as appealing to teenagers. For this, I chose salads, which are not usually considered to attract teenagers, just as burgers, fries, or ice cream would. Furthermore, these fast-food corporations all have salads as part of their menu, allowing me to maintain my research focused on the three businesses I chose. However, as salad ads are less common and harder to find, I decided to change the formatting for my second section, and rather than asking three questions for each business, I asked the same question three times total, once per business. Each question had three different ads as options, and just like in my first survey, each option represented a distinct appeal that was shuffled. Questions included:

Table 4 Survey 2, Section 2: Salad Ads			
Question: Which one of these ads makes you want to buy the product more? Please take your time and read the words on the ads (if they have).			
Letter Option	Time 1: Burger King	Time 2: Chick-Fil-A	Time 3: McDonald's
A			
B			
C			

Key
A=Visual
B=Linguistic
C=Emotional
/Humor

In the last section, I repeated the same questions as in the first survey but added two more questions. I asked the participants which appeal they think makes a fast food ad most effective and asked them if they read the words in the ads as well as stating why or why not. I did this to determine if the results were congruent with what they thought and if one of my limitations is participants not reading the ads.

Results & Analysis

Both surveys were sent to the same people globally to keep the participants a controlled variable in order to obtain accurate results. However, for the first survey, I obtained two-hundred and seventy-eight responses, and for the second, one-hundred eighty-one, attributed to reduced interest in the second survey. Regardless, results from both surveys still provide valuable and applicable insight regarding my research topic.

In my first survey, I had 43% male and 57% female respondents from teenagers ages 12-19 in grades 6th (middle school) through first-year college students. The break-down consisted as displayed below (See Figure 1 and Figure 2):

Figure 1

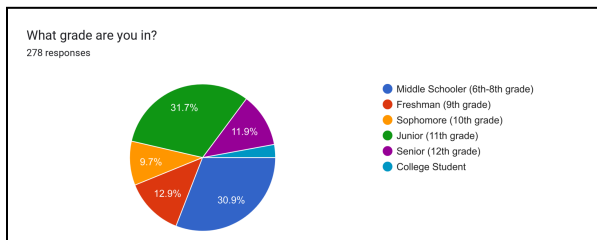
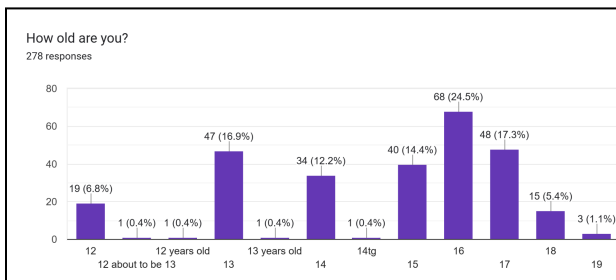
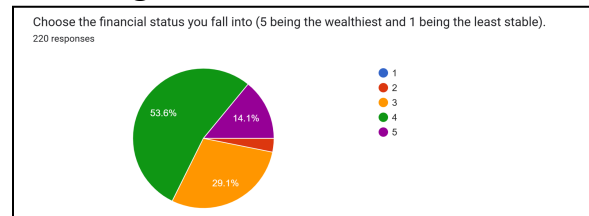


Figure 2



Furthermore, 19.4% of participants stated they went/go to public school while 80.6% claimed they went/go to a private school. When asked where the participants live, 85.6% of participants claimed that they live in Florida, while the rest live out of state or internationally in places such as California, Georgia, Israel, Italy, Venezuela, Colombia, England, Panama, Kentucky, Texas, Argentina, New York, Spain, Mexico, Puerto Rico, and New Jersey. Depending on the participant's age, place of residence, and the language and culture there, interpretations of ads could vary. Lastly, before going into questions about the advertising, individuals (optionally) rated their financial status. The breakdown consisted as follows (See Figure 3):

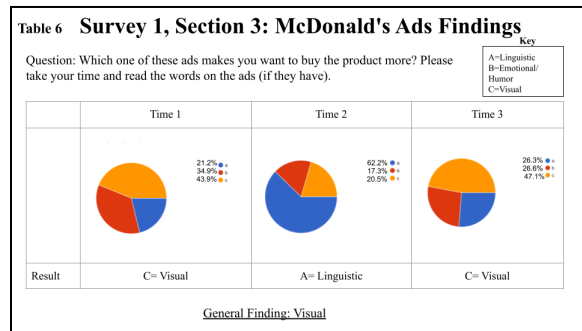
Figure 3



In this, one can see that no participants selected their financial status as one, 3.2% of participants selected two, 29.1% selected a three, 53.6% selected a four, and lastly, 14.1% selected a five. Here, the majority of the participants (53.6%) selected that they believe that they classify as a four when rating their financial status, bringing attention to the fact that my participant's responses in the coming sections will be given with a mentality derived from that.

Moving on from the demographics, results from questions regarding which ads make participants want to buy a product more are as seen below. In each table, each pie chart depicts the general opinion of the participants as they chose which ad stands out more to them.

In this table (See Table 5), the first time, most participants preferred an ad with a strong linguistic appeal. In the second time, they favored a visually dominant ad, but in the third time, they went back to choosing the ad with a linguistic appeal. Since linguistic appeal was chosen twice out of three times, it can be concluded that it was the most popular appeal for Burger King ads.



Here (See Table 6), participants initially chose a visually dominant ad, switched to a linguistic appeal the second time, and then the third time chose a visual appeal again. Since visual appeal was preferred two out of three times, it is seen as the dominant appeal for McDonald's ads.

This table (See Table 7) shows how participants in Time 1 favored a visual appeal, in Time 2, a linguistic appeal, and in Time 3, a linguistic appeal again. With linguistic appeal chosen twice, it was the most common appeal for Chick-fil-A ads. Given that the linguistic appeal was the prevailing result in two out of the three sections, sections 2 and 4, it appears to be the primary appeal teenagers look at in fast-food ads based on participants' selections above.

Regardless of the outcome, in the next section, when asking the participants what made them *not* want to choose certain ads, most participants wrote answers such as:

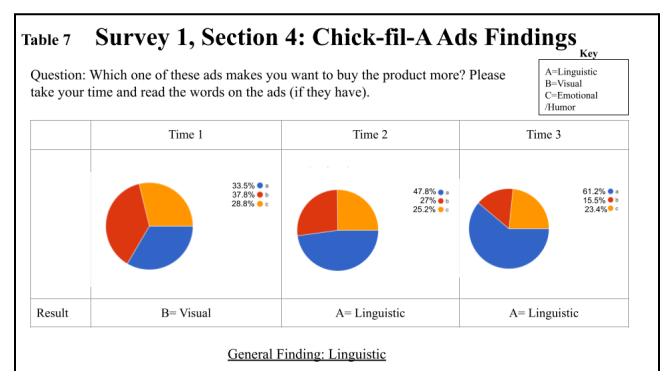
- "Too much text."
- "If the colors weren't cool or bright."

- "Complicated or lengthy words (simple works better). I don't think the ones that try to be funny work that much."
- "Not pleasing looking."
- "They looked gross."

Thus, this demonstrates how participants claim that they prefer ads with fewer words and a more visually appealing design, despite contradicting their responses in the previous sections where the outcome was the linguistic appeal. Then, when asked what *did* make them want to choose certain ads, participants predominantly wrote answers including:

- "the colors popped and made me look their way, and the burgers look tasty."
- "Making the product pop out, enhancing the parts of it which are most liked. Eye-catching colors."
- "They look good and yummy."
- "if it was engaging and colorful or fun."
- "How the product looked."

Therefore, this highlights how participants continue to assert that they favor the visual appeal in fast food ads, as their responses are in regard to ads' appearance.



Finally, when asked if the ads made the participants hungry and want to buy the product, 64% clicked 'yes', and 38% clicked 'no', displaying how the ads are effective and manipulative towards viewers at any time of day. Then, out of the two-hundred

and seventy-eight respondents, 69.1% selected 'yes,' 21.2% selected 'maybe,' and 9.7% selected 'no' when asking participants if they think ads can manipulate individuals into buying something, showing how participants are conscious of ads' psychological influence. Out of the 192 participants who chose yes, 167 believed that they are aware when it happens, indicating that participants believe that they are aware when an ad is manipulating them. However, as this seems unlikely in reality, it could be attributed to the fact that participants clicked 'yes' because the idea of manipulation was already in their heads due to the previous question.

Subsequently, in my second survey, I had 40.9% male and 59.1% female respondents from one hundred eighty-one participants who also completed the first survey. The break-down of gender, grade, and age consisted as displayed below (See Figures 4, 5, and 6):

Figure 4

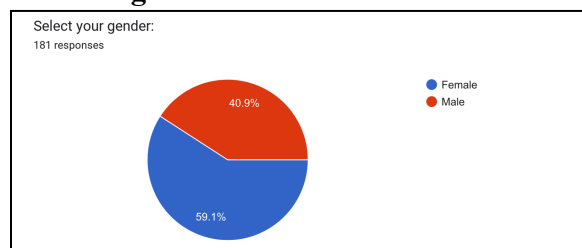


Figure 5

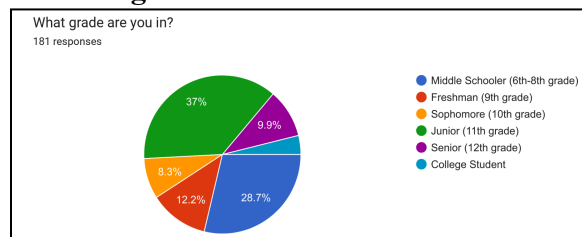
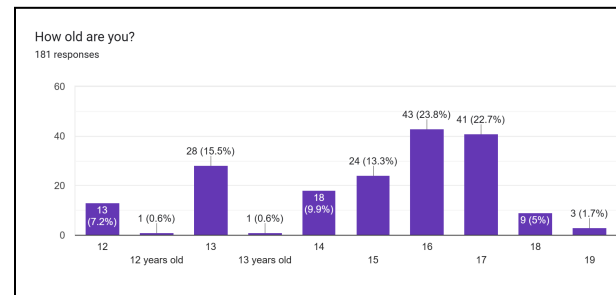


Figure 6



Then, when asked about participants' ethnicity, the most common responses were American, Hispanic, European, and Israeli, as participants had the option to select more than one. Numbers indicated that 91 participants chose American, 73 chose Hispanic, 32 European, and 39 Israeli. For language spoken at home, participants were also allowed to select multiple, with 122 participants choosing English, 64 Spanish, and 38 Hebrew as the three most prevalent. This opens up the possibility for participant's opinions when reading ads to be influenced by the language spoken at home as there was no translation for the ads. Next, for participants' parent's highest education level, the breakdown was as follows (See Figures 7 and 8):

Figure 7

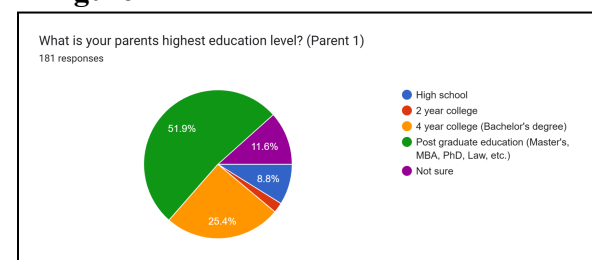
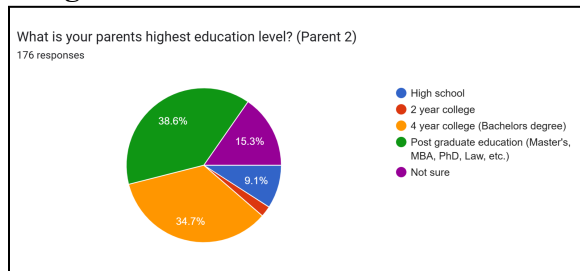


Figure 8



Through this information, one can obtain more intel on the financial status of the participants. The higher the parent's education level is, the more likely participants are to have a better economic status. With this data, I can better understand the participant's responses, as those participants with a higher economic status are less likely to pay attention to the linguistic appeal when referring to pricing or discounts. Accordingly, as seen by the breakdown above of Figures 7 and 8, most of my participants' parents' education level is a Bachelor's Degree or better, showing how the majority of my participants must have a comfortable economic status.

After demographics, the second section's results from questions regarding which appeals in salad ads make participants want to buy a product more are seen below. In the table, each pie chart shows the consensus of the participants as they selected which ad makes them want to buy the product more.

Table 8 Survey 2, Section 2: Salad Ads Findings

Question: Which one of these ads makes you want to buy the product more? Please take your time and read the words on the ads (if they have).

	Time 1: Burger King	Time 2: Chick-Fil-A	Time 3: McDonald's
Result	B= Linguistic	A= Visual	A= Linguistic

General Finding: Linguistic

In this table (See Table 8), most participants chose the ads with linguistic appeal when Burger King salad ads were displayed in the first question. For the second question, Chick-fil-A ads, the majority of participants

chose the visual appeal, and for the third question, McDonald's ads, participants preferred the linguistic appeal once again. Therefore, as the linguistic appeal was picked in two out of three questions, it is seen as the dominant appeal for salad ads as well.

Just like in the first survey, in the next section, when asking the participants what made them *not* want to choose certain ads, most participants wrote answers such as:

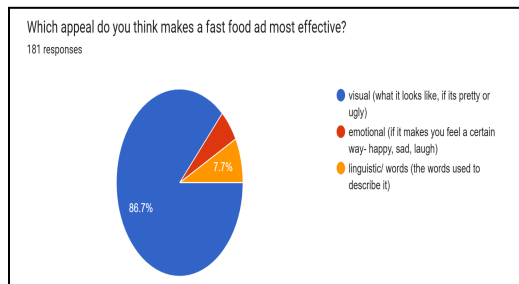
- "Looks and presentation."
- "Some food looked bad."
- "If the food looks unappetizing or not presented well."
- "They didn't look like they had very good quality."

This expresses how participants' responses are consistent with the first survey, as their reasoning for not liking certain ads still pertains to their appealing look. That being said, there were no responses regarding the words on the ads, unlike in the first survey. Then, when asked what *did* make them want to choose certain ads, participants predominantly wrote answers including:

- "The color and presentation."
- "More colorful."
- "The food looked the most appealing."
- "If the food looked yummy."

Once again, participants stated their reasoning with claims that the appearance of the ads and salads was most important to them, continuing the trend from the first survey. Not only that but when asking participants what appeal *they* think makes a fast food ad most effective, most participants (86.7%) responded 'visual' as shown below (See Figure 9):

Figure 9



While participants' responses with the ad selection showed that they favored a linguistic appeal, their responses to the question above (See Figure 9) show what is truly important to them when viewing the advertising.

Finally, in the open-ended, optional question, "Did you read the words in the ads? Why or why not?" 96 participants gave 'Yes' responses, and 58 responded 'No'. Reasons for reading the ads included (See Table 9):

Reason for Reading	Percentage (out of those who said 'yes')
Told to read them	18.75
Wanted to understand what was advertised	12.5
Big, eye-catching text	10.41667
Curious if words influenced decision	8.333333
Entertainment (e.g., Chick-fil-A ads)	6.25
Ensure the product was something they wanted	8.333333
Reading is a habit/instinct	6.25
Analyze/evaluate the ad	6.25
Check if ad was misleading	7.291667
Look for deals/promotions	5.208333

Reasons for *not* reading the ads included (See Table 10):

Reason for Not Reading	Percentage
Focused on the food	27.58621
Text too long	20.68966
Didn't care about the words	15.51724
Lazy/short attention span	10.34483
Visual person	6.896552
Already knew what was being sold	5.172414
Words don't impact decision	5.172414
Advertising is exaggerated	3.448276
Food looked appetizing without text	3.448276
Preferred video/audio over reading	1.724138

This data shows that participants were not very interested in reading the text in ads. While some participants did read the ads,

many of them only did so because they were told to, not because they wanted to. That being said, the most common reason for not reading was focusing on the food, with 27.59% of responses related to that, followed by complaints of text being too long (20.69%) and not caring about the words (15.52%). Even though some participants claimed they read the ads to understand them, others felt advertising was exaggerated or unimportant, exemplifying that even when participants read the text, they did not fully trust or pay attention to it. Ultimately, as seen through their responses, participants were more drawn to images than words, revealing that teenagers focus more on the visual appeal, rather than the linguistic when looking at fast-food ads.

Discussions

Implications

Before conducting my research, I hypothesized that visual appeal would be the most influential factor for teenagers when seen in fast food ads. After researching, my hypothesis was proven correct. The data I collected showed that the majority of teenagers focus on the visual aspects of ads rather than words or emotional appeals. While teenagers predominantly selected the linguistic appeal in sections two through four of the first survey, and in section two of the second survey, as shown by the pie charts, the following sections revealed that the visual appeal was, in fact, the true conclusion as participants explained their reasoning. This could be explained by the open-ended questions, where participants truly expressed their reasoning and mentality when making their choices (See Tables 9 and 10). While most participants selected that they read the ads (See Figure 9), the reasoning behind it was not because the words attracted them, but more so because they were asked to read them by the

directions in the survey. Not only that but in their responses when not reading the ads, most participants gave reasons saying that they were focused on the food in the pictures. This data, while it counters the respondent's answers from the first few sections, shows the real motive behind the participant's choices, pointing to the visual appeal as the most dominant. Despite there being a couple of responses supporting the linguistic appeal, the majority of the participants who selected that they read the ads gave their reasoning that it was only because they were told to, suggesting that the larger part of the participants who did read would have preferred not to. No matter what belief is held, the visual appeal in fast food advertisements is shown to be the most influential on teenagers when buying products. Hence, this suggests that teenagers are particularly vulnerable to visual marketing tactics that contain imagery, esthetics, and color more than text or emotional appeals. Moreover, as fast-food companies continue to invest billions in advertising strategies, such as Burger King, McDonald's, and Chick-fil-A do, there will be a constant contribution to unhealthy eating habits as there are a number of businesses that prioritize aesthetics over nutritional transparency (American Psychological Association 2010). Ultimately, beyond fast food, this study also identifies a broader trend: in an era when visual media and digital content are increasingly influential, people are forming opinions and making decisions based on what looks appealing rather than what is logically or factually true. As a result, it raises a concern for the future of an individual's decision-making regarding visual influence from the media. By understanding the power of visual appeal, society can take steps to create a more informed and health-aware generation of consumers.

Limitations

The limitations of this study must be taken into account when viewing its results. A significant limitation is the census of my participants and their demographics. For starters, participants were mainly from Florida, private schools, and were middle-to-upper class (concluded by Figures 3, 7, and 8), even though my study was taken at a global scale with diverse backgrounds and education, which could hinder the validity of my results. Moreover, while on my first survey, I obtained two-hundred and seventy-eight responses, on the second survey, I only had one-hundred eighty-one, possibly suggesting that the results in my second survey are not as accurate. Additionally, the language barrier with those participants who either are international or do not speak English as a first language should be taken into account, as there were no translations for the text in the ads. Thus, there is the possibility that my respondents' selections would have been different with a greater understanding of the text's meanings. Then another notable limitation is the fact that in most, if not all, linguistically and emotionally dominant ads that I selected for my surveys, there are visual appeals present, as businesses tend to use words to enhance their ads to either explain a product, pricing, or entice/attract the consumer. Due to this, while the ads I selected did have an appeal stronger than the rest, there is a chance that my respondent's selections would have been different if that was not the case, and I completely isolated each appeal. Lastly, time constraints affected the depth and scope of my research. With more time, I could have gathered a larger sample size and conducted a more thorough analysis of which marketing tactics and advertising strategies most effectively influence teenagers as consumers.

Future Studies

While this study concluded that the visual appeal is the most dominant factor shaping teens' food choices as consumers viewing fast food ads, the implications extend beyond their food choices. Future research should focus on determining if teenager's opinions on health, lifestyle, and even political and social issues may also be shaped more by what they see rather than what they read or hear. This brings up important questions about media literacy, consumer awareness, and the responsibility of advertisers, since visuals and aesthetics continue to shape public opinion and influence consumer choices in ways people often do not realize or question. For example, future research should explore how digital media and advertisements driven by algorithms amplify the effects of visual marketing, particularly on platforms like Instagram, TikTok, and YouTube, where teenagers are constantly exposed to visually compelling ads. A comparison of digital ads to traditional ones could reveal whether social media's highly personalized, image-heavy content reinforces unhealthy consumer behaviors more than television or print ads. On top of that, future research could determine if this trend, of the visual appeal being selected as the most influential, is only within fast-food ads, or if it also continues when teenagers see advertisements for other products, such as sneakers. Additionally, cross-cultural studies could examine whether teenagers from different socioeconomic and cultural backgrounds respond similarly to visual advertising, or if external factors such as economic status, education, or cultural norms influence their susceptibility to these tactics, which is something that was not possible for my research due to time constraints. All in all, this research not only isolates which tactic, in particular, is most effective in manipulating teenage

consumers' decisions, but it also provides a starting point to address the obesity epidemic, such as policy discussions on food marketing regulations. As marketing keeps evolving, future research could focus on policy changes, media literacy programs, and ethical advertising guidelines to help teenagers make more informed choices instead of being unknowingly influenced by visual marketing tactics.

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Performance Enhancements: Can Fruit Juice Replace Energy Drinks?

Amanda Kaplan

Abstract

The regular consumption of energy drinks has become extremely prevalent in recent years, especially among adolescents and teenagers for enhanced energy levels or performance in general. Numerous studies have displayed positive athletic benefits, including stamina and strength, but, with these benefits also come severe health concerns. Several studies have focused on the dangers to various body aspects arising from repeated energy drink consumption, mainly due to the extreme and unregulated caffeine dosages. A potential substitute to eliminate these risks is 100% pure fruit juice. This supplement has not been researched as closely as energy drinks, as studies focus mainly on positive recovery aspects when ingested repeatedly over a period of time. A better understanding of the effects that fruit juice displays on athletic performance is needed to provide credible evidence. Thus, this research aims to evaluate the multifaceted aspects of energy drinks and fruit juice, and ultimately to view the effectiveness of fruit juice as a supplement when ingested acutely among high school students.

Literature Review

Introduction

According to Statista, one of the world's most renowned statistics portals, energy drink sales in the United States reached 18.5 billion dollars in 2023 (Statista 2023). The significant value associated with the energy drink industry has led to extensive research on these drinks' overall composition and effects on the human body. These beverages are readily available, as Proper Wild, an energy drink company, establishes that over 500 varieties exist,

present in the majority of grocery stores or gas stations ("Science" 2017). Easy accessibility has caused the extensive success and popularity of this industry. Moreover, Noni Macdonald et al. from the National Library of Medicine explain, "Energy drinks are often targeted toward children and youth through carefully designed advertising campaigns as well as sponsorship of events such as snowboarding and skateboarding competitions" (Macdonald et al. 2010). The elaborate marketing schemes have been proven successful, as the Centers for Disease Control and Prevention reveal, "Between 30–50% [of adolescents] reported consuming energy drinks" (CDC 2024). The prevalence of energy drinks is only increasing, but other alternatives have been introduced. Specifically, fruit juices have been used instead as a natural supplement. Consequently, this paper will discuss the components, performance enhancements, and dangers of energy drinks, along with fruit juice ingredients and their effect on physical performance.

Energy Drinks: Components

The main component thought to be attributed to the positive effects of energy drinks is caffeine, which is combined with other ingredients to form the "energy blend". According to Jorge Gutiérrez-Hellín et al., from the Department of Exercise and Sport Sciences of Universidad Francisco de Vitoria, caffeine is a "socially acceptable drug... [that] stimulates the central nervous system... generating a delay in the onset of fatigue" (Gutierrez-Hellin et al. 2021). The average concentration ranges, as demonstrated by clinical psychiatry professor Rajnish Mago, from 80 to 505 mg, which is up to 6 cups of coffee (Mago 2025). While caffeine on its own is an extremely strong stimulant, combining it with other ingredients, such as taurine,

which occurs naturally in food sources, constitutes the majority of the “energy blend.”

Energy Drinks: Effects on Performance

To preface the enhancement of physical performance, Raul Dominguez et al., from the College of Health Sciences of the University Alfonso X El Sabio, explain, “In competitive sports, 0.5%–1.5% improvements in performance are considered a critical difference” (Dominguez et al. 2017). Improvements beyond this percentage have been exhibited by subjects consuming energy drinks. A study revealed that trained cyclists experienced a 23-25% increase in work during a ride after consuming an energy drink (Gutierrez-Hellin et al. 2021). This dramatic increase encourages people to consume energy beverages, as the ergogenic effects experienced are substantial. To display these effects in another sport, a study conducted by Juan Del Coso et al., from the Exercise Physiology Laboratory at Camilo José Cela University, consisting of semiprofessional soccer players who consumed Red Bull (the most popular commercially available energy drink) revealed an increase in total distance covered at a speed higher than 8 mph during a simulated match by about 200 meters (Del Coso et al. 2012). This drastic increase in distance covered at a sprint reveals that energy drinks improve players' performance and endurance. These studies display similar statistics supporting athletic improvements, focusing mainly on endurance-based activities, leaving questions as to whether these improvements can be evidenced across a range of events. Overall, energy drinks have repeatedly proven to be a beneficial supplement across multiple sports by supporting endurance levels, mainly due to the effects of caffeine.

Energy Drinks: Dangers

While these beverages induce benefits, several severe dangers are unfamiliar to the general public. An alarming statistic provided by the Centers for Disease Control and Prevention puts these dangers into perspective: “In 2011, 1,499 adolescents aged 12 to 17 years went to the emergency room for an energy drink-related emergency... [including] irregular heartbeat and heart failure” (CDC 2024). This aspect of energy drinks is commonly overlooked and is why society needs to take extreme caution before consuming. While not all of these hospital visits were met with extreme outcomes, there are many deaths directly related to energy drink consumption. Diana Cao et al., from the Department of Pharmacy Practice at Ketchum University, reveal that 34 deaths were linked to energy drink consumption in a single decade, but that amount is bound to rise with increased consumption patterns (Cao et al. 2021). Further, Andrea Costantino et al., from the Institute of Legal Medicine, found that in a study with subjects ranging in age who consumed energy drinks, 41.5% resulted in arrhythmias, or irregular heartbeats (Costantino et al. 2023). To understand the severity of this diagnosis, Lin Chen et al., from the University of Minnesota Medical School, found that arrhythmias increase the risk of death by almost double (Chen et al. 2021). Due to the extensive research correlating energy drink consumption with lethal consequences, paired with the trend of adolescents being constantly targeted in the marketing of energy drinks, regulations must be put in place regarding caffeine dosages. Currently, the Food and Drug Administration does not have a “regulation specific to ‘energy drinks.’” All of the general regulations about the safe use of ingredients apply to these beverages” (FDA 2024). The lack of regulations is highly responsible for the

lethal aspects of this industry, as the supposed “safe use of ingredients” has continuously resulted in harm. The deleterious side of energy blends is commonly overlooked, and, with this information, society must be more concerned with the high consumption patterns. To view this issue from an athlete’s perspective, Mathew Mayer, a professional basketball player, explains, “I had caffeine poisoning. I had six Monsters the day of the game...because I like a caffeine-induced euphoria... I could barely get out of bed the next day. It was basically like a caffeine hangover” (Lauletta and Landsverk 2023). Mayer’s story illustrates the threat people face when over-relying on energy drinks for fuel, resulting in immediate and lasting health effects when the “euphoria” wears off. Mayer relates his sluggishness to a hangover, which demonstrates how powerful the effects truly are. Conclusively, energy drinks are an imminent threat to human health in various forms that are unknown to society, displaying the industry’s unethical facets due to the lack of caffeine dosage control.

Fruit Juice: Components

Recent studies have sought to discover if fruit juice could provide a safer and more efficient alternative to energy drinks. As caffeine was determined as the main component in energy drinks, in fruit juice, polyphenol and antioxidant contents are the main components that correlate to performance. Abdel-Majeed Safer, a professional researcher in cell biology, states that polyphenols are “plant-derived dietary compounds” (Safer, 2013). These compounds are found in various fruits, ranging in amounts from 400-800 mg per 100 grams of fruit, according to Ali Redha et al., experts in sports sciences (Redha et al. 2022). While there is minimal evidence of these contents directly affecting immediate

performance, they are essential to post-workout recovery. Sarah Valder et al., from the Department of Rehabilitative Sports Medicine., state, “The consumption of polyphenol-rich juices improves the regeneration of skeletal muscles [which are in action during sports and physical activities] by up to 13% and can reduce muscle soreness by up to 29%” (Valder et al. 2024). These improvements far surpass the previously mentioned improvement percentage range that was deemed critical. Continuing with the aspect of recovery, Redha et al. further address that “the most common side effect of intensive exercise across all sports fields is oxidative stress... [which is] a result of an imbalance of the RONS,” or reactive oxygen and nitrogen species, and “a high level of RONS... leads to cellular damage and dysfunction” (Redha et al. 2022). The importance of this revolves around the capability of antioxidants in fruits to reverse these effects. Redha et al. state, “Natural antioxidants [found in fruits] can scavenge RONS and eliminate their harmful effects that could negatively influence the athlete’s performance” (Redha et al. 2022). Redha et al. reveal critical information to explain the improvements that Valder et al. displayed regarding muscle regeneration, a critical aspect of post-workout recovery. Most importantly, various components within fruits have repeatedly been proven to improve recovery and prevent muscle damage, which are some of the most important and overlooked aspects that determine an athlete’s consistent performance.

Fruit Juice: Acute Supplementation

Existing studies about acute supplementation of fruit juices directly affecting athletic performance have produced results revolving around endurance improvements. Dominguez et al., previously mentioned, analyzed an

experiment that administered a single dose of beetroot juice before exercise, resulting in “improvements close to 20% in the number of repetitions performed” (Dominguez et al. 2017). This reveals an extensive performance improvement in the aspect of acute stamina.

Fruit Juice: Supplementation Over Time

Comparing energy drinks and fruit juice, differences are present in athletic improvements from repeated supplementation. Beginning with energy drinks, John Higgins et al., from the Division of Cardiology, revealed that “the human body develops a tolerance to caffeine quickly, usually 3 to 5 days after regular use” (Higgins et al. 2010). Along with the previously mentioned dangers, this further proves that energy drinks cannot be a reliable source of energy for athletes, as their efficiency diminishes. Contrastingly, Julien Aucouturier et al., with a Ph.D., experimented with 3-day supplementation of beetroot juice on young men. The results revealed a difference of about 5 repetitions greater with supplementation before reaching the point where participants felt unable to continue (Aucouturier et al. 2015). Contrary to energy drinks, Aucouturier provides evidence that the body improves with recurring juice supplementation, proving to be substantially more effective than energy drinks. To view a different aspect of increased performance or recovery, the ingestion of tart cherry juice was experimented with. Kerry Kuehl et al., from the Journal of the International Society of Sports Nutrition, provided participants with “bottles of tart cherry juice or placebo cherry drink twice daily for 7 days prior to” a race to view the subsequent measure of increased pain after the event (Kuehl et al. 2010). The results revealed that “the cherry juice group reported a significantly smaller increase in pain (12 ± 18 mm) compared to

the placebo group (37 ± 20 mm)” (Kuehl et al. 2010). Kuehl et al.’s experiment proves that supplementation over time can not only increase performance but can also reduce pain by over double the amount, which is an extremely important facet for athletes who play multiple games and train daily.

Gap In Existing Literature

Overall, athletes seek various ways to improve their performance and recovery, leading to the use of supplements. While many have reverted to energy drinks due to their drastic increase in performance across a range of events, the reported dangers pose imminent threats. An obstacle arises, though, as stated by Kuehl: “Professional players are more susceptible to the ergogenic effects of caffeine when compared to younger players” (Kuehl et al. 2010). Due to this information, newer evidence reveals that pure fruit juice can act in similar ways but lacks a dangerous nature. Yet, the existing literature lacks evidence discussing the effect of acute supplementation of fruit juice on high school student-athletes or the effects on maximum strength, speed, and in-game improvements in this age cohort. This research paper will seek to answer these gaps.

Hypothesis

I hypothesize that acute supplementation of 100% fruit juice (FJ) will improve speed, maximum strength, and post-game perceived exertion more than energy drinks (ED). Further, I hypothesize that repeated supplementation throughout games - during warm-ups, half-time, and water breaks - will further improve efficiency.

Methods

The methods of this research consist of 2 parts: surveys and test experiments with high school volunteers.

1.1 General Survey

A survey was sent to high-school students in grades 9-12, with 100 respondents. The following questions were asked:

1. Approximately how many energy drinks do you drink per week?
2. What energy drink brand do you most often resort to?
3. Have you ever tried to drink fruit juice instead of energy drinks before a workout/game/practice?

These questions evaluated the general consumption rates of energy drinks and determined which brand would be used in the experimental portions of this research. This survey also determined the presence of fruit juice as a supplement for performance.

1.2 Athlete Survey

A second survey was sent to only high school athletes in grades 9–12, with 50 respondents. The following questions were asked:

1. On a scale of 1-5, how tired/exhausted do you feel after playing in a school sports game?
2. Have you ever drunk an energy drink to try to increase your stamina/energy?
3. Would you purchase and supplement with fruit juice over an energy drink if you discovered they were equally effective?

These questions examined energy drink consumption rates specifically in athletes. This survey also evaluated average perceived exertion rates to compare to later experimental results.

2.1 Participant Experiment: Maximum Strength

Using information gathered from the surveys, I conducted an experiment focusing on maximum strength and speed. A consent form was signed by the parents of each

subject prior to testing for both parts of the participant experiment. 3 different drinks were involved:

1. Placebo: 1 full disposable water bottle with flavor-enhancing drops that did not contain any ingredients that would hinder results.
2. Fruit juice: Tangerine Juice (8 oz/1 serving) containing approximately 106 mg of polyphenols, according to Polyphenol-Explorer, the first comprehensive database on polyphenol content in foods ("Showing All Polyphenols Found in Tangerine, Juice from Concentrate—Phenol-Explorer" 2015).
3. Energy drink: Celsius, a commercially available energy drink (12 oz/1 serving) containing 200 mg of caffeine.

The preparation method involved combining 1 serving of the drink into a disposable water bottle and filling the rest with water to make all drinks appear nearly identical. Next, ten South Florida high school students, one male and eleven females, ingested these drinks on separate days. Subjects were told not to change their diets, hydration levels, or sleep levels to accurately measure results. Previous research methods in this topic commonly supplemented subjects with either 60 or 120 minutes before testing. To be able to compare to previous research and ensure that the drinks were fully consumed before testing, this experiment paralleled this timeline. Thus, 120 minutes subsequent to ingestion, subjects performed a 40-yard sprint test, a maximum leg press test, and a maximum leg extension test. The sprint test

was measured using an iPhone stopwatch, and both the leg press and leg extension were measured using equal standard gym equipment. The leg press and leg extension tests were performed by increasing the weight in 10-pound increments until the subject could not complete the full movement. Results analyze the percent change in sprint times and maximum weight of the energy drink and fruit juice individually compared to the placebo drink.

2.2 Participant Experiment: Perceived Exertion

For the second portion, nine South Florida high school female soccer players ingested the exact same energy drink and fruit juice drinks mentioned earlier, with the same preparation methods. This portion required 4 games:

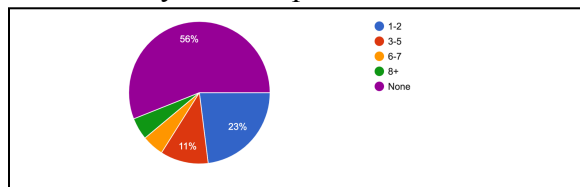
1. One-time supplementation 120 minutes before a match
2. Supplementation throughout the entire match (warm-ups, water breaks, halftime)

This method was used for the energy drink and fruit juice, two games for each drink. Each subject was asked about their perceived exertion level after every game. Subjects were told not to change their diets, hydration levels, and sleep levels in order to accurately measure results.

Results

1.1 General Survey Responses - 100 respondents

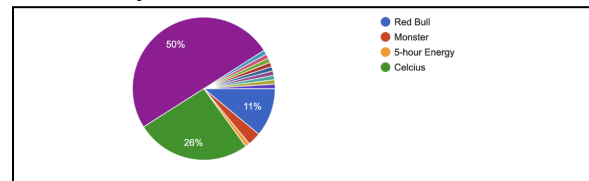
Approximately how many energy drinks do you drink per week?



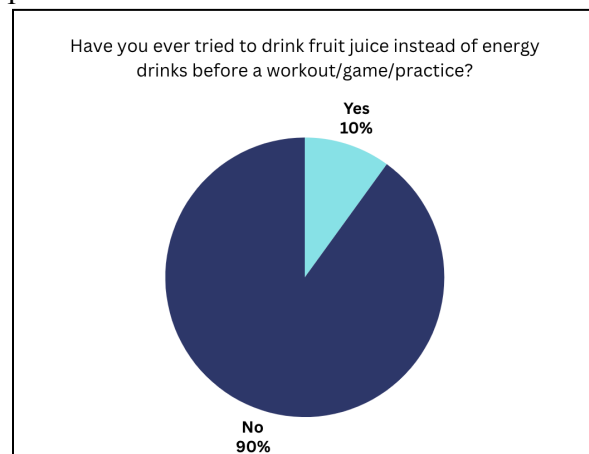
Out of 100 high school respondents, 44% demonstrated that they drink energy drinks. Of this population, 53.2% consume

these 1-2 times per week, 25% consume these 3-5 times per week, 11.4% consume these 6-7 times per week, and 11.4% consume these 8 or more times per week. Notably, about 23% of respondents in this group consume energy drinks 6 or more times per week.

If you drink energy drinks, what brand do you most often resort to?

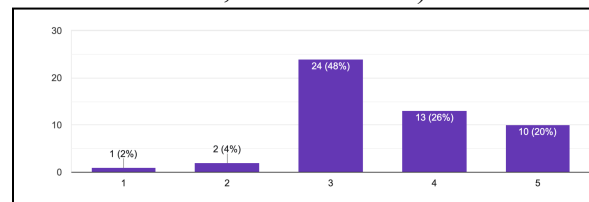


The most commonly selected energy drink was Celsius (26%), a commercially available energy drink with 200 mg of caffeine. With this information, Celsius was the energy drink used in the experimental portions of this research.



1.2 - Athlete Survey - 50 respondents

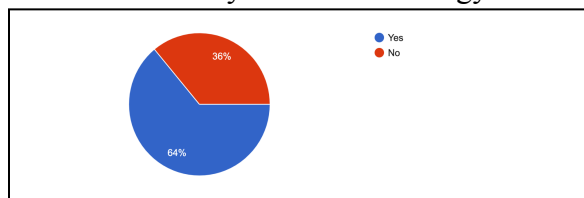
On average, how tired/exhausted do you feel after playing a school sports game? (1 = not tired; 5 = exhausted)



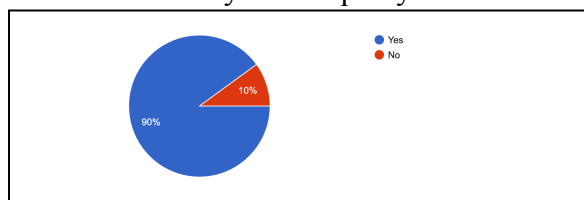
Of the 50 high school student-athletes that responded, 94%

displayed their average perceived exertion rates after a game as a 3 or above. On this scale, only 1/50 (2%) selected “1”, 2/50 (4%) selected “2”, 24/50 (48%) selected “3”, 13/50 (26%) selected “4”, and 10/50 (20%) selected “5”.

Have you ever drunk an energy drink to try to increase your stamina/energy?



Would you purchase and supplement with fruit juice over an energy drink if you discovered they were equally effective?



2.1 - Participant Experiment: Maximum Strength

Participant	Placebo (sprint, leg press, leg extension):	ED (1 time) (sprint, leg press, leg extension)	FJ (1 time) (sprint, leg press, leg extension)	Per cent Change (Sprint)	Per cent Change (Leg press)	Per cent Change (Leg extension)
1	6.01 s, 130 lbs,	6.27 s, press : 110	5.55 s, 110 lbs,	ED : -4	ED: -15	ED : +10%

	100 lbs	extension: 110	110 lbs	% FJ: +7%	% FJ: -15%	FJ: +10%
2	10.72 s, 90 lbs, 60 lbs	10.63 s, 110 lbs, 60 lbs	11.04 s, 110 lbs, 70 lbs	ED : +0.8% FJ: -3%	ED: +22% FJ: +22%	ED : 0% FJ: +16.7%
3	7.43 s, 150 lbs, 60 lbs	7.41 s, 160 lbs, 70 lbs	7.05 s, 180 lbs, 80 lbs	ED : +0.3% FJ: +5%	ED: +6% FJ: +20%	ED : +16% FJ: +33%
4	7.01 s, 130 lbs, 70 lbs	6.73 s, 140 lbs, 70 lbs	5.98 s, 140 lbs, 80 lbs	ED : +3% FJ: +14%	ED: +7% FJ: +7%	ED : 0% FJ: +14%
5	8.05 s, 130	7.59 s, 130	6.11 s, 150	ED :	ED: 0	ED : 0%

	lbs, 90 lbs	lbs, 90 lbs	lbs, 100 lbs	+ 5 % F J: + 2 4 %	% FJ : 15 %	FJ: +1 1%
6	10. 55 s, 70 lbs, 30 lbs	9.47 s, 70 lbs, 60 lbs	8.93 s, 80 lbs, 60 lbs	E D : + 1 0 % F J: 1 5 %	E D: 0 % FJ : +1 4 %	ED : +1 00 % FJ: +1 00 %
7	6.5 8 s, 120 lbs, 60 lbs	6.41 s, 130 lbs, 70 lbs	6.44 s, 140 lbs, 50 lbs	E D : + 2. 6 % F J: + 2. 1 %	E D: +8 .3 % FJ : +1 6. 7 %	ED : +1 6.7 % FJ: -16 .7 %
8	6.3 1 s, 90 lbs, 50 lbs	6.28 s, 100 lbs, 50 lbs	6.11 s, 110 lbs, 60 lbs	E D : + 0. 5 % F J: + 3.	E D: +1 1. 1 % FJ : +2 2. 2	ED : 0% FJ: +2 0%

				2 %	%	
9	7.6 3 s, 80 lbs, 50 lbs	7.55 s, 90 lbs, 60 lbs	7.59 s, 90 lbs, 40 lbs	E D : + 1 % F J: + 0. 5 %	E D: +1 2. 5 % FJ : +1 2. 5 %	ED : +2 0% FJ: -20 %
10	8.7 3 s, 80 lbs, 60 lbs	8.82 s, 90 lbs, 50 lbs	8.71 s, 90 lbs, 70 lbs	E D : + 1 % F J: + 0. 2 %	E D: +1 2. 5 % FJ : +1 2. 5 %	ED : -16 .7 % FJ: +1 6.7 %
11	7.0 4 s, 90 lbs, 70 lbs	7.13 s, 100 lbs, 60 lbs	6.91 s, 100 lbs, 70 lbs	E D : -1 .3 % F J: + 1. 8 %	E D: +1 1. 1 % FJ : +1 1. 1 %	ED : -14 .3 % FJ: 0%
12	7.3 1 s, 50 lbs, 150 lbs	7.42 s, 60 lbs, 150 lbs	7.28 s, 60 lbs, 160 lbs	E D : -1 .5 % F	E D: +2 0 % FJ :	ED : 0% FJ: +6. 7%

				J: + 0. 4 %	+2 0 %	
Av era ge				E D : + 1. 5 % F J: + 5. 9	E D: +8 % FJ : +1 3. 2 %	ED : +1 1% FJ: +1 6%

Out of 12 participants, after consuming the fruit juice in comparison to the energy drink, 8/12 (66.7%) showed faster sprint speeds by at least 0.5%, 2/12 (16.7%) showed slower speeds by at least 0.5%, and 2/12 (16.7%) displayed no significant change. For the leg press, the fruit juice, when compared to the energy drink, improved maximum strength by at least 0.5% for 5/12 (41.7%), decreased strength for 0/12 (0%), and displayed no significant change for 7/12 (58.3%). For the leg extension, the fruit juice, when compared to the energy drink, noticeably improved maximum strength for 8/12 (66.7%), decreased maximum strength for 2/12 (16.7%), and remained relatively unchanged for 2/12 (16.7%). When comparing the fruit juice and energy drink results to the placebo drink, the average percent change across all 3 activities was greater for the fruit juice by an average of 4.9%.

2.2 - Participant Experiment: Perceived Exertion

Perceived exertion rates across all 4 games were relatively similar, with slight improvements in the fruit juice trials. The average perceived exertion rates for the games in the supplementation order of 1-time energy drink, 1-time fruit juice, energy drink throughout, fruit juice throughout: 3.1, 2.3, 3, 2.1. Rates slightly varied between repeated and 1-time supplementation of the same drink.

Discussion

Prior to conducting this research, I hypothesized that acute supplementation of 100% fruit juice would improve speed, maximum strength, and post-game perceived exertion. The findings of this research fully support this portion of my hypothesis. Further, I hypothesized that repeated supplementation throughout games - during warm-ups, halftime, and water breaks - would further improve efficiency. The results displayed that the repeated supplementation trials yielded relatively equal results to the 1-time supplementation trials, but ultimately were deemed more effective. The general survey supported previous research discussing high rates of energy drink consumption in high schoolers, with 44% of respondents displaying that they consume these harmful drinks. With the experimental portions of this research, consuming fruit juice prior to a workout or game displayed a positive effect on speed, strength, and perceived exertion. Relating to caffeine tolerance, Higgins et al., previously mentioned, describe the tolerance that the human body builds to caffeine when regularly consumed (Higgins et al.). This evidence further supports the benefits of replacing caffeinated drinks, as fruit juice leaves a sustained effect, along with the newly evidenced acute effects. This evidence would be beneficial for high school athletes to be aware of, as fruit juice overall improved performance more than energy

drinks. As previously discussed, there are a variety of dangers that are associated with the consumption of energy drinks, so the findings of this paper could work toward the shift from energy drinks to fruit juice as a supplement to increase performance. As displayed in the results, at least 58% of participants increased performance in speed and maximum strength when consuming fruit juice compared to energy drinks, which could be due to the high concentration of polyphenols positively acting on muscle groups throughout the body. However, the results displayed a more significant increase for fruit juice in comparison to energy drinks for the maximum speed and strength tests compared to perceived exertion. It is also important to note that 5 subjects reported stomach pains or undesirable feelings of anxiousness when consuming the energy drink for the perceived exertion portion of the experiment. Moreover, out of the 50 high school athletes surveyed, 64% have attempted to increase performance by supplementing with an energy drink. This displays how high school athletes actively seek ways to improve their energy levels and can benefit from a safe and effective supplement. Further, out of the 50 high school athletes surveyed, 90% displayed that they would choose fruit juice over an energy drink if they were found to be equally effective. With the findings of this paper concluding that fruit juice has been deemed more effective across a range of events, along with the immense recovery aspects and minimal presence of health hazards, the transition between supplements is very likely if made aware to athletes. In conclusion, the implications of the results and findings of this research paper are that consuming fruit juice before a workout or game would have an even greater benefit on performance aspects when compared to the more commonly consumed, yet extremely harmful, energy drinks.

Limitations

a. Participant Pool

Upon analyzing this research, acknowledging its limitations is important. While my research began with almost 30 participants for the volunteer experimental portions, only 12/30 of the participants completed the experiments in the end. For the maximum strength portion of the experiment, 11/12 of the participants were female, with only 1 male. Similarly, for the perceived exertion portion, all participants were female. In addition, for the perceived exertion trials, participants had to actively participate in a school sport, which made it difficult to gather a larger group of volunteers. These aspects limit the pool of results, as the deviation of results between genders, if any, could not be determined. It is also important to acknowledge that the subjects were all from the same school and consisted of a short range of athleticism. Yet, due to the consistency of the research results, a larger volunteer pool is likely to produce results consistent with this research.

b. Supplement + Lift Variety

Moreover, supplement variety throughout the experiment was limited to only one source of caffeine and one source of fruit juice, even though there is a wide variety of both available. In addition, everyone reacts differently and has a different caffeine tolerance, which should be more closely researched in the future. Further, the maximum strength portion of this research focused heavily on lower-body compound lifts. Thus, a wider range of subjects and supplements, along with a longer time frame to perform a variety of upper body lifts, could provide a more cohesive review of the various effects of fruit juice and energy drinks on performance. However, these limitations do not prevent the hypothesis of this paper from being proved through effective evidence.

Future Direction

As previously discussed, the diversity in the participant pool was limited in the aspects of demographics—mainly gender, age, and a short but varied range of athletic abilities. In order to fully understand the effects of fruit juice and energy drinks on performance, further research should be conducted to fill these existing gaps. Similar methods and procedures should be carried out, but should include a variety of males and females, professional athletes, and various age groups. Various sources of supplementation should also be tested, including a mix of fruit juices, whole fruits, freeze-dried fruits, and different caffeinated energy drinks. Fruit juice can also be compared to electrolyte-based sports beverages, which are designed to improve performance but were not tested in this research. Regarding the events tested, future research should also focus on assessing the effects of these multiple supplements on upper-body compound lifts, as these movements may yield different results. To further implicate the findings of this research, fruit juice, while a slight additional cost, should be more widely available at sports games on all levels for athletes. For example, the findings of this research can be used to create a powder supplement that is added to water to allow for easier accessibility and wider use. This research can be presented to corporations that sponsor athletes in the field of performance supplements to raise their popularity. Similarly, fruit juice can be marketed in more appealing ways to young athletes, such as featuring sporting events, similar to the way energy drinks and sports drinks currently do. With the support of professional athletes and businesses, funding, and advertising, the transformation to fruit juice can be fully implicated in the realm of sports, saving lives, improving

overall health, and improving performance across a wide athletic spectrum.

Conclusion

This extensive research has established that athletes seek ways to improve their performance, commonly resorting to energy drinks. These caffeinated energy beverages have displayed significant beneficial effects on athletic performance through a range of events. However, these drinks have proven to pose several health hazards, mostly attributed to the high caffeine dosages. As previously discussed, serious dangers are associated with the consumption of energy drinks, including life-threatening arrhythmia and, in some cases, lethal consequences. But, due to the extensive performance-enhancing effects, athletes of all ages continue to consume these.

Another supplement that has been severely underutilized is 100% fruit juice. There exists a wide variety of fruit juices that contain compounds known as polyphenols and antioxidants that react with several parts of the body to enhance recovery and performance when supplemented over a period of time. Due to the lower consumption of fruit juice for performance enhancement, many gaps exist in this area of research. A substantial gap that presented itself was the acute, 1-dose supplementation effects of fruit juice. This research sought to fill this gap, focusing on the high school cohort.

The results of this research solidified the athletic enhancements that fruit juice provides by displaying its effects through acute supplementation on high school students. Through various exercises—sprints, leg press, leg extension, and post-game exertion—the results have proven that fruit juice is even more effective than energy drinks, on top of being a healthier and safer supplement. Hence,

athletes seeking to improve their performance should be cautious of the supplements they consume and should highly consider the transition from caffeine-based energy drinks to 100% pure fruit juice.

To further enhance research on this topic, future experiments should be tested with mixed fruit juices, whole fruits, and dried fruits, along with broadening the age and demographics of the subjects to create a holistic review of the performance effects.

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The Psychological Warfare of Women During Wartime

Noa Robbins

Literature Review

Introduction

Jeffrey Gettleman et al., international correspondents for “The New York Times”, report that “more than 30 bodies of women and girls in and around the rave site [were found]...legs spread, clothes torn off, signs of abuse in their genital areas” (Gettleman et al., 2023). This refers to the first massacre sights of the atrocities Israeli women experienced on October 7th in Israel. According to Britannica Encyclopedia, the Israel-Hamas war began on October 7th, 2023, when Hamas launched assaults on Israel from the Gaza Strip (Britannica, 2024). Leo Arner, Department of Political Science at Lund University, states, Hamas is the leading organization in the Gaza Strip and is “statistically linked...to the deaths of thousands of Israeli and Palestinian civilians”(Arner, 2019). The war continues with hostages, primarily Israeli citizens, still held by Hamas, back-and-forth attacks, and global involvement. Wars have consequences, but gender is not considered to be a factor. This paper will analyze the general effects of harsh warfare on diverse populations and how these effects change when focusing on the Israeli population and the women during the current Israel-Hamas War.

War Consequences

As nations brutally battle, populations suffer from psychological struggles. A study analyzing changed eating behaviors due to the psychological consequences of war was conducted among Ukrainian children during the current warfare in Ukraine. Maria Gulich et al., Marzieiev Institute for Public Health, state, “Disrupted EBs [eating behaviors] during the war in Ukraine were recorded for 63% of

children...The most common EBs were food cravings (38%)...aversion to certain foods (29%), and no or decreased appetite (24%)” (Gulich et al., 2024). The constant battles and stress of war produced detrimental eating habits and suppressed the Ukrainians' desire for food. Likewise, another study examining how Lebanese populations were affected psychologically by the 2006 Lebanon-Israel war produced similar results. Ph.D Antoine Aoun et al., Department of Psychiatry, present, “this study revealed a high apparent prevalence of ED [eating disorders] in Lebanese students shortly after the 2006 war” (Aoun et al., 2013). This presents a direct correlation between changed eating behaviors and stress. According to Farheen Shahid, Institute of Nutritional Sciences, “people discover that they change their eating habits in reaction to emotional condition when under stress... including an increase in the intake of comfort foods, irregular mealtimes, intensified appetites for particular food types, or even a lack of appetite” (Shahid, 2023). As both Ukrainians and Lebanese experienced the pressures of warfare, their minds suffered and so did their eating habits. Food scarcity and poverty become another struggle nations encounter as Abby Zeith, International Committee of the Red Cross legal, states, “The 2023 Global Report on Food Crises...pushed over 117 million people into acute food insecurity” (Zeith, 2023). War stresses, both psychological and unpredictable, have detrimental impacts on citizens.

War and Women

As citizens struggle during war, Professor Susan McKay, Women’s Studies at the University of Wyoming, asserts that women and girls are victimized “through acts of murder, terrorism, torture, involuntary disappearance, sexual slavery, rape, and sexual abuse...female children may be raped along with their mothers and

both may be forced...to observe each other being raped” (Mckay, 1998). Women go through horrid physical trauma and are left with mental scarring (Mckay, 1998). While the previously mentioned studies explored how populations are affected, women specifically heed more intense consequences from losing control over their bodies (Mckay, 1998).

Israelis During Current Warfare

Applying previous generalizations, the Israel-Hamas war, specifically, is detrimentally affecting the Israeli population, according to Yossi Levi-Belz et al., The Lior Tsfaty Center for Suicide (Belz et al., 2024). The mental health of Israelis has deteriorated since October 7th, seen by the rise in diagnoses of psychological disorders. Levi-Belz et al. analyzed Israeli's mental health before and during the war. They concluded: “PTSD [post-traumatic stress disorder] diagnosis (from 16.2 to 29.8%) and a probable depression diagnosis (from 31.1 to 44.8%) in the aftermath of the terrorist attack” (Belz et al., 2024). PTSD is caused “by an extremely stressful or terrifying event - either being part of it or witnessing it”, per Mayo Clinic (Mayo Clinic, 2024). From hearing about recent deaths of Israeli soldiers on the news to directly experiencing attacks, Israelis have accumulated trauma that continues to haunt them. A study focusing on the mental health of Israeli young adults conducted by M.A Melody Hakimian shows how this psychological harm has extensive effects as “81%... [of] individual[s] do not engage in a daily activity (e.g. driving, lengthy showers, sleeping, going to the grocery store, going to school/work, etc.) because it leaves them exposed to the possibility of a future attack” (Hakimian, 2023). Threats of possible attacks have frightened Israelis to the point where they now deviate from their daily routines and jeopardize their well-being—eventually leading to a

worsened physical state. Just as the Ukrainian and Lebanese citizens' eating habits changed, Israeli citizens are suffering the same. In a study analyzing Israelis during the current war, Naama Shamir-Stein et al., Maccabi Healthcare Services, found “21% reported eating in an irregular manner these days, 21% noted consuming more snacks and sweets during this time...13% of respondents said they lost weight as a result of the situation and 36% of respondents reported gaining weight during this period due to a deterioration in their eating habits” (Shamir-Stein et al., 2024). With this, Shamir-Stein et al. add, “36% of respondents who had a scheduled doctor’s appointment or medical test prior to the war reported postponing or canceling the appointment by the patient or the physician” (Shamir-Stein et al., 2024). While changed eating habits may start as simply eating abnormally, it can quickly lead to a person's health decline.

Changed eating habits can also be a consequence of the economic and agricultural struggles Israel is experiencing amidst the war. Writer Nathan Klabin, The Jerusalem Post, states the war expenses are already rising to \$66 billion and “Israel’s credit rating being downgraded by multiple financial agencies...many Israelis, particularly those already struggling with food insecurity, will face even greater difficulty accessing nutritious food” (Klabin, 2024). The economic struggles Israel is experiencing goes concurrently with food struggles. He continues, “nearly half a million Israeli families are currently dealing with financial instability. During this year’s Rosh Hashana [Jewish New Year], many were left with less healthy meals, as they were forced to substitute fruits and vegetables with cheaper, less nutritious alternatives” (Klabin, 2024). Stein et al.’s findings on Israelis eating habits elaborate on this situation; Israelis not having the

choice of what to buy and consume because of the ongoing war forces them into a degrading situation. As stated earlier, food insecurity is a general issue during any conflict and is blatantly seen during the Israel-Hamas war.

Israeli Women During The Israel-Hamas War

During the current warfare, Israeli women are enduring abhorrent consequences. Gettleman et al. provide insight on information from interviews about October 7th: “Four witnesses described in graphic detail seeing women raped and killed at two different places along Route 232, the same highway where Ms. Abdush’s half-naked body was found sprawled on the road at a third location” (Gettleman et al., 2023). Gal Abdush, an Israeli woman, was one of countless victims. As described, the women were treated like dirt as they were mutilated, raped, and then tossed aside or slaughtered when they were no longer “useful” (Gettleman et al., 2023). The reports also provide a first-hand account from Sapir, a 24-year-old woman who was an eyewitness to many of the attacks. She shares, “‘That day, I became an animal,’ she said. ‘I was emotionally detached... I looked at all this as if I was photographing them with my eyes, not forgetting any detail’” (Gettleman et al., 2023). She expresses pure fear of what she has seen and what would happen if she could not remember. Rachelle, a mother whose two sons are serving in the IDF reserves, shares, “it’s so unreal what’s happened here that you’re detached. If you don’t have a certain amount of detachment at times, you can’t actually get through the day” (Gettleman et al., 2023). As McKay mentioned before, targeted attacks on females during war leave them with lifelong scars, explicitly shown by Rachelle. Yet, more concerning is the lack of attention given to these women during the war. Writer Ruby Russell, Jewish Women’s Archive,

asserts, “When talking about people’s experiences of war, it is generally men that are given the platforms” (Russell, 2023). She addresses the general issue of ignorance that all women experience during wartime in the media. A significant case of this specific to the Israel-Hamas war is how United Nations Women, an international organization, addressed the sexual violence of October 7th. Eliana Menashe, a part of an independent newspaper of Washington University in St. Louis, reports, “UN Women...did not officially condemn Hamas’ pervasive sexual violence until Dec. 1, 55 days after the initial attack...Having to constantly refresh social media to see if anyone has spoken about these injustices is frustrating” (Menashe, 2024). This does not only provoke the victims, but all women as Ali, a Somali Muslim, explains in Eliana Jordan and Gaby Wines report on the Israel-Hamas war, “Have[ing] worked in the field of international development for 20 years, she said it was ‘incredibly painful to watch an organization that is meant to defend women...was silent about the rape and abuse of Jewish women’ (Jordan and Wine, 2023). This non-Israeli perspective depicts the impact of the silence beyond Israelis and the hatred towards women that stems from it. When considering the population of Israeli women, Daniel Amir, Crown Center for Middle East Studies, states that it must be noted that this includes Arab, Druze, Bedouin, and Christian women who are living through the warfare in Israel and being negatively affected psychologically and physically as well (Amir, 2024). As targeted women share their experiences on how the Israel-Hamas war has taken a toll on their lives, the ignorance given to the war and its victims becomes more alarming.

Conclusion

When war takes its toll, citizens of engaged countries are negatively impacted;

this is explicitly demonstrated by the Israeli population as a whole during the current Israel-Hamas war. Generally, mental health is put at risk when countries battle, and simultaneously, their health and diets are affected. While the situation itself is gaining attention, the sexual violence that has and continues to occur to the Israeli women has been heavily ignored. As Dr. Gai Paul, chairman of the People's United Forum, states, "Ignorance is a silent killer that slowly destroys a nation from within...ignorance leads to a lack of awareness and knowledge, which can result in poor decision making and a lack of progress" (Paul, 2023). Without attention from the world, knowledge about the situation is not being spread, and women will not be able to receive proper support and stability. Together, this leads to the gap in research on women and warfare studies.

Gap and Hypothesis

There has been a significant amount of research done on the psychological health

For my methods, I had to first establish that women were being psychologically affected during the war before delving into their eating behaviors. Most of the research thus far has been on PTSD and Major Depressive Disorder of the general population. My focus is on these disorders in addition to Generalized Anxiety Disorder (GAD) in females. Saar Munir and Veronica Takov, McLaren Macomb Regional Medical Center, describe GAD as a "disorder that produces fear, worry, and a constant feeling of being overwhelmed" (Munir and Takov, 2022). Cleveland Clinic explains MDD as a condition that "causes a persistent low or depressed mood and...also affect[s] how you sleep [and] your appetite" (Cleveland Clinic, 2022). To collect that data, I compiled a survey asking various questions about Israeli women's psychological health. Additionally, I included some brief questions about their

of the Israeli population as a whole during wartime; however, there is no research that specifically focuses on the mental health of the women. Mainstream ignorance to women's struggles during war is a problem and leads to a barrier of necessary resources and vital support to this vulnerable population. Israelis have been psychologically affected by the war, and consequently, their diets have suffered. Thus, I hypothesize that Israeli women's psychological health has been detrimentally impacted, reflected by their eating habits. As a girl who experienced the stresses of the war second-hand from my family in Israel, I chose this war specifically to properly display the effects of wartime on women. With the war currently ongoing and not heavily researched, I felt this would be the best example to shed light on how women are suffering and being overlooked in all wars.

Methods

diets to help guide my second survey. Refer to the appendix B for a full list of questions. All of my questions and information on the survey were translated into Hebrew and reviewed by multiple Hebrew teachers to ensure clear comprehension.

After acquiring the responses, I concluded that there had been an established psychological effect amongst these women due to the war, as well as an effect on parts of their eating. Using the data gathered, I began compiling an eating-behavior-orientated survey. This survey asked participants to describe their eating habits before and after the war by ranking statements in both before and during the war sections. They expressed how strongly they resonated with the statements based on a scale of 4 options. Additional statements on their eating habits exclusive to during the war were also included. After gathering these responses, I decided that

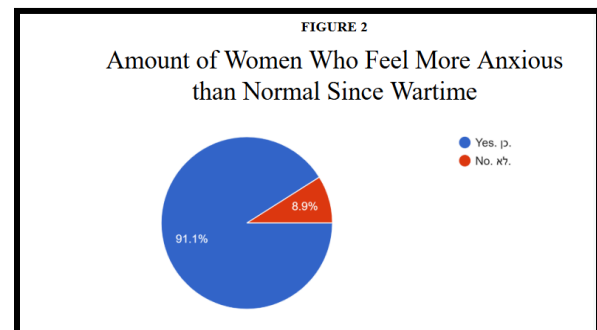
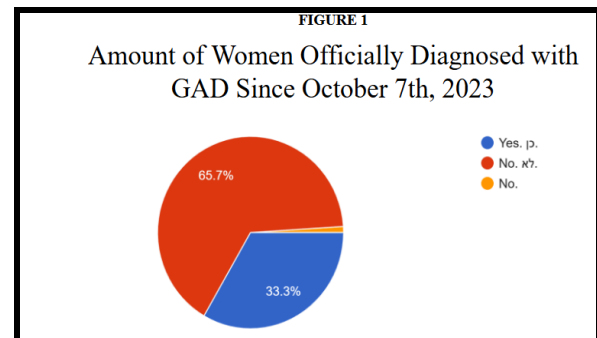
with such a triggering and personal topic, interviews should be included from a first-hand perspective. After complications with time and language barriers with live interviewing, I resorted to written interviews via the messaging platform WhatsApp to communicate with respondents who agreed to share their stories. Both the surveys and written interviews allowed me to look at women's changed mental and dietary health from a numerical and personal aspect. Refer to the appendix C for a full list of questions.

Results

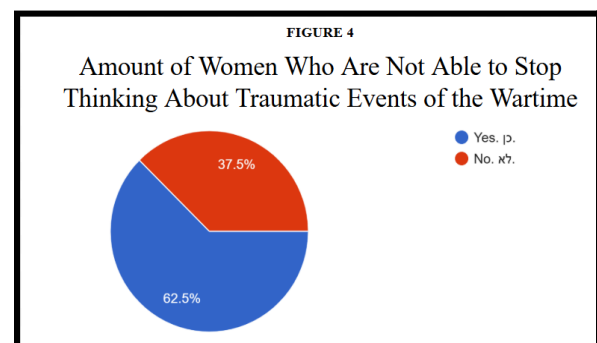
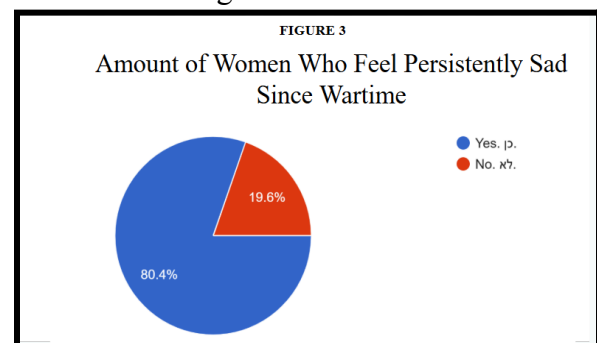
The results of two surveys consisting of qualitative and quantitative questions support that women ranging from the ages of 16 to 80 years old mental state and dietary behavior has been detrimentally affected during wartime. Respondents were first presented with a series of “Yes/No” questions and free-response follow-up questions to assess their mental health and general eating during the war in Survey 1. Full lists of all tables are found in the appendix A.

Survey 1: Psychological Health During Wartime

This survey collected 101 responses. Figure 1 measured official diagnoses of GAD, while Figure 2 measured if respondents felt as though they were experiencing just the symptoms of the condition. With a vast majority reporting feeling more anxious in general, the war has had a relevant impact on the anxiety levels of women.

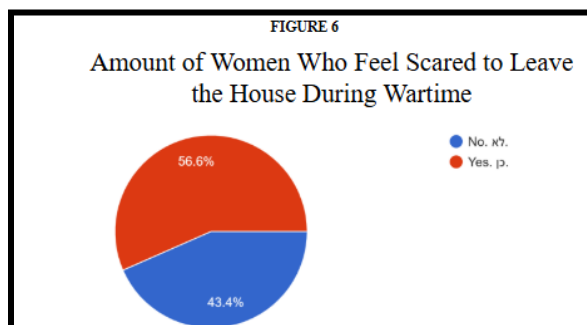
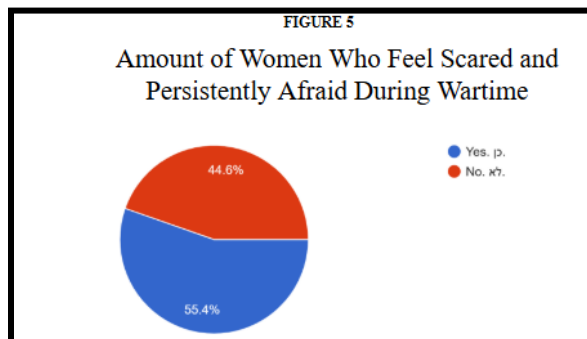


Figures 3 and 4 display data on how the war has been affecting respondents' depression and post-trauma stress, both indicating that a majority of them are experiencing symptoms of MDD and PTSD since the war began.



Figures 5 and 6 show the effect of the wartime on respondents fear. Together,

the data indicates a loss of security amongst the women.



Additionally, respondents indicated the specific factors contributing to agitation when leaving their house in the chart below (See Figure 7). 30 respondents reported a fear of being kidnapped or held hostage. 48 respondents reported a fear of not finding a bomb shelter in the occurrence of an alarm going off or a missile attack. 56 respondents reported a fear of public terrorist attacks and 47 respondents reported a fear of being put in a dangerous situation.

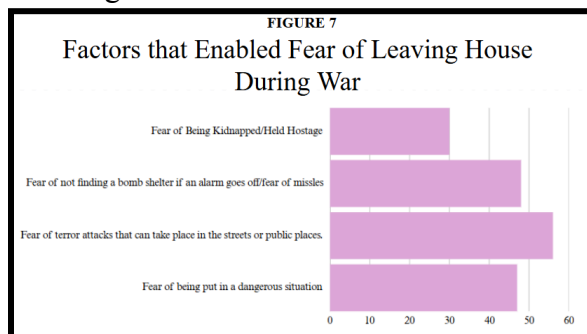
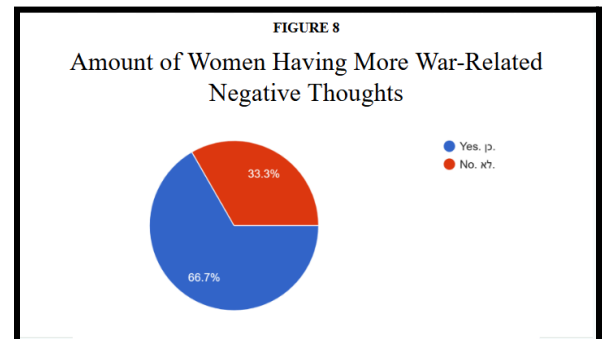


Figure 8 shows the percentage of respondents who reported having more negative war-related thoughts since the war, such as thoughts about being held hostage, killed, and kidnapped. A majority felt overcome by negative thinking, indicating

the grasp the trauma of the war has had on Israeli women.

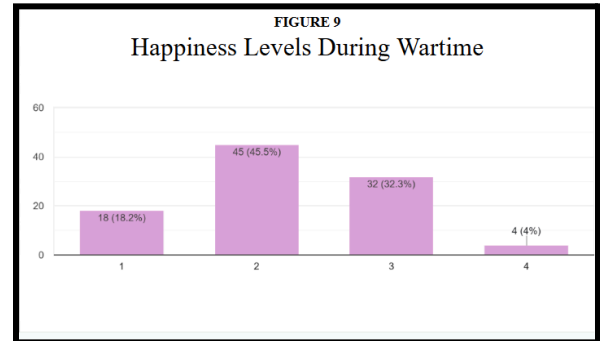


Respondents were also asked to indicate why they believe they are having such thoughts. The table below displays some responses to the free-response question.

TABLE 1
REASONS FOR NEGATIVE THINKING

RESPONDENT	RESPONSE
Respondent 1	“The fear of the unknown and the known, this is my first war and there is a constant fear that, God forbid, something will happen to me”
Respondent 2	“Worry about a son who is fighting and fear that something bad will happen at any given moment. There was no sense of security, not even at home”
Respondent 3	“For example; Since the war, all I have thought about is how to build a hiding place in my house. How to deal with my 4 children, God forbid, in a home attack situation, buy anesthetic spray (like the thieves') and put them to sleep so that they won't experience the fear in the same situation”
Respondent 4	“Many thoughts that my partner could be killed in the war while on reserve duty, or that fragments of a rocket could fall on me and the children and hurt us”
Respondent 5	“I worried about my two sons who fought. And unfortunately my son Ray Perry, 36 was killed in Gaza. Leaving behind a wife and three small children”
Respondent 6	“What happened on October 7 completely undermined my sense of security. There is no one to trust anymore, and our existence is in constant danger, both here in Israel, but also everywhere else in the world”
Respondent 7	“No one thought that what happened on October 7 could ever happen. Now that it has happened, I'm afraid it could happen again and in my neighborhood”

Figure 9 further measures the level of happiness during wartime among respondents. Measure “4” is the highest level of happiness, and measure “1” is the lowest. A majority of 63 respondents reported levels of 1-2, indicating a heightened sense of unhappiness during the war.



Respondents were also asked to indicate the reasons for their level of happiness. The tables below display some responses from levels 1-2 (See Table 2) and levels 3-4 (See Table 3) of happiness.

TABLE 2
1-2 LEVEL OF HAPPINESS

Respondent 1	"In short, it is difficult for me to be happy that I know that people from my people are suffering and I feel their suffering."
Respondent 2	"Happiness is our concept that has disappeared from the lexicon. The daily struggle is for survival. The fear and pain that appear when you hear every day on TV...and then hear about the soldiers who are killed every day, soldiers who only yesterday were children who went to school with my daughter. How can you talk about happiness in such a situation?"
Respondent 3	"There are attempts to ignore the situation, but in the end, reality and the difficult situation quickly return with full force, and this often creates a drop in mood"
Respondent 4	"It is difficult to be happy in such a difficult situation and worry about the soldiers and hear every day about dead and wounded soldiers and terrorist attacks."

TABLE 3
3-4 LEVEL OF HAPPINESS

RESPONDENT	RESPONSE
Respondent 1	"I believe in god, and I'm very realistic person. If something bad needs to happen, so it will anyway. No matter where you are"
Respondent 2	"I have a certain hope that this is part of a process that the country needs to go through"
Respondent 3	"Because I know it will eventually end and it will be good."

Respondent 4	"I also manage to continue a kind of routine life and be happy that there is"
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While responses vary, reasons for lower happiness levels are mainly due to the indirect suffering they experience as they are exposed to wartime tragedies. Reasons for higher levels of happiness range from faith in an ending to the war to feelings of acceptance towards the war.

Table 4 displays data from respondents who indicated their ways of coping with all of the psychological struggles they reported to have during the war. Responses included social activity, therapy, volunteering, taking extra-security measures, and not coping.

TABLE 4
WAY OF COPING

RESPONDENT	RESPONSE
Respondent 1	"The truth is that with everyone I encounter, we talk about the situation, about the conduct, about what was if and when, and therefore it is actually a kind of therapy."
Respondent 2	"To contribute, to maintain a routine, to be with family and friends It's hard to say. I'm at home almost all the time, for fear of being on the road when there's an alarm. I don't travel abroad - afraid of anti-Semitism. Not really coping. I watch less news, to reduce my anxiety a little."
Respondent 3	I downloaded the location on my phone to learn and kidnappers or something happens so that they would know where I was whether it was walking on the street or being on the phone just in case"

Respondent 4	“With the help of volunteering, social activity and active action”
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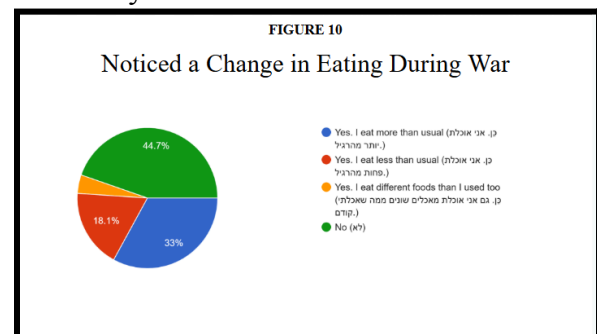
Table 5 indicates additional sentiments provided by respondents to gain further insight into their mental health during the war. It is evident that respondents have been severely affected psychologically by the war in multiple ways.

TABLE 5
ADDITIONAL SENTIMENTS MENTAL HEALTH

RESPONDENT	RESPONSE
Respondent 1	“Personally, my son in the army fought inside the entire time and I didn't know what was happening to him. For months, I couldn't talk to him and ask how he was doing...And we barely saw each other. His friends were killed next to him (friends who were at our house)...I can no longer count how many funerals I went to or visited the wounded, or helped mothers, friends whose children were injured or killed...There was an air of depression, sadness, pain in the country. There was no Someone who didn't know someone, or was hurt by something. I can only say that I don't think there is anyone who hasn't been hurt in some way or another. The people in the country are in a bad mental state..whether it's diagnosed or not...”
Respondent 2	“...unfortunately we get used to everything.... of necessity... including wars. But it's [needed] to try to create control and deal with things that we have the ability to control, to promote, and to do things that will strengthen our forces.”

Respondent 3	“At the beginning of the war, my mental state was much worse than it is today. I lived in fear and anxiety. I felt a lack of control, afraid to leave the house, afraid to walk around in public places, but all of this was a temporary situation. Today I feel less like that”
Respondent 4	“I often think about what I would do or feel if I were in their place, my country went through a second Holocaust and it's a lifelong trauma.”

Figure 10 displays how the war and its psychological repercussions affected the eating habits of respondents. A majority of 55% of women reported a noticeable change whether this be eating more, less, or differently than usual.



Figures 27 and 28 display the percentage of women who lost or gained more weight and found themselves eating at unusual times since the war (See appendix A). Table 6 provides further insight into this data, showing respondents' additional sentiments on their eating habits.

TABLE 6
ADDITIONAL SENTIMENTS EATING HABITS

RESPONDENT	RESPONSE
Respondent 1	“In the first two months of the war I couldn't eat because of fear.”

Respondent 2	“Yes at the beginning of the war I gained about 5 kilos[11.023 pounds] from stress eating. I have since lost the weight through diet and exercise but I find myself slipping when the attacks escalate.”
Respondent 3	“At the beginning of the war I didn't eat anything because of stress, fear, my son who was fighting inside the feelings I had and yes, I lost about 10 kilos [22 pounds]..Slowly I'm going back to eating, even junk food at odd hours, but eating is constantly affected (like my mood). There is a period when I gain weight and a period when I lose it all depends, for me personally, on how I feel that day, week, month..Did I talk to my son, did a missile fall in my area, did another soldier (friend) get killed, etc..”
Respondent 4	“It's hard for me to eat when I know the hostages don't eat”
Respondent 5	“That I can't eat alone... It makes me feel bad”

Survey 2: Eating Habits Before and After Wartime

Survey 2 was distributed to Israeli women to focus on their changing diets, and 124 responses were collected. Each measure was assigned a numerical value to display how strongly participants resonated with the statement presented to them. Respondents were asked to choose a measure on as if they were answering before the war and then if they were answering after the war.

Opinions Options on Statement Presented	
1	Strongly Agree.
2	Agree.

3	Disagree.
4	Strongly Disagree.

To distinguish a correlation between the “Before The War” distribution and “During The War” distribution, a chi-square test, a statistical analysis that determines if there is a significant difference between observed frequencies in categorical data, was used, comparing an alpha p-value of 0.095 and a degree of freedom of 3 to either reject to fail or reject the null hypothesis that the values of “Before” and “During” are different by chance.

Table 7 displays a chi-square statistic of 1.8651. The p-value is .600865. As the p-value was higher than the significance level, there was no significant difference between respondents' desire to eat when they saw a major negative update about Israel and the wartime before and during the war. Thus, respondents' opinions towards the statement did not significantly change before and during wartime.

TABLE 7

“I had/have a stronger desire to eat when I saw/see any updates or incidents about Israel/Israel-Hamas War”			
	Before War	During War	<i>Row Totals</i>
1	9 (10.00) [0.10]	11 (10.00) [0.10]	20
2	22 (25.50) [0.48]	29 (25.50) [0.48]	51
3	62 (57.50) [0.35]	53 (57.50) [0.35]	115

4	27 (27.00) [0.00]	27 (27.00) [0.00]	54
Column Totals	120	120	240 (Grand Total)

*“() ” indicate the expected counts if homogenous. “[] ” is the χ^2 contribution value.

Table 8 displays a chi-square statistic of 1.2444. The p-value is .742366. There is no significant difference, as the p-value was higher than the significance level, between respondents' desire to eat when nervous, anxious, or worried before and during wartime.

TABLE 8

“I had/have a stronger desire to eat when I am anxious, stressed, worried, or tense.”			
	Before War	During War	Row Totals
1	21 (18.58) [0.32]	16 (18.42) [0.32]	37
2	38 (39.66) [0.07]	41 (39.34) [0.07]	79
3	41 (40.17) [0.02]	39 (39.83) [0.02]	80
4	21 (22.59) [0.11]	24 (22.41) [0.11]	45
Column Totals	121	120	241 (Grand Total)

Table 9 displays a chi-square statistic of 5.7823. The p-value is .122696. These results conclude that there is no significant difference between respondents' urge to eat when scared before and during wartime. However, there was a prominent increase in agreement towards having the urge to eat when scared about anything Israel or wartime-related during the war, implying a correlation between Figures 5,6, and 7.

TABLE 9

“I have a stronger urge to eat when I am scared or frightened about anything Israel related [before] / now that I live during a wartime [after]”			
	Before War	During War	Row Totals
1	5 (9.96) [2.47]	15 (10.04) [2.45]	20
2	37 (36.84) [0.00]	37 (37.16) [0.00]	74
3	56 (51.28) [0.43]	47 (51.72) [0.43]	103
4	20 (19.92) [0.00]	20 (20.08) [0.00]	40
Column Totals	118	119	237 (Grand Total)

Table 10 displays a chi-square statistic of 16.8505. The p-value is .000759. As the p-value was lower than the significance level, these results conclude

there is a significant difference between participants' opinion towards their diet before and during wartime. Thus, more women felt their diet was deteriorating since the war began.

“My diet is healthy and consistent”			
	Before War	During War	Row Totals
1	10 (11.55) [0.21]	13 (11.45) [0.21]	23
2	61 (59.24) [0.05]	57 (58.76) [0.05]	118
3	24 (33.64) [2.76]	43 (33.36) [2.79]	67
4	26 (16.57) [5.37]	7 (16.43) [5.41]	33
Column Totals	121	120	241 (Grand Total)

TABLE 10

Figures 11 and 12 reflect participants' opinions on the amount of junk food they consumed before the war and during the war. Before the war, 59 participants out of 122 expressed that they ate junk food to comfort themselves. 61 participants disagreed with the statement (See Figure 14). However, 58 participants expressed that they ate more junk food than normal during wartime (See Figure 15).

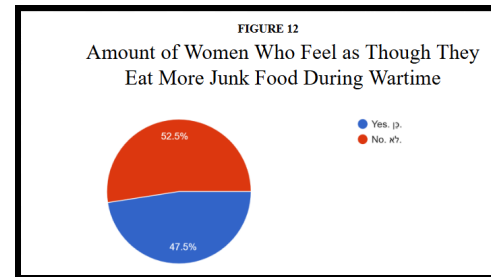
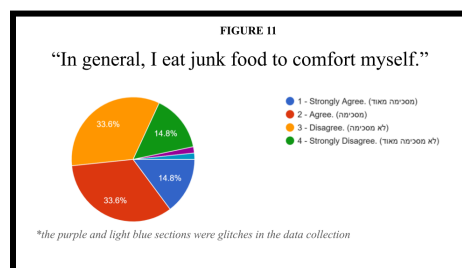


Table 11 displays a chi-square statistic of 24.6505. The p-value is .000018. This concludes that there was a significant difference between respondents' opinions on the statement before and after the war. More people felt as though they were not eating to only fulfill their hunger more during wartime, whether this mean eating or less than needed.

TABLE 11

“I only eat enough to fulfill my hunger.”			
	Before War	During War	Row Totals
1	24 (13.61) [7.92]	3 (13.39) [8.06]	27
2	63 (60.51) [0.10]	57 (59.49) [0.10]	120
3	29 (38.32) [2.27]	47 (37.68) [2.31]	76
4	3 (6.56) [1.93]	10 (6.44) [1.96]	13
Column Totals	119	117	236 (Grand Total)

Figure 13 displays respondents' opinions on their appetite during the war. This concludes that the war's harsh media and news have impacted women's appetite.

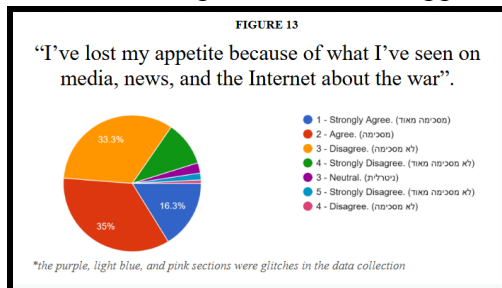
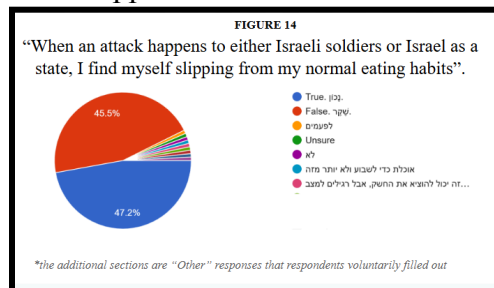


Figure 14 reflects respondents' opinions on their eating behavior when attacks occur to Israeli soldiers or Israel due to the war. A majority of women felt as though they slipped from their appetites when attacks happen.



To gather data on future support for women, I created questions that allowed women to express what they felt would help them with their eating. Figure 15 shows the amount of women who feel that eating with someone or eating out would better their eating habits. This method of support proves to be less effective.

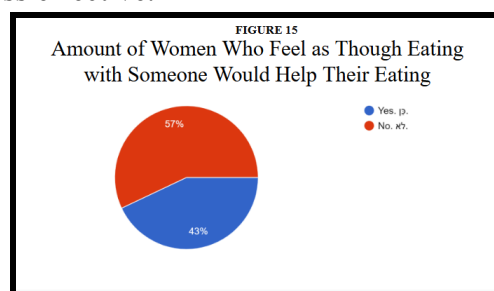


Figure 16 displays how respondents feel about having a set meal or diet plan to help them stay more consistent with their

eating during the war. This method of support will be less useful for the affected women.

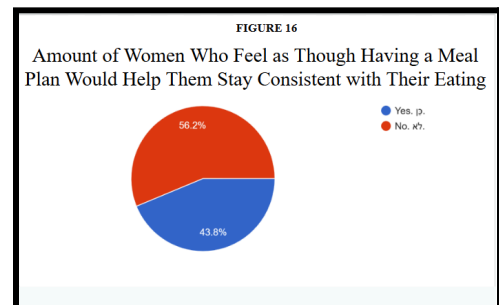


Figure 17 displays how respondents feel about having a support group to help with both their eating and mental health during the war. This method of support could prove to be potentially beneficial for the affected women of the war.

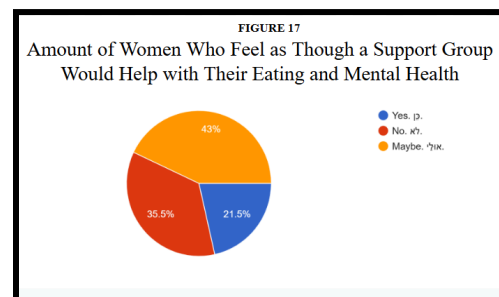


Figure 18 displays how respondents feel about the combined effect of their mental health and eating during the war. A majority of respondents expressed that their worsened mental health during the war seen in Survey 1 had a profound effect on their eating, as seen by Survey 2.

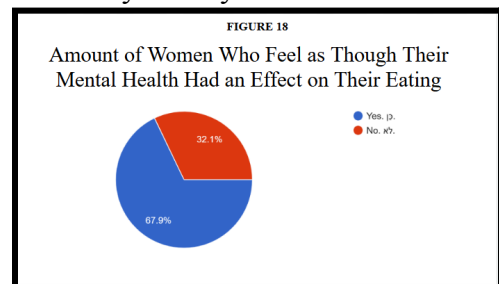
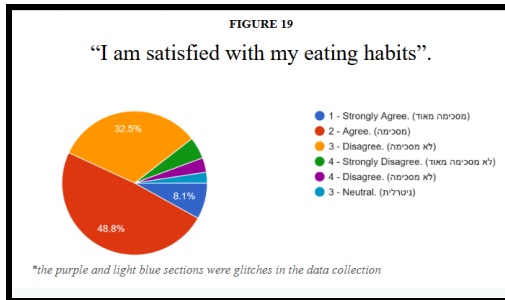


Figure 19 reflects participants' opinions on how satisfied they are with their eating habits. This concludes that during the war, women do not feel content with their eating, whether that means it has gotten worse or is not the same as their norms.



Discussions

Interviews were also conducted to obtain personal cases on the dietary and psychological repercussions of the war. Interviewee One lives in the central region of Israel in a settlement surrounded by Arab villages and described how she moved to her mother's house immediately after October 7th, 2023, due to a rapid loss of security. She refrained from viewing any triggering media to maintain her mental health. Regarding her eating, she writes, "It was during the first stages of the war that I managed to maintain correct eating habits. Something about the feeling of having control over the diet gives a feeling of control over life". To cope with the chaos of uprooting herself and her children, she resorted to using her eating as a way to provide structure for herself. Interviewee Two lives in Rishon LeZion, Israel, and describes waking up at 6:29 AM to incessant alarms and rockets with immense panic as the shooting in nearby neighborhoods did not cease. After the first day of attacks, she describes, "My mental state deteriorated slightly after hearing about all the innocent deaths. There was a high increase in anxiety". She continued, "What caused the anxious state was that we had to change our routine, go inside almost every hour to run to shelters and protect ourselves...I had to deal with quick shopping [for supplies due to] fear of rockets being launched, isolate myself at home...and be as close to the news as possible". Regarding her eating habits, she described her relationship with food before the war as a cultural element in her social

and familial life as she cooked meals to comfort people who entered her home. Now, during wartime, she stated: "I had a change in appetite with a tendency to eat less. I did not eat healthy food...and I purchased more basic food." She continues, "I thought of food as something that was mandatory, and not like before the war, when food was something I ate every day". She described that before the war, she would eat three meals per day, but during the war, would eat only snacks, feeling guilty to consume unnecessary food. As the war progressed, she wrote about how she is utilizing social media to gather tips and healthy recipes and visiting a dietitian to help herself. She states, "A support system can definitely help, even following the war because it causes more awareness...[and] receiving groceries or prepared food gives me the motivation to eat better as well". From these two women, it can be concluded that the deteriorated mental health is being reflected in the dietary habits of women, whether it acts as a coping mechanism with the ripples of the war or an indicator of the long-term effects.

Implications

From Survey 1, the data collected demonstrated that Israeli women's mental health has worsened during the war, helping prove the first part of my hypothesis. Figures 1-8 indicated increases in symptoms of GAD, MDD, and PTSD; this can imply a rise in diagnoses for these conditions in Israeli women in the future or after the war ends. As shown by Table 1 and 2, respondents expressed that the negative thoughts and decreased levels of happiness they were having were fueled by worries about their fighting loved ones, being put in a dangerous war-related situation, a lowered sense of security, and other varying responses, making it difficult for them to remain happy. However, as seen in Table 3, women are beginning to build a sense of

optimism as the war progresses. As this research was conducted during the middle of the war, it was seen that the women had found ways to cope and grasp the problematic situation. This implies that women will hopefully be recovering in the time to come during and after the war. Other responses included that coping with the war was still too hard to do, implying that as the war continues, recovering mental health looks different for all Israeli women. With this, more than half of the respondents noticed a change in their eating habits during wartime and expressed weight loss from stress, fear, and depression. A further reflection of this mindset is seen from Survey 2. The p-values for a majority of the studies comparing eating habits and opinions before and during wartime were larger than 0.05 indicating that differences in responses could have been random occurrence; for a statistically significant difference to exist the p-value must be less than 0.05. Between the two time frames, my study implies Israeli women's eating habits, such as eating more when viewing Israel updates or when scared, did not significantly change. Nevertheless, the data collected about women's feelings about eating enough to fulfill their hunger and having a consistent and healthy diet changed from prior to and after significantly, with p-values lower than 0.05. This suggests that women felt as though their diet was more healthy before the war and became robust during it. Women also felt that before the war they would eat only enough to fulfill their hunger and during, a large majority felt otherwise, whether this be not eating enough or eating too much. These changes in eating habits can be accompanied by the data in Figure 12 that shows that the women agree that they have lost their appetites due to gory images and horrifying information seen on the Israeli news and Internet during the war. These changed feelings have lead to

physical differences, such as eating more junk food than normal and weight gain seen in Figure 28. This affected eating can imply eventual eating disorders in women after the war or worsened mental and physical health, furthering the importance of attending to their needs immediately.

Limitations

A notable limitation of this study was the number of respondents who completed both my surveys. As this data was collected internationally in Israel and I am based in the United States, I collected data from 224 respondents across the two surveys, significantly less than the entire Israel population. Hence, the validity of my results may be hindered as my survey pool may not be representative of the entire Israeli women population. Additionally, the language barrier present between me and my respondents may pose a limitation in my research. For my respondents to understand my questionnaires and written interview, I translated both the surveys and the written interview into Hebrew with the help of multiple Hebrew teachers at my school and Google Translate. Some psychological terms in English do not directly translate into Hebrew, causing possible misinterpretation. Considering the seven hour time change between America and Israel, live interviewing became difficult; written interviews were utilized instead. Lastly, timing in general and time constraints impacted the depth and quality of my research. If conducted earlier in the war, the data collected on women's eating habits before and during the war may have been more accurate and significantly different. More time would have also allowed me to gather more respondents and conduct more comprehensive research.

Future Research

Conclusion

This study concludes that the Israel-Hamas war is having a strong impact on Israeli women's mental health and eating. By bettering and recovering the eating habits of women, Israel will get closer to healing the mental health of their women and, eventually, their nation. However, as seen by this research, women must be paid specific attention in any war. Their eating habits are a reflection of their mental trauma and health during the war, and with specific support, they can fully recover. By implying this to the research community, a voice that did not exist before is brought to Israeli women and future researchers can use this research as a basis to explore the effects of any female population of any war, as well as delve into other aspects of mental health such as sleep patterns, social interactions, and self-esteem—ultimately shedding light on the millions of woman suffering across wars around the world into the research database.

Future Directions

However, future research should be done after the war to compare the women's eating habits before, during, and after the war to accumulate a complete timeline of their dietary behavior. Additionally, I urge researchers to conduct specific case studies of women tracking their eating through journal reports starting now till the end of the war from different economic, social, and regional backgrounds to fully encompass the effects of the war and enhance my research findings.

As aforementioned in my literature review, changed eating patterns have been identified in other wars. I urge future researchers to look at specific aspects such as weight loss/gain, feelings about diet health, and having stronger urges to eat due to war-related circumstances in other wars, such as the Syrian Civil War. Taking my data and this potential research, future researchers can get a better grasp on the entire impact of any war on women's eating

habits at any point in time, aiding women around the world.

Ultimately, this research can be used as a basis for specialized support systems for all women during and after a wartime. Specifically, mental health centers and resources exist for the Israel population during the war, but none cater to specifically helping better eating habits or the specific needs of Israeli women. Hence, using my research and the further research suggested, focused care networks that mimic the systems in Israel that already exist, such as The Tribe of Nova Foundation, an organization supporting recovery from trauma for survivors of the October 7th, 2023 Nova concert attacks, can be created (“Tribe of Nova” 2023). These systems will provide mental health care such as therapy and support groups for women to help cope and better their mindsets with the help of each other. Using data from Figures 14-16, these systems can include eating-behaviorist specialists who can provide meal plans to women, help them talk about their eating habits, and set them up with support groups to eat with each other. With this, my data on Israeli women's changed eating habits can be further applied to all female victims of war within future research, creating a basis for dietary behavior care factions to be added to already existing support systems for them. This study proves that women must be focused on and that there is a need to help women in war-torn countries such as Gaza, Sudan, Ukraine, and more.

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Appendix A

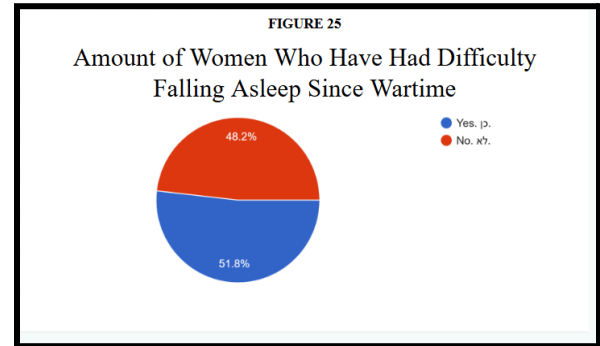
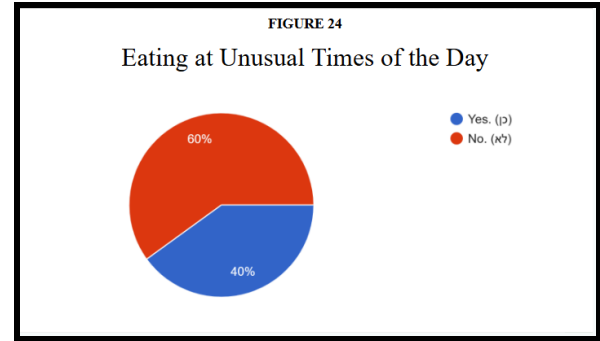
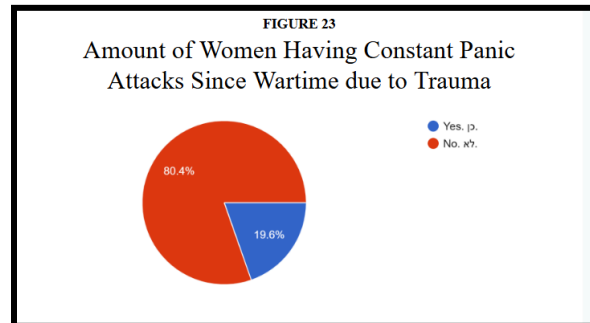
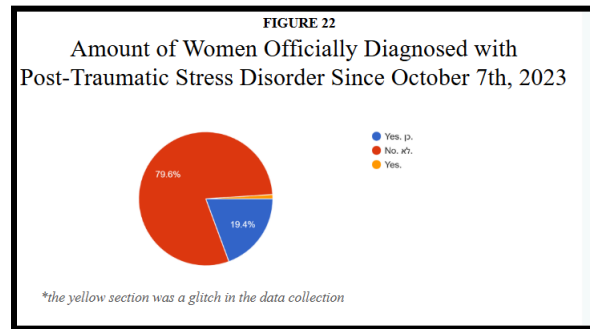
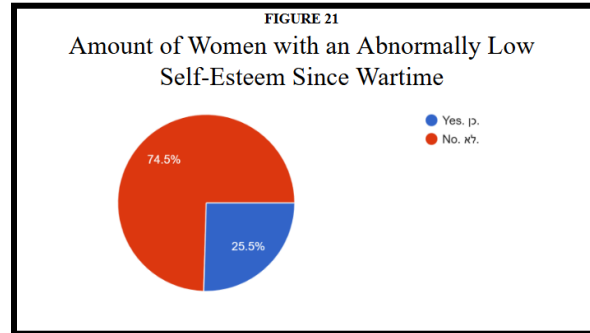
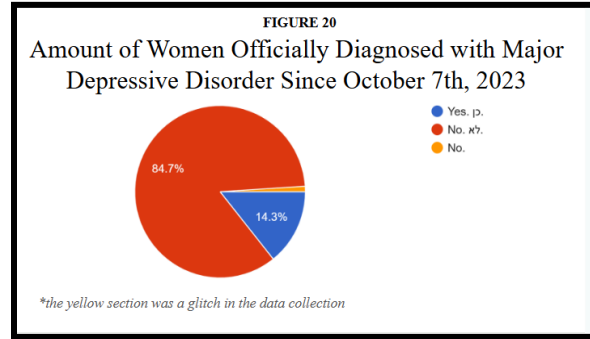


TABLE 1A EXTENDED

HEBREW	ENGLISH
פחדת מאנטישמיות כלפיי וכלפיי בני משפחתי	Afraid of anti-Semitism towards me and my family members
מחשבות על מיגון הבית מפני חדירה, סיוטים על מוות וחטיפות של בני משפחה	Thoughts about protecting the house from intrusion, nightmares about death and kidnapping of family members
רק בימים הראשונים שהיתה המון חוסר וודאות.	Only in the first few days when there was a lot of uncertainty.
N/A	No one thought what happened on October 7th could ever happen. Now that it's happened, I fear it can happen

	again and in my neighborhood
ברור !!! המצב הקיים השתנה כשב7/10 היתה תחושה של לבד אנשים שנכנסים לתוך הבתים אונסים רוצחים הורגים שורפים ולא היתה שום אופציה התגוננות בעיקר המחשבות היו בכמה בחודשים הראשונים שאז גם התחילו אזעקות, פיגועים וכו. בעצם המצב הרגיל שהכרנו הפך למלחין בלי ידיעה מה והיה הלאה. כאוס מוחלט	Obviously!!! The existing situation changed when on 7/10 there was a feeling of alone people entering the houses raping, murdering, killing, burning and there was no option for defense. The thoughts were mainly in the first few months when alarms, attacks, etc. also started. In fact, the normal situation we knew became stressful without knowing what was going to happen next. Absolute chaos
מה שקרה ב-7 באוקטובר ערער לחלוטין את תחושת הביטחון. אין על מי לסמוך יותר, והקיום שלנו הוא בסכנה מתמדת, גם כאן בישראל, אבל גם בכל מקום אחר בעולם	What happened on October 7th completely undermined the sense of security. There is no one to rely on anymore, and our existence is in constant danger, both here in Israel, but also everywhere else in the world
אירועי ה-7 באוקטובר ערערו את הבטחון הפיסי.	The events of October 7th have undermined physical security.
N/A	I live around Arabs and, at the beginning of the war, every time when I left home, I imagined how some Arab kidnapping or shooting at me (I'm a mother...)

מחשבות רבות על כך שהבן זוג שלי יכול להיהרג במלחמה בזמן המילואים, או שיכולים ליפול חלקיקים של רקטה לידי וליד הילדים ולפגוע בנו	Many thoughts about how my partner could be killed in the war while on reserve duty, or that rocket particles could fall on me and the children and hurt us
מפני שתחושת הבטחון נפגמה וישנה כעת תחושה ששום דבר לא בטוח והכל יכול לקרות בכל רגע נתון	Because the sense of security has been damaged and there is now a feeling that nothing is certain and anything can happen at any given moment
כי אני מכירה כל כך הרבה אנשים שנפגעו. זה מרגיש שזה יכול לקרות לכל אחד וזה קרוב אליך.	Because I know so many people who have been hurt. It feels like it could happen to anyone and it's close to you.
הקלות בבלתי נסבלת שזה קרה לאחרים והאפשרות שזה עלול לקרות גם לי	The unbearable relief that it happened to others and the possibility that it could happen to me too
דאגתי לשני הבנים שלי שנלחמו. ולצערי הבן שלי 36 נהרג בעזה. והשאיר אחריו אישה ושלושה ילדים קטנים.	I worried about my two sons who fought. And unfortunately my son was killed in Gaza. Leaving behind a wife and three small children.
N/A	The media is hammering stories about Oct 7 non-stop 24 hours a day. The plight of the hostages is constantly in the news, photos on street corners etc.

יש לי מחשבות שליליות כי קרה הרבה בתקופה ונהרגו ונחטפו הרבה אנשים ועד עכשיו יש פיגועים אז זה מפחיד וכל הזמן אנחנו בתחושת פחד	I have negative thoughts because a lot happened during the period and a lot of people were killed and kidnapped and until now there are attacks so it is scary and we are always in a state of fear
אני מפחדת ללכת ברחוב ולצאת מהבית בידעה שכל רגע יכולים לעשות לי משהוא	I am afraid to walk on the street and leave the house knowing that at any moment something can be done to me
מרגישה לא בטוחה במדינה שלי והבן שלי בצבא אז בשבילו	I feel unsafe in my country and my son is in the army so for him
כי זה יכול לקרות בכל מקום. אני גרה קרוב לרשות הפלשטינאית	Because it can happen anywhere. I live close to the Palestinian Authority
פחד שיכנסו לי מחבלים לתוך הבית ירצחו אותי או יעשו בי כרצונם	Fear that terrorists will enter my house and murder me or do whatever they want to me
בגלל שזה קרה למלא אנשים אז אולי זה יקרה מתעשה גם לי...	Because it happened to many people so maybe it will happen to me too...
גרה בכפר סבא הגובלת עם קלקיליה, האנשים שם עוברים את הגדר לעבוד אצלנו גם כשהכל חסום	Lives in Kfar Saba which borders Qalqilya, the people there cross the fence to work with us even when everything is blocked
הרבה מחשבות על המצב הביטחוני הקשה שיש במדינה מאז הקמתה וכמה קשה לגדל ילדים במדינה הזו	A lot of thoughts about the difficult security situation in the country since its establishment and how difficult it is to

	raise children in this country
לדוגמה ; מאז המלחמה כל מה שחשבתי זה איך לבנות מקום מסתור בבית. איך להתמודד עם 4 הילדים שלי חס וחלילה במצב של תקיפה בבית, לקנות ספריי הרדמה (כמו של הגנבים) ולהרדים אותם שלא יחווה את הפחד באותה סיטואציה	For example; Since the war, all I've thought about is how to build a hiding place in my house. How to deal with my 4 children, God forbid, in the event of an attack on my house, to buy anesthetic spray (like the ones used by thieves) and put them to sleep so that they won't experience the fear in that situation.
דאגה לבן שנלחם ופחד שיקרה משהו רע בכל רגע נתון. לא הייתה תחושת ביטחון אפילו לא בבית	Worrying about my son who is fighting and fear that something bad will happen at any given moment. There was no sense of security, not even at home.
הפחד מהלא מוכר והידוע, זו המלחמה הראשונה שלי ויש פחד תמידי שחס וחלילה יקרה לי משהו.	The fear of the unknown and the known. This is my first war and there is a constant fear that, God forbid, something will happen to me.
מאז ה 7/10 תמיד יש את התחושה שאם הם עשו זאת פעם אחת יכולה גם להיות פעם שנייה ולהכנס לבתים של אנשים מפחיד אותי מאוד	Since 10/7, there's always the feeling that if they did it once, it could also happen a second time and entering people's homes scares me a lot.
חרדות לאם הייתי חלילה שם מה היה קורה	Anxiety that if I were there, God forbid, what would have happened.

אם זה קרה פעם אחת זה יכול לקרות שוב	If it happened once, it could happen again.
כי מפחדת שיקרה לנו שוב בכוון צפון או כל מקום	Because I'm afraid it will happen to us again in the north or anywhere.
המצב במדינה ומה שעברנו מאז ה7/10 הביא אותי למצב של חששות ופחד ודריכות תמידית גם מדברים פשוטים, לכן מרגישה הכי טוב ובטוח להיות בבית	The situation in the country and what we've been through since 10/7 have brought me to a state of constant fear and anxiety, even about simple things, so I feel best and safest being at home.
כי חטפו אנשים מהבתים שלהם	Because they kidnapped people from their homes.

TABLE 2A EXTENDED

HEBREW	ENGLISH
N/A	A general sense of despair prevails, but still we get on with our everyday life
בעיקר מתוך ייאוש שהמצב לא הולך להיות יותר טוב	Mostly out of despair that the situation is not going to get better
N/A	Mostly stressed about my son who is in the Army
בנים בשרות מילואים - דאגה, עצב בשל החטופים והנופלים וכל המשפחות הפגועות.	Boys in reserve service - worry, sadness due to the kidnapped and fallen and all the affected families.
המצב המדינה מאוד קשה חצי מהאנשים מגויסים, נלחמים, ונהרגים השאר, נמצא לבד ועול הבית והעבודה והילדים עליו. העבודה ירדה דרסטית בגלל זה וישנם המון אנשים שלא נמצאים	The situation in the country is very difficult. Half of the people are drafted, fighting, and killed. The rest are alone and the burden of home, work, and children is on them. Work has dropped

בבתים שלא חזרו לעבודתם בעקבות המצב הבטחוני	drastically because of this and there are many people who are not at home and have not returned to their jobs due to the security situation.
שמחה זה מושג שכבר נעלם מהלקסיקון שלנו. המאבק היומיומי הוא בהישרדות. הפחד והכאב שמופיעים כששומעים כל יום בטלוויזיה "הותר לפרסום" ואז שומעים על החיילים שנהרגים כל יום, חיילים שרק אתמול היו ילדים שלמדו בבית הספר עם הבת שלי. איך אפשר לדבר על שמחה במצב כזה?	Happiness is a concept that has already disappeared from our lexicon. The daily struggle is about survival. The fear and pain that appear when you hear "Permitted for Advertising" on TV every day and then you hear about the soldiers who are killed every day, soldiers who only yesterday were children who studied at school with my daughter. How can you talk about joy in such a situation?
אכזריות בני האדם גורמת לייאוש וכאון. אבל התגלו גם אזרחים עם כוחות מדהימים שנונים תקווה לאנושות.	The cruelty of humans causes despair and depression. But there were also citizens with amazing powers, witty and hopeful for humanity.
N/A	It is very hard to live with our daily lives but when you have a family and kids u need to be strong.. the strength I see in the eyes of our soldiers, the hope I see in the eyes of my children. My happiness is at a pause but for them we move forward
יש נסיונות להתעלם מהמצב אבל בסוף המציאות והמצב הקשה חוזרת מהר בכל הכוח וזה יוצר נפילה של מצב הרוח לעיתים קרובות	There are attempts to ignore the situation but in the end reality and the difficult situation quickly return with all their might and this often creates a drop in mood
יש עדיין חטופים	There are still kidnapped hostages

N/A	I was dealing with the death of my mother (not due to the war) at the same time .
בגלל החטופים, ההרס של המדינה והחיילים שנהרגו ונפצעו	Because of the kidnapped, the destruction of the country and the soldiers who were killed and injured
קשה לשמוח בתקופה כזו אבל ממשיכים כרגיל מבחינת חיים	It is difficult to be happy in such a period but we continue as usual in terms of life
דאגה למשפחה ולמדינה	Concern for the family and the country
המחשבה על החטופים שיושבים במנהרות החמאס מדירה שינה מעיני	The thought of the kidnapped who are sitting in the Hamas tunnels prevents sleep from my eyes
חוסר אמון בהנהגת המדינה. Lack of confidence in the [ostensible] leadership of the country. i	Distrust in the leadership of the country. Lack of confidence in the [ostensible] leadership of the country. i
הרגשת חוסר בטחון, פחד מטרור, חוסר מוגנות	Feeling insecure, fear of terrorism, lack of protection
אזהקות בלילה	Alarms at night
אני מרגישה מדוכאת מאוד פשוט עבר הרבה זמן וכבר התרגלנו למצב הזה אז אני יותר חזרתי לחיים הרגילים שלי	I feel very depressed. It's just that a lot of time has passed and we've gotten used to this situation, so I'm more back to my normal life.
קשה לשמוח במצב קשה כזה ודאגה לחיילים ולשמוע כל יום על חיילים הרוגים פצועים ופיגועי טרור	It's hard to be happy in such a difficult situation and worry about soldiers and hear every day about dead and injured soldiers and terrorist attacks.

בחרתי בכך בגלל שקשה לי לחשוב שיש בנות בעזה שנאנסות ולא מצליחות להיות ומלא אנשים ששמה מעל 400 ימים ושאני יודעת שמתעללים בהם בקיצור קשה לי להיות שמחה שאני יודעת שאנשים מהעם שלי סובלים ואני מרגישה את הסבל שלהם	I chose this because it's hard for me to think that there are girls in Gaza who are raped and can't live and there are people who have been there for over 400 days and who I know are being abused In short, it's hard for me to be happy that I know that people from my people are suffering and I feel their suffering
N/A	It doest get better more people die and the hostages are still held in gaza
קושי גדול לשמוח כשיש מלחמה חטופים וחיילים הרוגים	It's very difficult to be happy when there's a war, hostages and dead soldiers.
כי זה משפיע האופן כללי. אם מייחסים למלחמה אז לא שמחה. אבל באופן כללי בחיים. אני בטוב. יש התמודדות לא קשורות למלחמה. הניסוח של השאלה בעיניי קצת בעייתי.	Because it affects the general situation. If you attribute it to the war, then it's not joy. But in general, in life. I'm doing well. There are coping issues that are not related to the war. The wording of the question seems a bit problematic to me.
כי קרה לנו אסון נורא. כמעט כל יום יש לנו הרוגים	Because a terrible disaster happened to us. Almost every day we have deaths
בגלל כל האנשים שהכרתי שכבר אינם	Because of all the people I knew who are no longer there
אי החזרת החטופים והחיילים שנפל, אלפי פצועים גורמים לעצב רב	The failure to return the kidnapped and fallen soldiers, thousands of wounded causes great sadness
עד שאחרון החטופים לא חוזר, תחושת המחנק נותרת	Until the last of the kidnapped does not return, the feeling of suffocation remains

שמחת החיים מאז 7.10 נעלמה בגלל דאגה לחטופים, לחיילים ולילדים הפרטיים שמשרתים בצבא בזמן המלחמה	The joy of life since 7.10 has disappeared because of concern for the kidnapped, the soldiers and the private children who serve in the army during the war
לא כיף לשמוח שיש משפחות שמתאבלות כל יום על חיילים שנהרגים ועל החטופים	It is not fun to be happy that there are families who mourn every day for soldiers who are killed and the kidnapped
תקופה זו שינתה לנו את החיים. מצאנו את עצמנו רצים לממד בלילות, 4 ילדים קטנים. זה מלחיץ, מדאיג. ישנים פחות מה שגורם לעצבנות יתר	This period changed our lives. We found ourselves running to the dimension at night, 4 small children. It is stressful, worrying. We sleep less which causes excessive nervousness
כאב על המצב, חיילים שנפצעים ונהרגים סיפורים קשים. אין סיבה לשמחה	Pain about the situation, soldiers who are injured and killed are difficult stories. No reason to be happy
דואגת לבנים שלי שהיו חצי שנה במלחמה. החיילים שנרצחים כמעט כל יום, אין אופק מדיני, אין סיום מלחמה,	I worry about my sons who were in the war for six months. The soldiers who are murdered almost every day, there is no political horizon, there is no end to the war,
כי עצוב לי על החיילים שנהרגים ועל החטופים	Because I am sad for the soldiers who are killed and the kidnapped
פחד	Fear
חיילים נהרגים, משפחות הרוסות, חטופים עדיין בעזה, המצב החברתי והכלכלי בארץ קשה	Soldiers are killed, families are destroyed, kidnapped are still in Gaza, the social and economic situation in the country is difficult
לא מרגישה שיכולה להיות שמחה או מאושרת עד שכל החטופים יחזרו הביתה	I don't feel like I can be happy or satisfied until all the kidnapped return home

על דבר וכל פעולה מזכירה לי שהם עדיין מוחזקים בשבי החמאס ברצועה עזה, ואני בטוחה בבית שלי כואבת את כאבם ומדמינת שאני שם איתם	Every thing and every action reminds me that they are still being held captive by Hamas in the Gaza Strip, and I am safe in my home I feel their pain and imagine that I am there with them
עצב על הקורבנות הרבים וצער על משפחותיהם	Sadness for the many victims and sorrow for their families
קשה לשמוח או לחגוג שכל יום שומעים על חיילים שנהרגו או נפצעו ועל החטופים	It is difficult to be happy or celebrate when every day we hear about soldiers who were killed or injured and those who were kidnapped

TABLE 3A EXTENDED

HEBREW	ENGLISH
N/A	Support & connection with family, friends, music
N/A	It's not always easy being happy when loved ones are in the army or the reserves during the war.
N/A	I try to have emunah in HaShem and trust that HE is protecting me
N/A	I believe in god, and I'm very realistic person. If something bad needs to happen, so it will anyway. No matter where you are
מצליחה גם להמשיך סוג של שגרת חיים ולשמוח בנה שיש	I also manage to continue a kind of routine and be happy that there is

יש בי תקווה מסוימת שזה חלק מתהליך שהמדינה צריכה לעבור	I have a certain hope that this is part of a process that the country must go through
הייתי קרובה לאבד את דוד שלי אבל הוא ניצל ואנשים קרובים איבדו את קרוביהם המחשבה היא לא להפסיק לחיות את החיים בשביל אלו שנעצר להם לפתע אבל עדיין המציאות כואבת	I was close to losing my uncle but he was saved and close people lost their relatives The thought is not to stop living life for those for whom it was suddenly stopped but the reality still hurts
N/A	Because I know it will eventually end and it will be good.
בעת אזעקה או אירוע חריג של נפילת רקטה ופגיעה מצב הרוח יורד, אני אופטימית ועל כן מצליחה להרים ראש ולהמשיך בעשייה שעוזרת לי להתמקד בטוב	When an alarm or an unusual event of a rocket fall and injury occurs, the mood drops, I am optimistic and therefore manage to raise my head and continue doing what helps me focus on the good
N/A	My business has suffered, and as a result my financial situation. I am worried when my children and grandchildren have to run to shelters in the middle of the night. I have fears of someone close to me or me being injured from a rocket or terror attack.
אני מרגישה כך כי אני מרגישה את האנשים ששמה ויש לי מצפון שלא יכולתי לעזור להם	I feel this way because I feel for the people there and I have a conscience that I couldn't help them
אני ממש עצובה מכל המצב בזמן האחרון אבל אני לא נותנת למצב הזה להכניס אותי לדיכאון	I'm really sad about the whole situation lately but I'm not letting this situation get me depressed

לא מרגישה שיכולה להיות שמחה או מאושרת עד שכל החטופים יחזרו הביתה על דבר וכל פעולה מזכירה לי שהם עדיין מוחזקים בשבי החמאס ברצועה עזה, ואני בטוחה בבית שלי כואבת את כאבם ומדמינת שאני שם איתם	I don't feel like I can be happy or joyful until all the kidnapped people return home Every thing and every action reminds me that they are still being held captive by Hamas in the Gaza Strip, and I am safe in my home I feel their pain and imagine that I am there with them
כפי שכתבתי בסעיף הקודם	As I wrote in the previous section

TABLE 4A EXTENDED

HEBREW	ENGLISH
N/A	Volunteering, watching the news
התנתקתי מהחדשות כמה שיותר, השתדלתי לבלות את הזמן עם הילדים או בענייני עבודה	I disconnected from the news as much as possible, I tried to spend time with the children or with work
Cooking and baking for soldiers	
עשייה. שיגרה. אמונה	Acting. Routine. Faith
האמת שעם שכל אחד שנתקלים בו מדברים על המצב על ההתנהלות על מה היה אם וכאשר ולכן זה בעצם סוג של תרפיה. כמוכן שגם הרופא עזר בלדבר, ולתת משהו להרגעה	The truth is that with everyone we encounter, we talk about the situation, about the conduct, about what was if and when, and therefore it is actually a kind of therapy. Of course, the doctor also helped by talking, and giving something to calm down
קשה לומר. אני בבית כמעט כל הזמן, מהפחד להיות בכביש כשיש בדיוק אזעקה. לא נוסעת לחו"ל - מפחד מהאנטישמיות. לא ממש מתמודדת. רואה	It's hard to say. I'm at home almost all the time, for fear of being on the road when there's an alarm. I don't travel abroad - afraid of

פחות חדשות, כדי להפחית מעט את החרדות.	anti-Semitism. I don't really cope. I watch less news, to reduce my anxiety a little.
עשייה ושמירה על שגרה בריאה.	Acting and maintaining a healthy routine.
I forced myself to get out of it because my children mostly	I forced myself to get out of it because my children mostly
התנתקות מחדשות, ניסיון בלמצוא דברים מצחיקים ולהתעסק בעבודה יותר	Disengaging from the news, trying to find funny things and getting more involved in work
זמן ממושך עם המשפחה, עבודה, לא לראות טלוויזיה וסרטונים בטלפון על המלחמה.	Long time with the family, work, not watching TV and videos on the phone about the war.
שירים ואמונה	Poems and faith
עיסוק בטוב, תפילה, עזרה לאחרים. עומס החיים שמחזיר לשגרה..	Practice in goodness, prayer, helping others. The burden of life that brings back to routine..
Speaking to a therapist	
לתרום, לשמור על שגרה, להיות עם משפחה וחברים	Donate, maintain a routine, be with family and friends
חשיבה חיובית ועשייה	Positive thinking and doing
הורדתי מיקום בטלפון למידה והוטפים או קורה משהו שידעו איפה הייתי אם זה ללכת ברחוב זה להיות בשיחות טלפון למקרה	I downloaded the location on my phone Learning and kidnappers or something happens so they know where I was if it's walking down the street It's being on phone calls in case
N/A	Praying a lot and gathering strenght from situations my ancestors went through.
לא לצרוך חדשות	Not consuming news

קריאת ספרים	Reading books
בעזרת התנדבות פעילות חברתית והעשייה פעילה	With the help of volunteering Social activity and active doing
עזרתי לבני משפחתי עם הנכדים הקטנים	I helped my family members with the little grandchildren
N/A	Listening to the news less.
דברתי הרבה עם חברים משפחה הקשבתי בלי סוף לטלוויזיה אין הרבה אפשרויות אחרות מבחינתי	I talked a lot with family friends I listened to TV endlessly There are not many other options for me
N/A	pills
יוגה	yoga
טסתי לחול בתחילת המלחמה עם המשפחה כדי להגן עליהם, היתי הרבה בחברת בני הבית, עם המשפחה (המקום המוגן), מצאתי עבודה חדשה שתיתן לי סיפוק ותסב לי אושר.	I flew abroad at the beginning of the war with my family to protect them, I was in the company of my family a lot, with my family (the protected place), I found a new job that would give me satisfaction and make me happy.
להתמקד בעבודה ובמשפחה	Focus on work and family
כל היום צמודים לטלוויזיה כדי להיות בטוחים שהצבא שלנו יגן עלינו מספיק טוב	All day glued to the TV to be sure that our army will protect us well enough
ספורט,	Sports
הלכנו להתנדב הרבה להתחזק בדת ולהאמין תמיד בבורא עולם	We went to volunteer a lot to strengthen our religion and always believe in the Creator of the world
לנסות להתנתק מכל החדשות	Try to disconnect from all the news
חליתי בסרטן בזמן המלחמה	I got cancer during the war

הלכתי לטיפול ושיתפתי את ההורים ואם עזרו	I went to treatment and shared it with my parents and if they helped
לא התמודדתי	I didn't cope
N/A	Breathing keeping busy
להתנדב, לתמוך במשפחות שכולות, לעזור.	Volunteer, support bereaved families, help.
לנהוג כמה שאפשר לחזור לשגרה	Drive as much as possible to get back to routine
שירים	Songs
למדתי על מלחמות אחרות וראיתי שעברנו דברים יותר קשים	I learned about other wars and saw that we went through harder things
תטאהילינג	Theta Healing
הזמן עושה את שלו...	Time takes its toll...
העבודה והשגרה מחזיקה אותי שפוייה	Work and routine keeps me sane
מחשבות חיוביות, אמונה, התחזקות	Positive thoughts, faith, strengthening
הרבה חיזור חברתי, מפגשים שיחות	A lot of social courtship, meetings, conversations
חרדות ומחשבות בלתי פוסקות פחד ללכת למקומות המוניים לא לנסוע לחופשה, השמנה	Constant anxieties and thoughts Fear of going to crowded places Not going on vacation, obesity
כדורי הרגעה, שהיה עם בני המשפחה, עזרה ותרומה התנדבותית	Sedatives, being with family members, help and voluntary donations
מוזיקה, ספורט, כוס יין, מפגש עם חברים	Music, sports, a glass of wine, meeting with friends
שיחות עם חברים ולזכור להיות חזקה למען הבת שלי	Conversations with friends and remembering to be strong for my daughter

בבית הרבה עם המשפחה	At home, a lot with the family
טלוויזיה הרבה בית ומשפחה יחד כולם	A lot of TV, home and family together, everyone
המלחמה שינתה לי את החיים לטובה, ספורט מאוד עוזר לי מדיטציה ושינוי מחשבות למחשבות חיוביות ומעצמות, להסתכל על מה שיש ומה שקורה כאן ועכשיו.	The war changed my life for the better, sports really help me Meditation and changing thoughts to positive and empowering thoughts, looking at what is and what is happening here and now.
עבודה עם ילדים	Working with children
להיות עסוקה כמה שיותר, להיות עם חייק המשפחה, לצפות בחדשות ולהיות כל הזמן מעודכנת מה קורה	Being as busy as possible, being with the family, watching the news and always being up to date with what's going on
N/A	I love my country , I'm very patriotic so this gives me the strength to cope with the war trauma
מפגשים עם משפחה וחברים ויציאה לקולנוע ותיאטרון	Meetings with family and friends and going to the cinema and theatre
עושה הרבה ספורט	Doing a lot of sports

TABLE 5A EXTENDED

HEBREW	ENGLISH
מצב מורכב. משלמים מחירים פיזיים.	A complex situation. Physical prices are being paid.

ראשית אני מאוד מקווה שהצלחתי לעזור לך שנית לדעתי השאלות הן מעט כלליות מכיוון שכל אחד חווה את זה בצורה אחרת. לי אישית הבן שלי בצבא נילחם בפנים כל התקופה ולא ידעתי מה קורה איתו, חודשים לא היתה אפשרות לדבר איתו ולשאול לשלומו גם כשיצא להתרענות לא דיבר על זה ובקושי התראינו. חברים שלו נהרגו לידו (חברים שהיו אצלנו בבית) הוא פינה פצועים והרגים ומחבלים, התפוצצו לידו מטענים, טנקים וכו'. אני כבר לא יכולה לספור בכמה הלוויות הייתי או בביקורי פצועים, או עזרה לאמהות, חברות, שילדיהם נפצעו, נהרגו. היתה תקופה שלא אכלתי, ירדתי 10 קילו, לא היה מצב רוח היה אוויר במדינה של דיכאון עצבות כאב. לא היה מישהו שלא הכיר מישהו, או שנפגע ממישהו. אני רק יכולה לומר שלדעתי אין אף אחד שלא נפגע באיזו צורה או דרך. האנשים במדינה במצב נפשי רע... אם זה מאובחן או לא... בהצלחה רבה!	First, I really hope I .was able to help you Secondly, I think the questions are a bit general because everyone experiences it differently. Personally, my son in the army fought inside the entire time and I didn't know what was happening to him. For months, there was no way to talk to him and ask how he was doing. Even when he went out to freshen up, he didn't talk about it. And we barely saw each other. His friends were killed next to him (friends who were at our house). He evacuated the wounded and killed and terrorists. IEDs, tanks, etc. exploded next to him. I can no longer count how many funerals I was at or visited the wounded, or helped mothers, friends whose children were injured or killed. There was a period when I didn't eat, I lost 10 kilos, there was no mood, there was an air of depression, sadness, pain. There wasn't anyone who didn't know someone, or who was hurt by something. I can only say that I don't think there is anyone who hasn't been hurt in some way or form. The people in the country are in a bad mental state..whether it is ...diagnosed or not !Good luck
העולם כולו מציג את האומללות של העזתים. אבל אף אחד כבר לא מדבר על הזוועות שהם עשו לנו ב-7 באוקטובר, כולל אותם עזתים שהעולם מרחם עליהם. רצחו ילדים ונשים וקשישים במיטות שלהם בצורה מזעזעת מעבר לכל דמיון. לא מדברים על הסבל שהחטופים עוברים במנהרות. לא מדברים על הסבל שאנחנו האזרחים גם חווים מדי יום. שוכחים שהם אלה שהתקיפו אותנו, ומחובתנו להגן על עצמנו. כל מדינה אחרת שהייתה מותקפת כמונו, הייתה מגיבה בצורה הרבה יותר קשה מאיתנו (ולא ברחמנות - כמו הצבא הנהדר שלנו). ואף אחד בעולם לא היה אומר להם כלום. העולם שונא אותנו, אולי כי הוא מקנא ביכולות המדהימות שלנו. העולם לא שם לב (או שמעדיף להתעלם) מהניסיונות של האיסלאם להשתלט על כל כדור הארץ. מה שעצוב - שכאשר העולם יבחין בכך, עלול להיות מאוחר מדי לקיימנו כאנושות נורמלית.	The whole world is showing the misery of the Gazans. But no one is talking about the atrocities they did to us on October 7th, including those Gazans whom the world feels sorry for. They murdered children, women and the elderly in their beds in a shocking way beyond imagination. They don't talk about the suffering that the kidnapped people go through in the tunnels. They don't talk about the suffering that we, the citizens, also experience every day. They forget that they are the ones who attacked us, and that it is our duty to defend ourselves. Any other country that was attacked like us, would have responded much more harshly than us (and not mercifully - like our wonderful army). And no one in the world would have said anything to them The world hates us, perhaps because it is jealous of our amazing abilities The world doesn't notice (or prefers to ignore) Islam's attempts to take over the entire planet. What is sad - is that when the world notices this, it may be too late for us to exist as normal humanity I am part of a people in post-traumatic stress disorder.
אני חלק מעם שנמצא בפוסט טראומה.	

N/A	The first two weeks had been terrible, until I got through this
לא	No.
היה פחד נוראי שגרם להתקפי חרדה ומלא שאלות	There was a terrible fear that caused panic attacks and was full of questions
חשוב להתמקד בהתנדבות ועשייה אפקטיבית	It is important to focus on volunteering and effective action
דאגה ופחד	Worry and fear
המצב כלל לא פשוט הטראומה ממה שקרה לנו בלתי נתפסת הפחד שלא ימותו לנו חיילים ובני הערובה לא נותנת לי/לנו מנוח מחכים בקוצר רוח לשחרורם	The situation is not easy at all The trauma of what happened to us is unimaginable The fear that our soldiers and hostages will die does not give me/us rest We eagerly await their release
כעס מתמיד על מנהיגות המדינה.	Permanent anger at the country's leadership
לא	No
כן.... שלצערנו מתרגלים להכלל....בעל כורחנו...גם למלחמות. אבל צרחך לנסות לייצר שליטהנולעסוק בדברים שיש לנו יכולת לשלוט עליהם, לקדם, ולעשות דברים שיחזקו את הכוחות שלנו.	Yes.... that unfortunately we get used to everything....of necessity...including wars. But it screamed to try to create control and deal with things that we have the ability to control, promote, and do things that will strengthen our forces.
המצב הנפשי שלי מודאגת מאוד לגבי הבנים הלוחמים שלנו	My mental state I am very worried about our fighting sons
בתחילת המלחמה המצב הנפשי שלי היה הרבה פחות טוב מהיום. חייתי בפחד ובחרדה. הרגשתי חוסר שליטה, פחד לצאת מהבית, פחד להסתובב במקומות ציבוריים, אבל כל זה היה	At the beginning of the war my mental state was much worse than it is today. I lived in fear and anxiety. I felt a lack of control, afraid to leave the house, afraid

מצב זמני. היום אני כבר פחות מרגישה ככה	to walk around in public places, but all of this was a temporary situation. Today I feel less like this
אני בלחץ חרדתי רוב הזמן דאגות מחשבות וחליתי בסרטן בזמן המלחמה	I am under pressure, anxious most of the time, worries, thoughts and I got cancer during the war
שחייבים לשחרר את החטופים במידי כי אם אנחנו מרגישים כך אני לא רוצה לחשוב מה אם מרגישים	That the kidnapped must be released immediately because if we feel this way I don't want to think what if we feel
N/A	I think i have anxiety
לא	No.
לא	No.
הקליניקה הביתית שלי קיבלה זעזוע נוסף והעבודה הפרטית מעבר להיותי מורה ניווקה. שיחזור החטופים כולם אמן 🧡	My home clinic received another shock and my private work, besides being a teacher, was damaged. May all the kidnapped recover, amen 🧡
החיים שלי אישית השתנו אני לא עושה הרבה דברים שהייתי עושה בעבר. בעקבות פחד להיות מוגנת	My life has personally changed. I don't do many things I used to do in the past. Due to the fear of being protected
N/A	No.
לא	No,
עצבות כרונית, דאגה, חוסר שינה, דאיכה	Chronic sadness, worry, lack of sleep, exhaustion

בתחילת המלחמה פחדתי כמו שלא פחדתי בחיי, החוסר ודאות והטירוף שנגרם לעם שלי המעשים הנוראים שבני ישראל עברו היה מזעזע, בעלי גם יצא למילואים אז הביטחון התערער יותר. לקח לי חודש וחצי להתאפס על עצמי ולהרים את עצמי. היום אני בתקופה מדהימה וטובה למרות כל המצב. יודעת שהמחשבות שלנו יוצרות את המציאות שלנו והמחשבות שלי בעולם טוב יותר.	At the beginning of the war I was afraid like I had never been afraid in my life, the uncertainty and madness that was caused to my people, the terrible acts that the Israelites went through was shocking, my husband also went into the reserves, so my confidence was shaken even more. It took me a month and a half to get my bearings and pick myself up. Today I am in an amazing and good time despite the whole situation. I know that our thoughts create our reality and my thoughts in the world are better.
אני רוב הזמן עצובה, רואה חדשות ובוכה בקלות כל דבר מזכיר לי את החטופים ואת מה שהם עוברים אני מרבה לחשוב מה אני הייתי עושה או מרגישה לו הייתי במקומם, המדינה שלי עברה שואה שנייה וזו טראומה לכל החיים.	I am sad most of the time, I watch the news and cry easily Everything reminds me of the kidnapped and what they are going through I often think about what I would do or feel if I were in their place, my country went through a second holocaust and this is a trauma for life
לא הייתי מצ"ב נפשי גרוע	I would not have a bad mental state
N/A	A lot of sadness and frustration
לא	No.

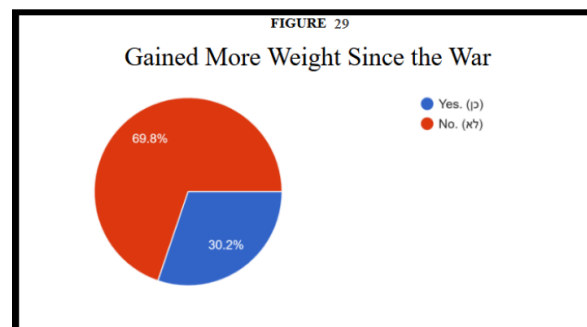
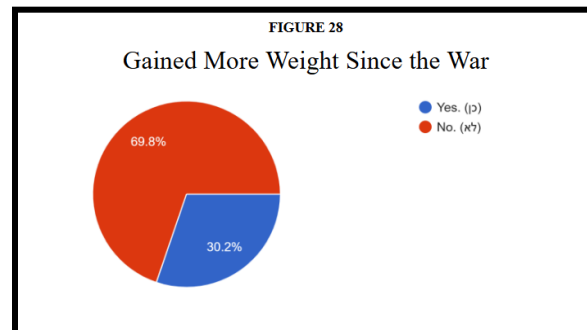
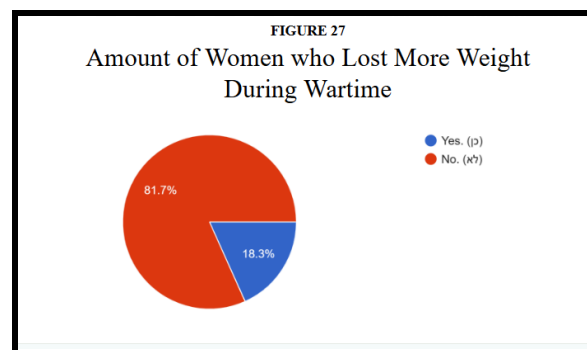
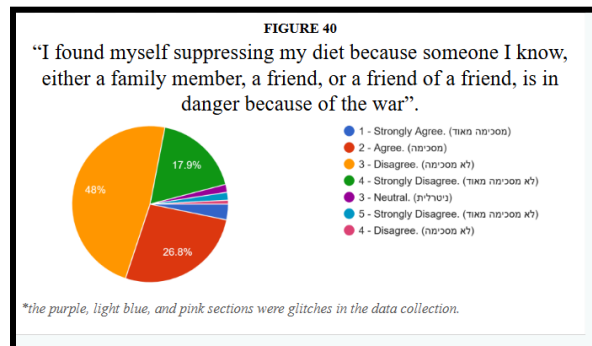
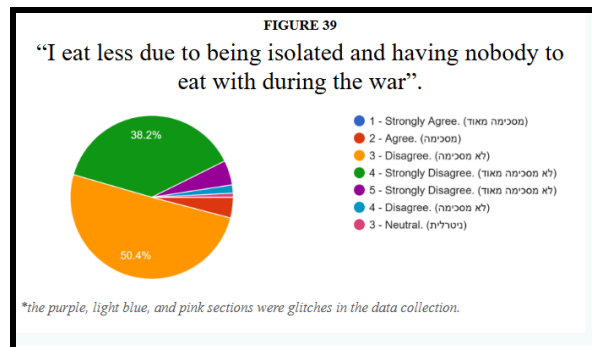


TABLE 6A EXTENDED

HEBREW	ENGLISH
לא	No.
N/A	During the first few weeks after October 7th, I was eating a lot less than usual. But since then, I've had normal eating habits
לגבי האכילה בתחילת המלחמה לא אכלתי כלום מלחץ, פחד, הבן שלי שנלחם בפנים התחושות שהיו לי וכן, ירדתי כ-10 קילו.. לאט לאט חוזרים לאכול, בשעות לא שעות גם גיאנק אבל האכילה כל הזמן נפגעת (כמו מצב הרוח) יש	At the beginning of the war I didn't eat anything because of stress, fear, my son who was fighting inside the feelings I had and yes, I lost about 10 kilos..Slowly I go back to eating, at odd hours

תקופה שעולים במשקל ויש תקופה שיורדים הכל תלוי, לי אישית בהרגשה של אותו יום, שבוע, חודש...האם דיברתי עם בני,האם נפל טיל באזורי,האם נהרג חייל (חבר)נוסף וכו..	even junk food but eating is constantly affected (like my mood) There is a period when I gain weight and there is a period when I lose it all depends, for me personally on how I feel that day, week, month..Did I talk to my son, did a missile fall in my area, did another soldier (friend) get killed, etc..
רק חבל שזה קורה לי	It's just a shame that this happens to me
יותר אוכל מנחם ולא בריא. פחמימות	More comfort food and not healthy. Carbohydrates
אין חשק לבשל	No desire to cook
האכילה רגשית אני מחפשת כשאני במתח,	I seek out emotional eating when I'm stressed,
N/A	Yes at the beginning of the war I gained about 5 kilos from stress eating. I have since lost the weight through diet and exercise but I find myself slipping when the attacks escalate.
בימים הראשונים למלחמה בקושי אכלנו הפחד שיתק אותי/אותנו בהמשך חזרנו פחות או יותר לאכילה רגילה	In the first days of the war we barely ate the fear paralyzed me/us later we more or less returned to normal eating
לא	No.
אוכלת פחות כי אין מצב רוח	I eat less because I am not in the mood
קשה לי לאכול שאני יודעת שהחטופים לא אוכלים	It is difficult for me to eat that I know that the hostages do not eat
N/A	Less enjoys food

זה היה בחודש הראשון.. מאז התאזן. השפיע יותר רגשית וכך גם על מערכת העיכול	It was in the first month.. Since then it has balanced. It has affected me more emotionally And so has the digestive system
שאני לא מצליחה לאכול לבד... זה עושה לי תחושה לא טובה	That I am unable to eat alone... It makes me feel bad
התחלתי תהליך ריפוי ושינוי עם נטורופתית לכל בני הבית	I started a healing and change process with a naturopath for everyone in the house
בחודשיים הראשונים של המלחמה לא הצלחתי לאכול מפחד . לא היה טעם באוכל והייתי בשירותים אחת לשעה .	In the first two months of the war I was unable to eat out of fear. There was no taste in the food and I was in the bathroom once an hour.
איבדתי תיאבון	I lost my appetite
N/A	No.
יותר מתוק וסוכרים	More sweets and sugars
אכילה רגשית המון	A lot of emotional eating
בתחילת המלחמה הרגשתי שאני אוכלת ממקום של אכילה רגשית, היום האכילה שלי מאוזנת ובריאה	At the beginning of the war I felt that I was eating from a place of emotional eating, today my eating is balanced and healthy
לא יכולה להפסיק לאכול מתוק ואני בסיכון לחלות בסכרת	Can't stop eating sweets and I am at risk of getting diabetes
N/A	No
לא	No.



Appendix B

Since October 7th, 2023 (the official date of the beginning of the Israel-Hamas war), have you been officially diagnosed with General Anxiety Disorder (GAD) to your knowledge?

מאז 7 באוקטובר 2023 (התאריך הרשמי של תחילת מלחמת ישראל-חמאס), האם אובחנת רשמית עם הפרעת חרדה כללית (GAD) למיטב ידיעתך?

- כן. Yes.
- לא. No.

Have you been feeling more nervous/anxious and worried than normal since the war started?

האם חשת עצבנות/חרדה ודאגה מהרגיל מאז שהמלחמה התחילה?

- כן. Yes.
- לא. No.

Since October 7th, 2023, have you been officially diagnosed with Major Depressive Disorder (MDD) to your knowledge?

מאז 7 באוקטובר 2023, האם אובחנת רשמית עם הפרעת דיכאון (MDD) למיטב ידיעתך?

- כן. Yes.
- לא. No.

Have you been feeling persistently/consistently sad since the war started?

האם חשת עצב מתמשך/עקבי מאז שהמלחמה התחילה?

- כן. Yes.
- לא. No.

Have you had an abnormally low self-esteem since the war started?

האם היה לך הערכה עצמית נמוכה באופן חריג מאז שהמלחמה התחילה?

- כן. Yes.
- לא. No.

Since October 7th, 2023, have you been officially diagnosed with Post-Traumatic Stress Disorder (PTSD) to your knowledge?

מאז 7 באוקטובר 2023, האם למיטב ידיעתך אובחנת רשמית עם (PTSD) הפרעת דחק פוסט טראומטית?

- כן. Yes.
- לא. No.

Have you not been able to stop thinking about the traumatic events of the war?

האם את לא מצליחה להפסיק לחשוב על האירועים הטראומטיים של המלחמה?

- כן. Yes.
- לא. No.

Have you been easily started and persistently scared since the war started?

האם מאז תחילת המלחמה התחלת לפתח פחד בקלות או פחד בהתמדה?

- כן. Yes.
- לא. No.

Have you had difficulty falling asleep since the war began due to the traumatic events of the war?

האם את

? מתקשה להירדם מאז תחילת המלחמה עקב האירועים

- כן. Yes.
- לא. No.

Since October 7th, 2023, have you been officially diagnosed with Panic Disorder to your knowledge?

מאז 7 באוקטובר 2023, האם אובחנת רשמית עם הפרעת פאניקה למיטב ידיעתך?

- כן. Yes.
- לא. No.

Have you been having constant panic attacks since the war began due to the wars traumatic events?

האם סבלת מהתקפי פאניקה מתמשכים מאז שהמלחמה התחילה בגלל האירועים הטראומטיים במלחמות?

- כן. Yes.
- לא. No.

Since the war has begun, have you been feeling relatively scared to leave your house?

מאז תחילת המלחמה, האם הרגשת תחושת פחד לעזוב את הבית שלך?

- Yes. כן.
- No. לא.

Have you been having more negative thoughts since the war? Thoughts about being kidnapped, held hostage, killed, etc.?

האם יש לך יותר מחשבות שליליות מאז המלחמה? כגון מחשבות על חטיפה, החזקת ערובה, הרג וכו'?

- Yes. כן.
- No. לא.

If selected yes, please describe why. This is completely optional and voluntary.

אם בחרת כן, אנא תארי מדוע. זה לגמרי אופציונלי והתנדבותי.

On a scale of 1-4 (4 being the happiest), how happy are you currently during the war?

בסולם של 1-4 (4 הוא המאושר ביותר), כמה את שמחה בזמן המלחמה?

If selected 1-2, please describe why you think you feel this way. This is completely optional and voluntary.

אם בחרת 1-2, אנא תארי מדוע את חושבת שאת מרגישה כך? זה לגמרי אופציונלי והתנדבותי.

If selected 1-2, please describe why you think you feel this way. This is completely optional and voluntary.

אם בחרת 1-2, אנא תארי מדוע את חושבת שאת מרגישה כך? זה לגמרי אופציונלי והתנדבותי.

Do you still engage in everyday activities anymore, such as going out to lunch with friends, going shopping, or just going out for fun?

האם את עדיין עוסקת בפעילויות יומיומיות, כגון: מפגש לארוחת צהריים עם חברים, קניות, או סתם לצאת לבילוי?

- Yes. (כן).
- No, I am afraid to get attacked or I am afraid of the war and terrorists (לא, אני מפחדת שיתקפו) (או.או. או שאני מפחדת מהמלחמה ומטרוריסטים).
- Other.

If you selected other, please describe why. This is completely optional and voluntary.

אם בחרת אחר, אנא תארי מדוע. זה לגמרי אופציונלי והתנדבותי.

What are some ways you have been coping with the wars trauma? This is completely optional and voluntary.

מהן הדרכים שבהן התמודדת עם טראומת המלחמה?

Is there anything additional you would like to share about your mental state during the war?

האם יש משהו נוסף שתרצי לחלוק לגבי מצבך הנפשי במהלך המלחמה?

Have you noticed a change in your eating during the war?

האם שמת לב לשינוי באכילה שלך במהלך המלחמה?

- Yes. I eat more than usual (יותר). (אני אוכלת יותר).
- Yes. I eat less than usual (פחות). (אני אוכלת פחות).
- Yes. I eat different foods than I used too (גם אני אוכלת מאכלים שונים ממה שאכלתי קודם).
- No (לא).

Do you find yourself eating more junk food?

האם את מוצאת את עצמך אוכלת יותר אוכל תעשייתי (ג'אנק פוד)?

- Yes. כן.
- No. לא.

Do you find yourself eating at unusual times of the day (EX: extremely early in the morning, extremely late at night)?

האם את מוצאת את עצמך אוכלת בשעות חריגות ביום (לדוגמה: (מוקדם מאוד בבוקר, מאוחר מאוד בלילה)?

- Yes. כן.
- No. לא.

Have you **GAINED** more weight than usual since the war has begun?

האם עליית במשקל יותר מהרגיל מאז תחילת המלחמה?

- Yes. כן.
- No. לא.

Have you **LOST** more weight than usual since the war has begun?

האם ירדת במשקל יותר מהרגיל מאז תחילת המלחמה?

- Yes. כן.
- No. לא.

Is there anything additional you would like to share about differences in your eating behavior you have noticed during the war?

האם יש משהו נוסף שתדע ללוק לגבי שינוי בהתנהגות האכילה שלך ששמת לב אליו במהלך המלחמה?

Appendix C

Introductory Questions

1. Please write your name and age.

General Questions Concerning Mental Well-Being:

1. Please describe your story with the October 7th Israel-Hamas war.
 - a. Has anything major happened to you that has impacted your life? A story about a friend, family member, or friend of a friend you feel comfortable talking about?
2. Do you feel as though your mental state has deteriorated during the wartime? Describe if you can.
 - a. Perhaps a higher rise in anxiety, depression, etc.?
 - b. Why do you think you feel this way?
3. What are some struggles you have dealt with as a result of the ongoing war?
 - a. Do you feel like you are coping with it?
 - b. If so, how?
4. Do you feel as though your trauma from the events is following you (mentally)?
 - a. How do you feel it has?

Questions Concerning Interviewees Eating Habits and Diet:

1. As shown in my research, a significant amount of people stated that their eating changed as a result of the war. This will concern your psychological and physical relationship with food.
2. How would you describe your relationship with food before the war (before October 7th, 2023)?
 - a. How did you find yourself thinking about food? As something satisfying? Something that would make you gain weight? In a positive or negative light? Did you find yourself thinking about it a lot?
 - b. How did you experience hunger before the war?
 - c. Describe what you would eat a day in your life without the war.
3. How would you describe your relationship with food and your diet after October 7, 2023 - during wartime?

- a. Did it become more difficult to maintain? Why?
- b. Did you see it in a negative way or as a burden? Why or why not?

4. Would you say that eating acts as a coping mechanism for the war's traumatic events?
5. If you can, can you describe what you would eat in a day before the war versus what you would eat in a day after the war? If not, please skip this question!
6. Lastly, do you think your mental health during the war lead to your worsened eating during the war? Elaborate if you can!

Questions Concerning Further Research/Direction and Potential Help:

1. Do you want to improve your eating habits and as a result, your psychological health?
2. What would improving your relationship with food look like?
3. Do you believe a support system can help you improve? Perhaps a group of women who are suffering similarly would go out to eat with you, or just a companion when eating to further motivate you to eat better?
4. Would having your groceries/prepped food delivered to you motivate you to eat better?
5. Would some sort of therapy, eating disorder or non-eating disorder related help you?
6. Lastly, would a set meal plan/diet plan help you better improve your eating?
 - a. Perhaps one with scheduled eating times to keep your eating more consistent and structured?

ראיון כתוב

שלום! לאור הסכמתך להיות שותפה בראיון הכתוב למאמר המחקר שלי על נשים ישראליות בתקופת מלחמה. אנא השבי במייל או בהודעת טקסט לשאלות הבאות. נסי לתייג את התשובות שלך עם השאלות. התשובות שלך ישמשו בעילום שם בעיתון שלי! תודה רבה לך!

שאלות מבוא

אנא כתבי את שמך וגילך.

שאלות כלליות הנוגעות לרווחה נפשית:

1. אנא תארי את הסיפור שלך על מלחמת ישראל-חמאס ב-7 באוקטובר. האם קרה לך משהו משמעותי שהשפיע על חייך?
2. האם את מרגישה שמצבך הנפשי הידרדר בתקופת המלחמה? תארי אם את יכול.
 - a. אולי עלייה גבוהה יותר בחרדה, דיכאון וכו'?
 - b. מה גרם לך למצב הזה?
3. באילו מאבקים התמודדת כתוצאה מהמלחמה המתמשכת?

לכל הנשים בישראל. תמשיכי להיות חזקה ולהיות האישה
שאת.

- a. האם את חושבת שאת מתמודדת עם
מאבקים אלה?
b. אם כן, איך?
4. האם את מרגישה שהטראומה מהאירועים אלה רודפת
אותך (נפשית)?
a. באיזה אופן את חושבת שזה רודף אותך?

שאלות הנוגעות למראיינות הרגלי אכילה ודיאטה:

1. כפי שהוצג במחקר שלי, כמות לא מבוטלת של נשים
הצהירו כי האכילה שלהן השתנתה כתוצאה מהמלחמה.
נושא זה יעסוק בהשפעה הפסיכולוגית והפיזית שלך
עם אוכל.
2. איך היית מתארת את הרגלי האוכל שלך לפני המלחמה
(לפני 7 באוקטובר 2023)?
a. האם האוכל הוא גורם משפיע אצלך?
כמשהו מספק? משהו שיגרום לך לעלות
במשקל? באור חיובי או שלילי? האם
האוכל זה משהו שמעסיק אותך, והאם את
חושבת על זה הרבה?
b. איך היו הרגלי האכילה שלך לפני
המלחמה?
3. איך היית מתארת את הרגלי האכילה, והתזונה שלך
אחרי 7 באוקטובר 2023 - בזמן מלחמה?
a. האם זה נעשה קשה יותר לשמור הרגלים
אלה? מדוע?
b. האם חשבת על הרגלים אלה בשלילה או
כנטל? אם כן מדוע ואם לא למה לא?
4. האם היית אומרת שהאכילה פועלת כמנגנון התמודדות
עם האירועים הטראומטיים של המלחמה?
5. אם את יכולה לתאר מה היית אוכלת ביום לפני
המלחמה לעומת מה היית אוכלת ביום אחרי המלחמה?
אם לא, אנא דלגי על השאלה הזו!
6. לבסוף, האם את חושבת שהבריאות הנפשית שלך
במהלך המלחמה הובילה להחמרת האכילה שלך
במהלך המלחמה? פרטי אם את יכולה!

שאלות הנוגעות למחקר נוסף/הכוונה ועזרה אפשרית:

1. האם את רוצה לשפר את הרגלי האכילה שלך וכתוצאה
מכך, את הבריאות הפסיכולוגית שלך?
2. איך תראי את שיפור הרגלי האכילה שלך עם אוכל?
3. האם את מאמינה שמערכת תמיכה יכולה לעזור לך
להשתפר? אולי קבוצת נשים שסובלות באופן דומה
תצא לאכול איתך, או סתם שותפה לאכילה כדי להניע
אותך יותר לאכול טוב יותר?
4. האם קבלת מצרכים/אוכל מוכן יביא לך מוטיבציה
לאכול טוב יותר?
5. האם סוג של טיפול להפרעת אכילה יכול לעזור לך?
6. לבסוף, האם תוכנית ארוחות/תוכנית דיאטה קבועה
תעזור לך לשפר טוב יותר את האכילה שלך?
a. אולי אכילה בזמנים קבועים יאפשרו
להרגלי האכילה שלך להיות ביתר עקביות
מובנית?

תודה רבה על שיתוף הסיפור שלך עבור המחקר שלי. לא רק
שאת עוזרת לי, אלא גם לנשים רבות אחרות המעורבות, ובתקווה



AP Seminar

*Individual Research
Responses*

*Individual Written
Arguments*



The Fashion Industry's Impact on Societal Health

Emily Kaplan

Ana Carolina Reston, a Brazilian supermodel, died of starvation with a body mass index (BMI) of 13.4, compared to a healthy BMI of 18.5, according to Cassandra Soltis, Master of Exercise Science from George Washington University (Soltis 2009). People tend to focus on the fashion industry's benefits. From models being pressured to stay thin to fashion workers going home sick, society must look deeper into how the fashion industry creates health risks. This paper will analyze how the fashion industry has negatively impacted the health of models, consumers, and garment workers.

Modeling is a profession in which models prioritize beauty standards over health, causing them to feel the lasting effects of being underweight, starving, and abusing substances. A study conducted by Anne Morris, National Institute of Health researcher, and Debra Katzman, professor of Pediatrics, showed "a significant decrease in...models' body weights and measurements, with 70% of the women being underweight and greater than 75% of the women were less than 85% of their ideal body weight" (Morris and Katzman 2003). Although thinness is normalized in modeling, according to Ulrich Cuntz et al., Chief Physician at the Center for Psychosomatic Medicine, it causes bacterial infections, anemia, liver failure, and leukopenia, all of which are detrimental to models' health (Cuntz et al. 2023). Despite these harmful effects, a study conducted by pharmacist Nikolett Bogár et al. found that "63.1% of models reported that they would receive more job offers providing that they were slimmer," showing how the fashion industry promotes this unhealthy ideal

(Bogár et al. 2022). Promoting this toxic lifestyle leads models to develop anorexia (Bogár et al. 2022). In an article by Kathrine Record, Master of Public Health, and S. Bryn Austin, Doctor of Science from Harvard University, an anonymous Vogue model claimed, "It is my job not to eat" (Record and Austin 2016). This model experienced fatigue, but in extreme cases, starvation may lead to death, as in the case of Ana Carolina Reston, who died with a BMI five points lower than what is considered healthy (Soltis 2009). Models may even resort to narcotics to stay thin. According to Ilana Hanukov, Master of Journalism from Concordia University, former supermodel Kate Moss was photographed using cocaine in early 2005 (Hanukov 2015). Moss popularized "heroin chic," a fashion trend where models intentionally appeared "underweight and underslept" (Hanukov 2015). Following this trend, models used cocaine, which "suppress[ed their] appetite[s], thereby reducing body weight," according to Karen Ersche et al., professor of Neuroscience at Cambridge University (Ersche et al. 2013). Ultimately, the fashion industry promotes unhealthy ideals, putting the health of models at risk.

In addition to models, consumers face health challenges, including the effects of eating disorders, chemical exposure, and wearing high heels. Adolescent consumers of fashion media develop eating disorders to achieve the fashion industry's standard of being thin (Morris and Katzman 2003). As previously shown, the models of the fashion industry have a high incidence of eating disorders themselves. Many cross-sectional studies have discovered a "positive association between exposure to beauty and fashion magazines and an increased level of weight concerns or eating disorder symptoms in girls," causing body dissatisfaction (Morris and Katzman 2003).

Another study showed that “44% of adolescent girls believed they were overweight and 60% were actively trying to lose weight even though the majority of [the] young girls were within normal weight ranges” (Morris and Katzman 2003). Evidently, fashion causes children’s health to decline due to unrealistic body standards. Moreover, in an interview with Alden Wicker, author of the novel *To Dye For*, he explains how an airline bought designer uniforms for their flight attendants because they were fashionable and gave off a luxurious appearance; however, they became sick due to the toxic chemicals in the clothes’ fabric (Mosley 2023). Wicker explains, “It usually started with things like rashes and breathing problems, swollen eyes, brain fog, and then it would start progressing to more serious effects, like losing their hair” (Mosley 2023). The toxic chemicals, even in designer clothing, can cause major health effects. Additionally, Shavonda Pannell, a licensed chiropractor, explains that people covet high heels because they heighten confidence and appearance (Pannell 2012). She discusses how wearing stilettos alters the alignment of hips and joints, causing musculoskeletal issues such as “patellofemoral pain syndrome and osteoarthritis” (Pannell 2012). High heels affect the health of fashion consumers because they are not informed of the potential risks of wearing these trendy shoes. Similar to models, consumers are negatively affected by the fashion industry through the promotion of unrealistic body standards, exposure to toxins found in clothing, and the continued usage of high heels.

Fashion workers are also susceptible to the dangers of the fashion industry, as they are exposed to toxic chemicals and are prone to respiratory and musculoskeletal issues. Like toxic chemicals in clothing affect consumers, they impair the health of

those who make it. In the 1900s, child labor was common in fashion and was seemingly harmless; however, chemical exposure in factories was detrimental to the children’s health. Just as modeling can be deadly, factory workers in this industry are also prone to fatal consequences. According to Joanne Painter, who received her master’s degree from the University of Melbourne, of 90 child workers who glued shoes together in a factory, “only half of them... live[d] past their 12th birthday” due to exposure to dangerous chemicals (Painter 1996). Moreover, according to Raphael Seidu et al., who received his PhD in Textile and Fashion Design, “...factory workers are exposed to dust particles from the raw manufacturing processes, chemicals, and fumes” (Seidu et al. 2024). This makes them more susceptible to harmful respiratory diseases like byssinosis, asthma, and bronchitis, revealing how harmful the fashion industry is to respiratory health (Seidu et al. 2024). Further, Seidu et al. write that the design of factory workstations causes workers to have bad posture. Shohel Mahmud et al., Master of Science from Mangalore University, found that 75% of factory workers experienced hand pain, 73% experienced lower back pain, and 53% experienced shoulder pain (Mahmud et al., 2018). The design of factory workstations changes workers’ posture, negatively affecting their musculoskeletal system (Seidu et al. 2024). Due to poor working conditions, the fashion industry affects the health of its factory workers from toxic fumes, making them prone to respiratory problems and increasing their chances of developing musculoskeletal issues.

Ultimately, the fashion industry is detrimental to the health of models, consumers, and workers, as they are exposed to the dangers of stereotypes and exposure to stimuli that may cause certain diseases. Researchers have begun formulating ideas

on how to combat the health issues the fashion industry poses. Regarding the modeling industry, Israel has implemented a “Models’ Law” which “forbids the appearance of underweight models (defined as having a BMI of 18.5 or less),” according to Yael Latzer et al., who received her DSc from Technion Medical School (Latzer et al. 2022). If this law is not implemented in more countries, models will continue to starve themselves and put their lives at risk just to fit societal norms. Moreover, to protect factory workers’ health, it is suggested that factories establish “a well-equipped medical center... where workers can receive fast and effective treatments” for many illnesses (Mahmud et al. 2018). Establishing these medical centers will prevent long-term medical consequences for factory workers. Further, medical professionals state that people should be aware of “the kinds of programs that young people are exposed to” and should look into programs like “health communication campaigns, entertainment education, media advocacy and media literacy training” (Bogár et al. 2022). By doing this, adolescents will get the chance to feel more confident in their bodies without worrying about the toxicity of the fashion industry. Without looking at the possible solutions to remedy these issues, society will continue to risk its own health and the health of future generations.

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The Harmful Impacts of False Memories

Lauren Shutter

According to Kendra Cherry, Master of Science and Psychosocial Rehabilitation Specialist, one in three people remember past experiences incorrectly (Cherry 2014). This is known as false memories, which the American Psychological Association's Dictionary of Psychology defines as "a distorted recollection of an event or, most severely, recollection of an event that never actually happened" ("False Memory" 2018). The stimulus article by Johan Norberg, author and senior fellow at the Cato Institute, explains how false memories are easily created over time because the brain forgets unwanted pieces of a memory and creates a false, idealized version (Norberg 2022). The accuracy of memories is manipulated through movies, political fake news, and popular misconceptions, which cause harm to society.

Movies distort and manipulate facts for entertainment, causing viewers to create false memories and impressions of the characters. Tommy Gustafsson, Professor of Film Studies at Linnaeus University, explains that Netflix produced a documentary, *The Unlikely Murderer*, based on the murder case of Swedish Prime Minister Olof Palme. The documentary suggests the events in the movie actually happened rather than the true circumstances (Gustafsson 2024). In reality, the prosecutor, Krister Petersson, identified Stig Engström as the prime suspect in the murder but noted that there was not enough evidence for a trial. However, Netflix portrayed Engström as a convicted murderer, saying "[He] 'managed to elude justice right up to his death through a combination of audacity, luck and police sloppiness'" (Gustafsson 2024). Along with the rise of popularity of this Netflix documentary and the increased usage of the based-on-a-true-story concept,

"the perception of historical accuracy has changed" (Gustafsson 2024). Individuals who view this inaccurate portrayal of Engström continue to believe this as fact, thus damaging his reputation. Viewers of *The Unlikely Murderer* gain a false sense of security that the case was solved, which relates to Norberg's explanation that society remembers events having a better outcome than what truly transpired (Norberg 2022). Similarly, Joan Gearin, Master of Science in Library and Information Science from Simmons College, details how *The Sound of Music* film is another example of a movie that was based on a true story, the life of the Von Trapp Family (Gearin 2016). The film differs from the true story, which induces false beliefs among the viewers. Specifically, Georg was portrayed as disliking the family's music taste and activities in the film, but in reality, he loved indulging in these activities with his family. Also, Maria was portrayed as a sweet woman, but in real life, Maria had many emotional outbursts. These minor differences create a false narrative of the Von Trapp family (Gearin 2016). In an interview, Johannes Von Trapp stated, "It's not what my family was about... [We are] about good taste, culture, all these wonderful upper-class standards that people make fun of in movies... We're about environmental sensitivity, artistic sensitivity. 'Sound of Music' simplifies everything" (Gearin 2016). Furthermore, fact distortion in movies damages an individual's image, as evidenced not only in the situation of the Von Trapp Family but also in the case of the movie *Selena*. In the stimulus material, Deborah Paredez, Associate Professor of Writing at the School of the Arts at Columbia University, writes about the movie *Selena*, which is based on Latina pop star Selena Quintanilla-Pérez (Paredez 2009). Individuals have difficulty differentiating between memories of Selena from photos of

Selena's actual self and from the Hollywood film starring Jennifer Lopez, as Selena: "Is it Selena crooning her disco medley that I remember, or is it Jennifer Lopez as Selena discoing across the concert stage?" (Paredes 2009). When an individual sees a scene in a movie that is similar to real life, their "creative processes of memory" are triggered, which is the mind's way of creating a new false belief or a counter-memory to a pre-existing belief (Paredes 2009). *The Unlikely Murderer*, *The Sound of Music*, and *Selena* are all movies where slight details are manipulated, resulting in false memories that alter the reputations and legacies of those events and individuals displayed in films.

Misinformation in political fake news is another common factor in incorrect recollections. Alexa Schincariol, from the Neuroscience Center at the University of Padua, defines fake news as fiction that resembles accurate news but has the intent to deceive viewers about their recollections of specific events (Schincariol 2024). Lisa Fazio, Assistant Professor of Psychology at Vanderbilt University, describes a deceptive form of fake news that causes false beliefs through the use of old images that are reused to provide misinformation on recent events (Fazio 2020). For instance, the conservative group Turning Point USA, with over 1.5 million followers on Facebook, posted a photo of empty shelves at a grocery store "with the caption "YUP! #SocialismSucks," when this photo was actually taken following a major earthquake in Japan in 2011 and contains no relation to politics (Fazio 2020). Fazio continues, "This form of misinformation can be particularly dangerous because images are a powerful tool for swaying popular opinion and promoting false beliefs" (Fazio 2020). Along with misleading photographs, cyber propaganda is a form of misinformation shared digitally that causes false memories

and beliefs, as explained by Muhammad Tanvir et al., PhD student at the University of West Scotland (Tanvir et al. 2024). Candela Leon et al., a Bachelor of Psychology from Buenos Aires Institute of Technology, note fake news is also being used as a "political resource against opposing ideological groups" (Leon et al. 2023). Takashi Imamura, a Washington D.C. Office General Manager at Marubeni America Corporation, describes how a shooting at a pizzeria, Comet Ping Pong, occurred because of fake tweets stating that 2016 Democratic candidate Hillary Clinton was involved in a pedophile sex ring based there. Comet Ping Pong received multiple threats from individuals who believed the fake tweets. Ultimately, this resulted in a twenty-eight-year-old man bringing a rifle to the pizzeria to conduct his own investigation because he had a false belief about Mrs. Clinton (Imamura 2017). Catherine Beauvais, an academic researcher from Pierre-and-Marie-Curie University, explains that an individual's cognitive bias "induces [them] to seek or interpret evidence in ways that are concordant with their existing beliefs, expectations, or a hypothesis in hand" (Beauvais 2022). Beauvais continues that individuals believe news that comes from their affiliated political party, even if the news is fake (Beauvais 2022). Specifically, Sapna Maheshwari, American journalist, and business reporter for *The New York Times* explains that leading up to the United States 2016 Presidential Election, then Republican Candidate Donald Trump publicly expressed his beliefs that "autism is linked to childhood vaccinations," in multiple interviews and on the television show "Fox & Friends" (Maheshwari 2017). While this belief has been proven false by scientific studies, some individuals who support President Trump and the Republican Party believe this theory (Maheshwari 2017). Hunt Allcott, Associate Professor of

Economics, and Matthew Gentzkow, Professor of Economics, believe Donald Trump may not have won his first election if it were not “for the influence of fake news” (Allcott and Gentzkow 2017). This political fake news influences an individual’s opinions, beliefs, and actions toward the government (Tanvir et al. 2024). Both major political parties are affected by fake news, each having their own collective beliefs, demonstrating that fake news affects everyone. Similar to films, fake news creates a false memory of current and past events, which disrupts society by leading to decisions that are based on false information.

Popular misconceptions and false concepts form inaccurate memories, resulting in individuals believing that the impossible is possible. Deepasri Prasad and Wilma Bainbridge, both from the Department of Psychology at the University of Chicago, describe the Visual Mandela Effect (VME) as a social phenomenon where consistent visual false memories exist among individuals (Prasad and Bainbridge 2022). The Monopoly mascot is one of the most common examples of the VME: “People report having a strong recollection that the Monopoly Man, mascot for the board game Monopoly, wears a monocle. To their surprise, he does not nor has he ever” (Prasad and Bainbridge 2022). Sarah Steimer, Assistant Professor at Stockholm University, explains that despite every individual’s unique experiences, certain images are more memorable than others, even an incorrect image, such as the image of the Monopoly Man. This shows the brain’s power to manipulate and distort information, thus creating false memories (Steimer 2024). Another childhood fixture, the Brothers Grimm fairytales, are memorable stories that defy the basic laws of physics, leading to dangerous misconceptions, as detailed by Konstantino

Kotsis, Head of the Lab of Physics Education and Training. One such distortion involves the laws of gravity. Just like characters such as Rapunzel “who lowers her hair for the prince to climb, or characters who perform high leaps or descents without harm” like Hansel and Gretel, “these depictions challenge our comprehension of the fundamental force of gravity...In reality, falling from great heights can lead to severe injuries or worse” (Kotsis 2024). Young individuals who hear these fairytales are likely to create false memories and act on them, which will result in serious harm (Kotsis 2024). The Brothers Grimm fairytales are also known for instilling false beliefs about personification and talking animals: “While these elements add whimsy and charm to the tales, they also challenge our understanding of biology, communication, and the nature of life” (Kotsis 2024). For example, “in “The Bremen Town Musicians”, a group of animals forms a band and communicates as if they were humans, while in “The Twelve Dancing Princesses”, the worn-out shoes of the princesses suggest magical elements at play” (Kotsis 2024). These magical occurrences challenge young children’s basic knowledge of biology and “create a blurred line between living and non-living and between humans and animals” while also causing the false memory that “animals and objects can possess consciousness and language similar to humans” (Kotsis 2024). Misconceptions about reality and the limits of nature distort society’s collective beliefs in much the same way as films and fake news.

Despite the harmful effects of false memories caused by movies, political fake news, and false concepts, they raise awareness about societal situations, even though they are inaccurate. The possibility exists for these false memories to be corrected. Rebekah E. Smith and R. Reed

Hunt, both in the Department of Psychology at the University of Mississippi, state that many false memories come from incongruences between what is heard and what is seen (Smith and Hunt 2019). When participants of a study were shown an image with a related word, the rate of false memories in relation to those words and images decreased because participants were forced to think critically about the information being presented (Smith and Hunt 2019). For example, as demonstrated by the manipulated photo mentioned previously, opponents of socialism repurposed a photo from the 2011 Japan earthquake, showing how this method is confusing and ineffective (Fazio 2020). Patricia Moravec et al., Assistant Professor of Information Management at the University of Texas at Austin, say that, despite the wide amounts of false news spread on social media, many users still believe any information seen online without checking the source (Moravec et al. 2019). To combat this issue, fact-checking software has been developed to flag any websites or articles that can potentially spread false information (Moravec et al. 2019). An interdisciplinary research center at the University of Indiana highlights one example of a fact-checking software, BotSlayer: “BotSlayer is an application that helps track and detect potential manipulation of information spreading on Twitter” (“BotSlayer Tool” 2020). BotSlayer has discovered “[a] Russian bot network, ISIS propaganda, and high-volume hyper-partisan accounts” (“BotSlayer Tool” 2020). Since social media users tend to believe information that aligns with their previous knowledge and dismiss information that differs, fact-checking software forces users to think critically about the information being presented and conduct additional research to determine accuracy (Moravec et al. 2019). Yet, even with fact-checking

software, individuals' cognitive bias causes them to dismiss accurate information and continue believing false information (Beauvais 2022). While misinformation does raise awareness of otherwise unknown issues, solutions to fix false memories are not infallible, and the negative effects far outweigh the benefits of reversal.

False memories are detrimental to society because they damage reputations and legacies while creating false beliefs, as demonstrated by distorted facts in films, fake news, and misconceptions. False information is easily spread, and individuals are universally susceptible to creating false memories based on misinformation. Many movies manipulate facts for entertainment, but result in false memories of the fictional details as fact. Fake news causes individuals to believe incorrect facts and make wrong decisions because they are misinformed. Misconceptions result in false memories because children perceive incorrect information as fact. All of these harmful effects of false memories can be mitigated by individuals taking time to fact-check the information. Individuals must be accurately informed because it creates a safer and smarter society. False memories are inevitable, but with the proper thought, they can be easily avoided, resulting in a more perfect world.

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The Effects of Unethical Wars Being Enabled Through Leaders' Inaction

Asher Belfer

According to BBC News, on October 7th, 2023, Hamas invaded Israel, killed over 1,200 innocent Israelis, and took 251 civilians hostage (BBC News 2024). Although this massacre constitutes a blatant violation of the ethics of warfare, world leaders continue to stay silent. As a result, one year later, 97 hostages remain in Hamas captivity (BBC News 2024). This paper will analyze the unethical nature of the religiously motivated war crimes in the Crusades, the Spanish Inquisition, and the Hamas-Israel war. Furthermore, these wars can be proved unethical by applying the three requirements for an ethical war, which, according to John Finnis, a professor of law and legal philosophy at the University of Oxford, are that one's justification for, purpose for, and actions in the war must all be moral (Finnis 1996). This paper will also scrutinize world leaders' lack of condemnation of obviously unethical wars. If leaders and organizations do not stop Hamas' war crimes, the Hamas-Israel war will result in a similar genocide against the Jews to that of the Crusades and Inquisition. If the ethics of war are not enforced, war crimes inspired by religion will continue.

The Crusaders' religiously motivated war crimes failed to meet the third requirement of an ethical war. Additionally, the war crimes continued due to the Catholic Church's failure to address the root cause of these atrocities. Joseph Freymann, who earned his master's in theological studies from Holy Apostles College and Seminary, claims that Pope Urban II convinced the Crusaders that they were fighting for the survival of Christianity, leading to countless war crimes against Jews and Muslims. During the first Crusade, after defeating the Muslim army at Jerusalem, the Crusaders

massacred innocent civilians (Freymann). According to a Crusader who witnessed the events in Jerusalem, "Our men . . . attacked Saracen [Muslim] men and women, beheading them with naked swords" (Freymann). The Crusaders' lack of respect for human life led to the unnecessary killing of civilians. This violated the third requirement of an ethical war, which is that the military's actions must be moral: "The combatants, . . . must not intend the death of innocents" (Finnis 1996). However, as shown earlier, the Crusaders orchestrated intentional killings of innocent civilians. Although the Catholic Church declared this was wrong, it did nothing to stop these war crimes. According to Susana Throop, who has a Ph.D in History from the University of Cambridge, the root cause for these killings was religious zeal, which the University of Michigan defines as fighting for progress in one's religion (Throop 2005). However, the Catholic Church continued to recruit Crusaders by appealing to their love for Christianity (Freymann). According to Freymann, in an attempt to convince Christians to join the Second Crusade, "St. Bernard traveled all over Europe, holding crowds spellbound for hours, and 'sometimes even convincing entire parishes to set out to the east the next day'" (Freymann). The Catholic Church did nothing to prevent the war crimes committed by the Crusaders, which resulted in the continued unethical and needless deaths of innocent Jews and Muslims.

The genocide against the Jewish and Muslim populations during the Spanish Inquisition was immoral, thus failing to meet the third requirement of an ethical war. Further, The Pope's inaction allowed the Inquisition to continue. Erin Morris, in his master's thesis to fulfill his Arts and Humanities degree, states that the Pope approved King Ferdinand and Queen Isabella's request for an Inquisition on the

basis that it would be used to root out Conversos and Moriscos, who were Catholics secretly practicing Judaism and Islam respectively (Morris 2008). According to Paul Johnson, who graduated with second-class honors from Stonyhurst College, a Jesuit Independence School, “The number of total [Jewish] victims was about 341,000, more than 32,000 killed by burning” (Delanoy 2014). With regards to the Muslim population, Matthew Delanoy, who was a student at Kean University, states, “Islam disappeared from the Iberian Peninsula. Going from over 500,000 [Moriscos] people to zero in 100 years can only be described as genocide” (Delanoy 2014). The extermination of Jewish and Muslim culture in Spain shows the genocidal nature of the Inquisition. The scholastics, a medieval School of Philosophy, believe, “An act will be morally good (right) if what goes into it is entirely good, but will be morally bad (wrong) if it is defective in *any* morally relevant respect” (Finnis 1996). The Inquisition failed to meet the third requirement of an ethical war, which is that the actions of the militants must be moral, because the genocide against Jews and Muslims constitutes a morally wrong action (Finnis 1996). According to Erin Morris, the Catholic Church was aware that due process was not being used in the Inquisition, and “the pope issued a formal papal bull to denounce what he considered an abuse of inquisitorial power” (Morris 2008). However, after King Ferdinand of Spain issued a rebuttal to the Pope: “The pope dropped the argument in 1483” (Morris 2008). Although the Pope knew that the actions taken by Spain in the Inquisition were unethical, he did not attempt to stop Spain (Morris 2008). Spain, therefore, continued waging an unethical genocide against the Jewish and Muslim populations, which eventually led to these populations

completely disappearing from Spain (Delanoy 2014).

The Hamas-Israel war is a modern example demonstrating that unethical religious wars will continue if no leaders step in to end them. On October 7th, 2023, Maya Alper, an Israeli citizen, attended the Nova Festival in Southern Israel (Debre and Biesecker 2023). Alper said that as she hid from Hamas militants who were massacring partygoers, she saw “one of her passengers . . . shriek and collapse as a gunman stood over her limp body, grinning” (Debre and Biesecker 2023). Alper was able to escape alive (Debre and Biesecker 2023). However, according to Isabel Kershner, who obtained her degree in Oriental Studies from Oxford University, 380 innocent Israelis who attended the Nova Festival were not as lucky (Kershner 2024). The story of Maya Alper shows the intent of the Hamas militants to murder civilian Jews, which, according to Shmuel Reis, academic Head of the Center for Medical Education in the Hebrew U/Hadassah Faculty of Medicine in Jerusalem, and Hedy Wald, Clinical Professor at Brown University, shows Hamas’ intent of genocide against the Jewish population in Israel (Reis and Wald 2024). Hamas’ disregard for human life violates all three requirements of an ethical war, with the justification, purpose, and actions all being immoral: “The Hamas leaders’ explicit statements, as well as their actions, provide a clear indication that the mass killing was committed with the intent to destroy the Jews in Israel” (Reis and Wald 2024). While Hamas’ unethical attempt to exterminate all Jews in Israel is obvious, the international community is doing nothing to try and prevent it, “There has been a striking absence of public condemnation of Hamas terrorist atrocities”, and there is a “deafening silence of organizations tasked with safeguarding women and children from gender-based violence” (Reis and Wald

2024). The lack of action against Hamas from foreign leaders and organizations allows the unethical genocide of Jews in Israel to continue.

As proven, unethical wars continue to result in the deaths of innocent civilians because leaders and organizations do not attempt to stop the war crimes taking place. The Crusades and Spanish Inquisition are past examples of this failure to act. An important lesson from history is that if humanity forgets the past, it is doomed to repeat itself. Leaders today need to learn from the mistakes of the past. The inaction of the Catholic Church during the Crusades and Inquisition led to the genocide of innocent Muslims and Jews. Hamas now attempts a similar religious genocide against the Jews in Israel. If leaders fail to take action against Hamas for their attempted genocide against Jews, Hamas will continue to kill innocent civilians until either Israel wins the war, or every last Jew in Israel is dead (Reis and Wald 2024).

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The Impact of Food Quality on Health

Eric Sher

According to Jerold Mande, former Deputy Under Secretary for Food Safety at the USDA, about 678,000 Americans die each year due to chronic food illnesses (Mande 2023). In particular, Mande notes that food illnesses such as obesity, diabetes, heart disease, and cancer are closely connected to the poor quality of food consumed. According to Sareen S. Gropper, a registered dietitian at Florida Atlantic University, poor nutrition can lead to chronic diseases such as “cardiovascular disease, hypertension, stroke, metabolic syndrome, some cancers, and perhaps some neurological diseases” (Gropper 2023). These serious diseases can significantly affect one’s health, emphasizing the importance of everyone being mindful of what they consume. This research paper explores how social class, scientific advancements, and food quality through social and scientific lenses impact health outcomes.

Socioeconomic status significantly impacts access to high-quality food, further affecting one’s health. According to Nicole Darmon, a French nutritionist and epidemiologist, and Adam Drewnowski, a professor of epidemiology at the University of Washington, “Healthier foods and the more nutrient-dense diets cost more and seem to be preferentially selected by higher [socioeconomic status] groups. Low-cost foods satisfy hunger and are more affordable and more accessible in low-income areas” (Darmon and Drewnowski 2008). Thus, socioeconomic status significantly impacts access to nutrient-dense foods, with higher-income individuals consuming healthier diets, while lower-income individuals rely on cheaper, less healthy options. Specifically, Darmon and Drewnoski state that “the consumption of

whole grains, lean meats, fish, low-fat dairy products, and fresh vegetables and fruit was consistently associated with higher [socioeconomic status] groups, whereas the consumption of fatty meats, refined grains, and added fats was associated with lower [socioeconomic status] groups” (Darmon and Drewnowski 2008). Therefore, this emphasizes the strong relationship between socioeconomic status and eating habits. The author also mentions that consuming nutritious diets reduces the risk of chronic illnesses and improves the quality of life, while eating unhealthy diets increases the likelihood of obesity, heart disease, and diabetes (Darmon and Drewnowski 2008). Christiana M., a woman from Michigan living in a low-income neighborhood, describes the financial challenges of maintaining a healthy diet. In an excerpt of her writing, “The Cost of Eating Healthy,” Christiana notes that despite her doctor’s recommendations to eat fruits, vegetables, and lean meats, she could only afford part of the list, leading her to rely on cheaper, unhealthy options (“The Cost of Eating Healthy” 2012). The high expense of nutritious food stands as a barrier for individuals in lower socioeconomic classes, causing them to consume poor-quality and ultra-processed foods, despite their efforts to improve their health. Ultimately, socioeconomic status impacts access to nutritious food, thus affecting individuals’ health outcomes. Higher socioeconomic groups tend to consume healthier diets, while lower socioeconomic groups are more likely to eat poorer diets and face greater health risks.

In addition to social class affecting access to different food qualities, scientific advancements have both improved and complicated food quality. From a nutritional science and public health perspective, Stella G. Uzogara, a certified food scientist, registered dietitian nutritionist, health

educator, and policy advisor states, “Benefits presented by proponents of [genetically modified] technology include... improved nutritional quality and health benefits in foods, improved protein and carbohydrate content of foods, improved fat quality, improved quality and quantity of meat, milk and livestock” (Uzogara 2000). The genetic modification of foods offers clear benefits by enhancing various qualities of food, lowering the chance of developing food illnesses and other health issues. In addition to genetically modified foods, food processing impacts food quality and health. Jennifer M. Poti et al., a research-track Assistant Professor and nutritional epidemiologist who graduated from the University of North Carolina at Chapel Hill, defines unprocessed foods as parts of plants or animals that are minimally processed without added substances like fats, sugar, or salt (Poti et al. 2017). These foods include vegetables, fresh or frozen meat, eggs, milk, and rice. On the other hand, Poti defines highly processed foods as “multi-ingredient industrial formulations and include sugar sweetened beverages (SSBs), packaged breads, cookies, savory snacks, candy, ice cream, breakfast cereal, and pre-prepared frozen meals” (Poti et al. 2017). To demonstrate the significance of food processing, Poti notes that consuming “highly processed foods was significantly associated with higher BMI and increased likelihood of being obese” (Poti et al. 2017). Highly processed foods are often poor quality and can harm health, especially for lower-income groups lacking healthier alternatives. Additionally, Sandee LaMotte, a Medical Producer at CNN based in Atlanta, Georgia writes about Jeffrey Odwazny, a Chicago native, who struggled with ultra-processed food addiction since childhood. From a personal perspective, Odwazny mentions how his addiction to processed foods led to numerous health

issues such as obesity, chronic disease, and many hospital visits (LaMotte 2024). Evidently, the severe health risks one can develop by consuming poor-quality, highly processed foods, are often the most accessible options for individuals in lower socioeconomic classes. Lastly, fertilizers play a crucial role in plant growth and improving crop yields. According to Yara International, a global leader in crop nutrition, fertilizers provide essential nutrients like nitrogen, phosphorus, and potassium, that improve crop yields and nutritional quality (“The Importance of Fertilizer in Modern Agriculture” 2024). Fertilizers are critical for plant growth and improving yields, leading to increased nutritional quality in foods. While these innovations can enhance nutrition, lower socioeconomic groups often consume more poor-quality, processed foods due to increased accessibility. Ultimately, scientific advancements like genetic modification, processing, and fertilizers directly impact food quality and health.

Furthermore, poor diet is detrimental to overall health, while high-quality food promotes better health. According to Joel Fuhrman, who works at the Health Science Faculty of Northern Arizona University and in the Nutritional Research Foundation, “Excess calories shorten lifespan, whereas moderate caloric restriction slows the aging process and protects the body and brain” (Fuhrman 2019). Consuming excessive calories, usually found in highly processed foods, negatively impacts both physical and mental well-being, while individuals who regulate their caloric intake will experience improvements in their overall health. Fuhrman further explains that consuming just 50 extra calories a day can result in 50 pounds of additional body weight over ten years (Fuhrman 2019). This weight gain can lead to chronic illnesses, cancers, and can reduce one’s life expectancy (Fuhrman

2019). In addition to the risks of consuming excess calories, Kayla McDonnell, a registered dietitian and health writer, notes that fried foods are usually high in trans fats, and if eaten, can increase the risk of type 2 diabetes, heart disease, and obesity (McDonnell 2023). In contrast, Fuhrman suggests that using alternative fat sources such as nuts and seeds rather than oil, will result in better outcomes. (Fuhrman 2019). Specifically, Fuhrman states, “People who consume nuts and seeds regularly have lower cancer rates, lower cardiovascular death rates, lower sudden cardiac death, less irregular heartbeats, and an increase in life span” (Fuhrman 2019). Thus, replacing unhealthy fats found in fried foods with more nutritional fats found in nuts and seeds can reduce the risk of chronic illnesses and improve general health. Finally, Fuhrman notes that increased sugar and salt intake can significantly increase the risk of stroke (Fuhrman 2019). In short, food quality directly impacts health, with healthier foods lowering chronic illness risks and enhancing well-being, while poor-quality foods lead to negative health results. This connects to earlier points about socioeconomic status and scientific advancements, where higher socioeconomic groups have better access to nutritious foods, while lower-income groups, due to cost and accessibility, often rely on processed foods, contributing to poorer health.

Overall, social class, advancements in science, and food quality profoundly impact an individual's health and wellness. Understanding how external factors affect food quality is essential for recognizing their contribution to health effects. It is crucial for individuals to understand the importance of making healthy food choices and to have access to information about high-quality foods to enhance their well-being. In conclusion, understanding the factors that influence food quality is crucial for

improving health outcomes and promoting a healthy society.

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Politics of the Fashion Industry

Tali Kliksberg

According to Anushka Das, a distinguished textile design graduate from the National Institute of Fashion Technology, clothing choices “can reflect personal tastes, beliefs, values and cultural backgrounds, making fashion a powerful tool for expressing one's identity” (Das 2023). The fashion industry has become an influential aspect of society, to such a degree that Statista, an online platform that specializes in providing data, has predicted that the revenue of the global fashion industry will reach \$880 billion in 2025 (Statista 2024). It is important to explore the implications of fashion, as it is present all over the world. From a political perspective, the fashion industry has been regulated by governments, affecting the clothing citizens are allowed to wear, minimum wage laws for workers in the garment industry, and policies regarding child labor, impacting human rights within society.

Over time, government policies have often dictated what clothing the citizens of a nation may wear. For example, in Nazi Germany, strict uniform policies were enacted for the population. An article published by the Indiana University Libraries writes how everyone “from coal miners...all the way up the Nazi hierarchy to Adolf Hitler himself, every man in the Reich had a uniform” (Woods 2019). The Nazi government used fashion as idealistic propaganda to promote their campaign, as their uniforms “[combined] elegant design with a reaction of fear and respect to promote the ideals of the Reich without uttering a single word” (Woods 2019). Similarly, the Taliban in Afghanistan also restricts the clothing of its citizens. According to Lindsay Maizland, the senior editor at the Carnegie Endowment for International Peace, the Taliban is an Islamic

fundamentalist group that has control over Afghanistan, and whose culture views women as inferior to others (Maizland 2023). An interview between Diaa Hadid and Michel Martin, both journalists from National Public Radio, discusses how Afghan women must “wear loose clothing and cover their faces except for their eyes,” and can choose between wearing a “burqa or a long, loose robe and a face covering” (Hadid 2022). Ignoring these rules leads to severe consequences, including getting arrested (Maizland 2023). These dress codes hinder women from being able to even leave their homes, and demonstrate the Taliban government's wish to suppress women in Afghanistan. Likewise, Sudan also has harsh policies prohibiting women from wearing certain articles of clothing. In 2009, Lubna Hussein, a Sudanese journalist and activist, wrote about how she was arrested in Sudan for wearing trousers in public (Hussein 2009). Her choice to wear trousers in public was considered a “[breach of] Article 152 of Sudanese law, which prohibits dressing indecently in public,” for which punishment would be to “face up to 40 lashes and an unlimited fine” (Hussein 2009). By creating strict repercussions for violating the national dress code, the government is able to directly influence what its citizens wear in order to further its own personal agenda.

Not only can the government control dress codes, but it also has the power to establish the wages of employees in the garment industry. Hannah Gould, a writer from *The Guardian*, a British daily newspaper, addresses the role governments play in determining minimum wage and legal policies for companies and workers in the garment industry. She quotes Gustav Loven, the social sustainability manager of H&M (a popular clothing brand): “Both governments and brands have a responsibility and their roles are dependent on each other in many ways...[Brands] need

to work with governments to drive increases of the legal minimum wages...so that all can have a fair living wage" (Gould 2015). However, many brands and companies in the fashion industry are failing to provide decent payment for their employees. According to Fashion Revolution, a fashion activism movement, "only an estimated 2% of fashion workers around the world are paid a livable salary" (San Segundo 2020). Brands and companies are responsible for determining these salaries. A report by the Clean Clothes Campaign (CCC), an alliance of labor unions and non-governmental organizations in the garment industry, writes that "the failure of brands to pay living wages is intrinsically linked to a lack of transparency...behind the scenes they wield immense power to pick and choose between low-wage economies" ("Out of the Shadows" 2020). It is critical for the government to establish policies to guide fashion companies and ensure that they are providing decent wages instead of taking cheap shortcuts. Joel Lewin, from the *Financial Times Newspaper*, discusses how, in 2015, the former British business minister, Jo Swinson, ordered multiple companies to reimburse employees who had not been paid minimum wage (Lewin 2015). He writes that "the employers owed workers a total of 177,000 [pounds sterling] in arrears and were fined a total of 51,000 [pounds sterling] for non-compliance" (Lewin 2015). Lewin quotes Frances O'Grady, general secretary of the Trades Union Congress, who said that "there can be no excuse for paying less than the legal minimum wage," and continued to call for officials to combat immoral companies (Lewin 2015). The actions taken by government officials such as Swinson and O'Grady serve as an example of how the government can manage salary policies. Governments have the responsibility to rectify injustices in the fashion and garment

industries by fining and punishing companies that pay below minimum wage.

The government must also create decent working conditions in the garment industry by diminishing the prevalence of child labor in fast fashion. Madeline A. James, a writer from the *Journal of Gender, Race and Justice* at the University of Iowa, explains how fast fashion is a form of retail where companies attempt to replicate trending items while manufacturing them as cheaply as possible (James 2022). James writes, "fast fashion retailers and manufacturers end up using suppliers who rely on child labor because it is an inexpensive, and often practical, form of labor" (James 2022). In fact, statistics published by Common Objective, a business network for the fashion industry, state that around 151.6 million children in the world are in the child labor industry ("Child Labour in the Fashion Industry" 2018). The use of child labor presents an extreme ethical dilemma since it is "often done in harsh...environments which put the lives and wellbeing of the children at risk" (James 2022). Specifically, child labor is often used in the garment and cotton industries. A report published by the European Commission, an official website of the European Union, states that "70% (or 112 million children) of all child labourers are in agriculture" (European Commission 2023). The report further mentions how the cotton industry is particularly dangerous, as "children working in cotton can be exposed to harmful chemicals, subjected to isolation, high temperatures, and at risk from...animal threats, causing serious health impacts" (European Commission 2023). Child labor has long-term repercussions, as child laborers are usually unable to receive a full education, perpetuating a cycle of poverty (European Commission 2023). Even countries with laws against child labor, such as the United States, exacerbate child labor

by employing companies that produce their items elsewhere (James 2022). While child labor is unethical in the United States, they are not “doing enough to incentivize fast fashion companies from eliminating child labor in their supply chains” (James 2022). It is vital for politicians to advocate for the creation and enforcement of child labor laws to reduce its use and avoid its repercussions.

Political entities and government regulations have a strong influence on the fashion industry, as they determine the way people dress, wages in the fashion industry, and the proper rules regarding child labor. A lack of consideration to freedom of dress, decent salaries, and child labor within government policies impedes on the fulfillment of basic human rights in the world. The government’s impact on the fashion industry affects essential aspects of society, and therefore, each individual government has the obligation to establish fair, efficient, and reasonable policies so that their nation can properly function and succeed.

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Pharmaceutical Company Procedures Concerning Society

Alan Kreisberger

Introduction

The use of pharmaceuticals is one of the most widespread commodities in the modern world. According to IQVIA, a leading global provider of clinical research, the number of doses of pharmaceuticals used in 2023 was nearly 3.4 trillion (“The Global Use of Medicines” 2024). As one of the pillars of society’s health, the procedure by which these pharmaceuticals are introduced to the public is delicate and must be meticulously taken care of. Unfortunately, many errors occur during pharmaceutical company procedures harming the health and finances of consumers, and even leading to fatalities. For example, according to Joseph L. Fink, a Professor of Pharmacy Law and Policy at the University of Kentucky College of Pharmacy, “a transcription error by a pharmacy technician while taking medication orders over the phone led to the death of a patient” (Fink 2019). This margin of error requires identifying and understanding how pharmaceutical company procedures affect society. To explore this subject, this research paper will analyze the advertisement, pricing, and distribution of pharmaceuticals.

Advertisement

The first step of pharmaceutical company procedures, in which the drug generally meets the public, is advertising. According to research by Teresa Leonardo Alves, International Policy Adviser for Prescrire, companies that produce pharmaceuticals were found to advertise their products in a way that can endanger society, where nearly 80% of physicians exhibited irrational prescribing patterns after meeting with sales representatives (Alves et al. 2018). These irrational prescribing patterns that physicians develop can negatively impact patients' health and

finances. Freed Fickweiler, a founder of Crowd for Cure, explains that “trainees are exposed to pharmaceutical industry marketing...which impact their prescribing behavior” (Fickweiler et al. 2017). Such unethical practices are deeply ingrained in the industry, leaving patients' well-being in question. Pharmaceutical companies also advertise directly to the public. Alves notes that magazine ads “failed to include basic information needed for shared and informed treatment choices,” and commercials used “emotive imagery...linking medicine use with happiness,” while “55% of claims were potentially misleading” (Alves et al. 2018). The uninformative and misleading advertisements displayed to the public could lead consumers to purchase medications that harm their health rather than improve it. Consumers of pharmaceuticals are affected not only through advertisements but through the actual pricing of the products as well.

Pricing

The next step in pharmaceutical company procedures where drugs meet the public is pricing. Dena Bunis, senior editor for AARP, shares the story of Vincent Burns, a man who spent over \$40,000 on cancer drugs in two years due to unfair pricing (Bunis 2021). When Vincent was first diagnosed with cancer, his treatment was covered by Medicare Part B (Bunis 2021). However, after Vincent was changed to an at-home plan where he would be taking a pill, the price skyrocketed to \$2,800 a month, later dropping to \$1,000 (Bunis 2021). Vincent Burns stated, “It's beyond stupid that I can go to a hospital and walk away paying nothing out of pocket, but it costs \$1,000 for the same treatment at home” (Bunis 2021). Vincent declares out of frustration that “by year's end the money he had been saving to help pay health care expenses in retirement ... and fund his wife's health insurance premiums until she qualifies for Medicare ... will be gone”

(Bunis 2021). Clearly, the unfair pricing of pharmaceuticals negatively affected Vincent leaving him financially scarred. The unfair pricing of pharmaceuticals additionally tends to have massive effects on the impoverished. Pauline Norris, a Research Professor at Va'a o Tautai: Centre for Pacific Health at the University of Otago, interviews many impoverished individuals to understand their struggle with pharmaceuticals. A common commodity that individuals would give up is food. One individual stated, "I just don't eat. I'll just go and buy a cheap thing. And I'll just, I'll just measure out, ok, I really need these pills" (Norris et al. 2016). The extent to which one would have to sacrifice food acutely defines the unfairness of pharmaceutical pricing imposed by pharmaceutical companies. Additionally, it is not just the sacrifice of something physical, impoverished individuals would wait extra time rather than taking their pills on time (Norris et al. 2016). Norris notes that after a prescription charge increase of a certain item going from \$3 a piece to \$5 a piece, many participants identified that they utilized the same strategy as an individual who stated, "I've never had to wait to get medicine before, but now that there's that extra charge, oh I'll just get mine next week, or in a couple of days or whatever" (Norris et al. 2016). Another individual experienced the same category of harm stating, "I couldn't pay another \$35 prescription charge ... so I've had to sort of cut back on stuff, like maybe take some medications every second day instead of every day, yep" (Norris et al. 2016). Similar to the advertisement of pharmaceuticals, the pricing heavily affects society. The sacrifice these individuals have to commit represents the inconsiderateness of pharmaceutical companies working only for profit.

Distribution

Finally, the distribution of pharmaceuticals is one of the later steps of

pharmaceutical company procedures and is one of the most sensitive to human care. Currently, the distribution of pharmaceuticals results in many errors and is a detriment to society. According to Clark Kauffman, deputy editor of the Iowa Capital Dispatch, on January 14, 2024, a Hy-Vee pharmacy in Newton, Massachusetts, "mistakenly dispensed 30 milliliters of morphine concentrate to a patient with incorrect directions on the label, which ... resulted in a substantial overdose and possibly early death" (Kauffman 2024). Similarly to the case introduced by Joseph L. Fink, the distribution of pharmaceuticals failed to remain safe, resulting in the overdose of a patient, which defines the negative possibilities that pharmaceutical distribution poses to society. Darby Beane, a reporter at WDRB News, reports that Henry Burkett, a 21-month-old child from Kentucky experienced an overdose after an incorrect shipment of pharmaceuticals to MedSave pharmacy in Eminence (Beane 2024). The child's father, Ian Burkett stated that the medicine "wasn't affecting [Henry] like it normally does," and that "it was definitely an overdose because he received ... the maximum amount of Narcan in the ER that he was allowed to have" (Beane 2024). In relation to the advertisement and pricing of pharmaceuticals, the distribution of pharmaceuticals harms society and even leads to the endangerment of life. Furthermore, the distribution of pharmaceuticals is a global issue. The United Kingdom faces over 22 million dangerous prescription errors annually according to Rachel Ann Elliott, a professor at the University of Nottingham's School of Pharmacy (Elliott et al. 2021). Damon Birkemeier, a safety evaluator with the Food and Drug Administration, reports that over 1.5 million people in the U.S. suffer from medication errors, with 56% going unidentified by pharmacists (Birkemeier

2021). The World Health Organization estimates medication errors cost the global economy \$42 billion (“Medication Without Harm” 2024). These overwhelming facts highlight the dangers that pharmaceutical distribution poses worldwide. The dangers of the distribution of pharmaceuticals are widespread and affect individuals across the globe, calling for attention to pharmaceutical company procedures that individuals need to be aware of.

Conclusion

In conclusion, pharmaceutical company procedures can have detrimental effects on society, often compromising individuals' health and well-being. To address these issues, prominent solutions include providing financial assistance to those in need, implementing stricter government regulations on pharmaceutical advertising, and automating the distribution process to reduce errors. To ensure the safety and integrity of prescriptions, individuals should take an active role in their healthcare by conducting thorough research and consulting multiple healthcare professionals, rather than relying solely on a single source of information. These steps can help protect public health and create a more reliable pharmaceutical industry.

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The Detrimental Effects of Seeking Approval

Emma Azafrani

"The need to be liked is a double-edged sword that often pushes individuals to compromise their mental health for fleeting acceptance," claims Zimmer-Gembeck et al., a psychologist from Griffith University. Sharma Bhawana, an Indian journalist associated with Deccan Chronicle, explains that adolescence is a period marked by significant emotional and psychological changes, making teens particularly vulnerable to the negative impacts of social acceptance pressures. (Bhawana 2023). This crucial stage of life is filled with vulnerability to external factors that can increase stress and anxiety. While seeking validation is a natural human tendency, it becomes problematic when the desire for approval takes over one's values and leads to deteriorating mental health (Zimmer-Gembeck et al. 2007). According to Dr. Abi-Jaoude et al., from the University of Manitoba, the rise of social media has made these challenges even harder, creating a world where self-worth is often judged by online status like likes, comments, and follower counts (Abi-Jaoude et al. 2020). The factors influencing adolescent mental health, including social pressures and media influence, create emotional strain and stress (Bhawana 2023). Platforms like social media worsen these challenges by turning social interactions into popularity, encouraging behaviors that seek external approval rather than inner satisfaction (Abi-Jaoude et al. 2020). Ted Thomas, who holds a Ph.D from Missouri University, and Ira Chaleff who is president of Executive Coaching and Consulting, illustrate how seeking approval or trying to fit in could lead to negative consequences. For example, in "Moral Courage and Intelligent

Disobedience," the authors focus on how the fear of being rejected by peer groups often prevents individuals from having courage and standing up for what may be right (Thomas and Challeff 2017). Likewise, in Doris Lessing's "Through the Tunnel," Lessing illustrates Jerry's determination to gain the approval of older boys, symbolizing the risks of seeking validation at great personal cost (Lessing 1954). Both examples underscore that while wanting approval from others can provide temporary satisfaction, it often leads to many negative outcomes, including psychological issues. The desire to be liked and accepted negatively affects well-being through peer pressure, prioritizing success, and social comparison.

Peer pressure compels individuals to conform to social norms, often at the expense of their mental health (Feng et al. 2018). Dr. Chunliang Feng, a Ph.D. holder in social neuroscience, demonstrates how fear of social rejection can cause distress and conformity which could jeopardize one's well-being (Feng et al. 2018). Zimmer-Gembeck et al., a psychologist associated with Griffith University, explains that "children who feel less accepted by their peers are more susceptible to depressive symptoms," which is worsened when self-perception differs from peer feedback (Zimmer-Gembeck et al. 2007). Zimmer-Gembeck et al. also notes, "Individuals often engage in behaviors contrary to their values to maintain social standing", revealing that peer pressure allows people to change their true selves, resulting in internal conflict and emotional struggles (Zimmer-Gembeck et al. 2007). Cruz et al. adds that "peer pressure is a significant predictor of increased stress and anxiety," showing that the desire to fit in with others often leads to harsh outcomes (Cruz et al. 2022). Danish, from Mehran University, notes that negative peer pressure

“fosters regret and emotional distress,” which impacts self-worth (Danish et al. 2023). Danish adds that “the drive to align with peer behaviors, even under perceived risks, is indicative of a deep-seated need for social acceptance,” pointing out that the fear of social rejection leads to prioritizing peer approval (Danish et al. 2023). Ted Thomas and Ira Chaleff emphasize that “courage is the first of human qualities because it is the quality which guarantees others,” focusing on the importance of resisting harmful social influences (Thomas and Chaleff 2017). However, many people lack the courage to “stand up for what is right and against what is immoral, unethical, or illegal” (Thomas and Chaleff 2017). This is due to societal and cultural pressures, as “society and culture place a large amount of pressure on people to obey orders.” For instance, experiments have shown that “two-thirds of those in the experiment followed the orders of someone who looked like an authority figure due to a lab coat and a clipboard,” illustrating how perceived authority suppresses moral judgment (Thomas and Chaleff 2017). The fear of social rejection plays a significant role, as it can lead to “painful personal consequences such as ridicule, rejection, and loss of job and social standing.” Leaders also play a pivotal role, as “leaders set the standard in what they enforce, reward, punish, and how they act personally” (Thomas and Chaleff 2017). When leaders act immorally, their influence creates a ripple effect, pressuring individuals to conform even if it is unethical (Thomas and Chaleff 2017). By examining these relationships, Thomas and Chaleff show how social and peer pressures, as well as a lack of moral bravery, can have a negative effect on mental health.

The pressure to succeed and gain approval often leads individuals to prioritize achievement over mental well-being, resulting in stress, anxiety, and burnout

(Doherty 2021). This idea is depicted in Doris Lessing’s fictional story, “Through the Tunnel”, where Jerry’s pursuit of validation from the older boys takes a significant physical and emotional toll. Lessing writes, “He was trembling with strain and exhaustion; his eyes were blurred and slits of water and pain half-blinded him,” highlighting the severe physical and emotional strain Jerry endures in his quest for acceptance (Lessing, 1954). This illustrates the great lengths that individuals will go to in order to gain approval, showing how the desire for validation impacts one’s overall well-being (Lessing 1954). The narrative also describes Jerry’s sense of exclusion: “He could see the local boys diving and playing half a mile away, yet they were leaving him behind, out of their group,” emphasizing his deep need for acceptance that drives him to extreme lengths (Lessing 1954). Jennifer Doherty, who holds a Bachelor of Arts in Psychology, elaborates that the pressure to succeed in college encompasses various aspects of the college environment, highlighting the connection between academic and social demands and their impact on students’ mental health (Doherty 2021). Doherty adds, “The overwhelming pressure to perform academically often leaves students mentally and physically exhausted,” illustrating that academic pressure driven by the desire for approval can lead to exhaustion and negative effects that persist (Doherty 2021). Nadine S. Bekkouche, Ph.D. in Education, notes the “simmering pressure of graduate school,” explaining that high expectations from themselves and others can push students to their limits and can lead to the “gradual disintegration” of mental health (Bekkouche et al. 2021). She further states, “Many students report feeling trapped in a cycle of striving and anxiety, where achievement is prioritized over well-being,” illustrating how the relentless pursuit of success often leads

to neglect of mental health (Bekkouche et al. 2021). Dr. Leah Goodman, who holds a doctorate in Occupational Therapy, remarks that the pressure to excel often results in students neglecting self-care, stating, “students turn to faculty... who may be experts in their fields but are ill-prepared to support students' complex mental health needs” (Goodman 2024). These insights underscore that even the ones who seem highly important and intelligent do not seem to understand how complex this problem truly is.

The desire to be liked often drives individuals to engage in social comparison, which can lead to different psychological effects such as anxiety and diminished self-esteem. Dr. Jerry M. Suls, who earned his Ph.D. in Psychology, explains that “Perceptions of relative standing can influence many outcomes, including a person's self-concept, level of aspiration, and feelings of well-being” (Suls et al. 2002). This demonstrates how constant comparison to others can take a toll on mental health, shaping one's identity and goals. Dr. Elia Abi-Jaoude, emphasizes that social media worsens these behaviors, noting, “social media can affect adolescents' self-view and interpersonal relationships through social comparison and negative interactions, including cyberbullying,” which heightens anxiety and stress (Abi-Jaoude et al. 2020). Wheeler, Ph.D. in Social Psychology, and Miyake, Ph.D. in Earth and Environmental Science, found that “upward comparison decreased subjective well-being” (Wheeler and Miyake 1992). Such comparisons diminish self-worth, often leading individuals to feel inadequate or less accomplished than others (Wheeler and Miyake 1992). Additionally, the researchers point out that constant comparisons can trap people in a cycle where negative self-perception grows, leading to more dissatisfaction and anxiety. Arie Kruglanski,

who holds a Ph.D. in Psychology, and Ofra Mayseless, associated with Haifa University, discuss how this habit stems from a “unidirectional drive to do better and better,” where the pursuit of validation through comparison often takes over maintaining mental well-being. (Kruglanski and Mayseless, 1990). This cycle of social comparison underscores how the pursuit of approval can contribute to a decline in self-worth and heightened anxiety, ultimately impacting a person's well-being. This is particularly worrying for teenagers, whose developing self-concepts are highly influenced by external validation and social feedback. This makes them more vulnerable to these detrimental effects.

Respected social psychologists Shelley E. Taylor and Jonathon D. Brown provide a counter-argument to the claim that the desire to be liked is detrimental to mental health. They argue that positive self-perceptions play an essential role in enhancing well-being. According to their research, people tend to have overly positive views of themselves, believe they have more control than they do, and stay unrealistically optimistic (Taylor and Brown 1988). These “positive illusions” are not detrimental; rather, they help promote better mental health by fostering resilience, happiness, and productivity (Taylor and Brown 1988). As Taylor and Brown note, “these illusions appear to promote other criteria of mental health, including the ability to care about others, the ability to be happy or content, and the ability to engage in productive and creative work” (Taylor and Brown 1988). These positive beliefs help people handle stress better and keep going through tough times with a sense of control and hope (Taylor and Brown 1988). Furthermore, they also note that positive views help protect against setbacks and criticism, boosting confidence and emotional stability. (Taylor and Brown 1988). By keeping a positive

self-image and seeking approval from others, people can face social and personal challenges with more motivation and mental strength. (Taylor and Brown 1988). Their findings indicate that the desire to be liked and maintain an enhanced self-image may actually support mental health by providing a protective shield that helps people live more resilient and fulfilling lives (Taylor and Brown 1988).

In conclusion, the pursuit of social acceptance poses significant risks to mental health by encouraging peer pressure, the drive to succeed, and social comparison. This compels individuals to sacrifice their well-being for external approval, leading to lasting psychological effects. Addressing these issues requires promoting mental health education and fostering self-acceptance. Educational programs that teach the importance of internal validation can help individuals prioritize their well-being. Creating supportive environments that discourage unhealthy competition and comparison is crucial for combating this problem (Goodman 2024). This paper explored the impact of peer pressure, the pressure to succeed, and social comparison on mental health. Examples, including “Moral Courage and Intelligent Disobedience” and “Through the Tunnel,” demonstrated how seeking approval can lead to detrimental effects. The research shows that constantly seeking acceptance can be harmful. True strength comes from prioritizing mental well-being over seeking approval, fostering resilience in a challenging world (Goodman 2024).

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Ethics of Interrogations

Mathew Furer

Laure Brimbal et al, an assistant professor at Texas State University conducted research on 526 law enforcement officers' beliefs on the techniques used in interrogations (Brimbal et al. 2024). Brimbal found that the "average suspect interview [time] was 1.6 hours long, with suspects being interviewed an average of three times" (Brimbal et al. 2024). Additionally, "the officers reported 26.2% of innocent suspects at least partially confessed to a crime they did not commit" (Brimbal et al. 2024). This paper will analyze to what extent interrogations can be considered ethical by looking into the United States (U.S.) police and military agencies, as well as, foreign interrogations. By learning about these interrogation styles, one can establish more effective and ethical interrogation guidelines.

In the U.S., suspects have constitutional laws that protect them from coerced confessions. According to the Justia U.S. Supreme Court, "any statements that a defendant in custody makes during an interrogation are admissible as evidence at a criminal trial only if law enforcement told the defendant of the right to remain silent and the right to speak with an attorney before the interrogation started" ("Miranda v. Arizona" 2006) That person must then knowingly, voluntarily, and intelligently waive or exercise their rights ("Miranda v. Arizona" 2006). Based on those rules, the Reid technique is a commonly used technique in the United States. Aldert Vrij, a professor of applied social psychology explains that the Reid method consists of nine parts that the interrogator must follow meticulously. These steps include the interrogator trying to shift the blame of the crime on different people and pretend as though they are on the suspect's side, getting

them to openly admit to their actions (Vrij et al. 2004). The Reid method is used as an unethical psychological mind game that the interrogator performs on the suspect. While there are many policies put in place to ensure ethical interrogations, these practices are not always followed. For instance, there are many times when interrogators make false promises, use harsh language, etc... One example of this is in the *Bram v. United States* case, according to Andrew Eichen, a lawyer for Luminos Law, where the interrogator promised the suspect not to take the blame if he were to name his accomplices (Eichen 2024). While this is an example of an unethical interrogation since there were false promises made, "the Supreme Court overturned Bram's conviction, holding that a confession 'must not be extracted by any sort of threats or violence, nor obtained by any direct or implied promises, however slight'" (Eichen 2024). The various methods of interrogation illustrate that the U.S. emphasizes its ethicality for the suspects. This point is stressed when Bram was not convicted even after admitting to a crime since the interrogation was done in an unethical manner.

The U.S. military has multiple instances where its ethicality has been questioned. According to Krishnadev Calamur, National Public Radio's chief Washington editor, after the terrorist attack on September 11, 2001, the military used methods such as rectal infusion, gun and drill, waterboarding, chaining, and nudity to retrieve information on multiple suspects (Calamur 2019). These unethical torture methods led to the creation of new laws. Similarly to law enforcement observance of the Miranda Rights, the military, according to the United States Archives, states that "[suspects] shall in all circumstances be treated humanely and shall not be subjected to violence to life and person (including the

murder of all kinds, mutilation, cruel treatment, and torture), nor to outrages upon personal dignity (including the humiliating and degrading treatment)” (“Executive Order” 2009). However, after the creation of these laws, the United States Court of Criminal Appeals wrote about a case where the daughter of the suspect was treated for a broken arm nine days before being treated again for leg fractures (“The United States Army...” 2010). This began the interrogation process against the suspect where he was questioned for hours at a time (“The United States Army...” 2010). This caused him to state that he “was exhausted and in a great deal of back pain” and he “just wanted the interview to stop so he could go home and see his wife and kids so he just told CID what they wanted to hear” (“The United States Army...” 2010). This signifies that the creation of laws did not impact the ethicality of interrogation methods. Techniques are still unethical and receiving false confessions since suspects only wish for the interrogation process to be completed.

The U.S. military and police techniques, however, differ from those of other foreign governments. According to the U.S. Department of Justice, “In France, suspects have no right to legal counsel during the first 24 hours of interrogation” (“Defense Attorney...” 2025). This is an extraordinarily unethical procedure since France does not give criminals any rights. On the other hand, Schlun and Elseven, a group of lawyers in Germany, explain that in Germany, no statements can be made without legal counsel present. Then, the interrogated must be informed of the offense they are being charged with, the right to remain silent, to get a legal assistant or interpreter, and the ability to request or name exculpatory evidence (Schlun & Elseven). This relates to the more ethical rules in the U.S., where a person must be

read their Miranda rights. Moreover, according to Sofie De Regt from Tilburg University in her bachelor thesis, in the Netherlands, there was a case where “a ten-year-old girl Nienke Kleiss was sexually abused and murdered in a park in Schiedam” (De Regt 2019). A witness named Cees B. called the emergency services.

Consequently, Cees B. became a suspect in the murder case and was interrogated in the Netherlands. He confessed in the first interrogation when the interrogators said lies such as, “Cees ... we just know that you did it ... as a result ... of what you have told us ... we know you did it. The fact that you were there ... everything fits exactly ... it is a puzzle that we are puzzling with” (De Regt 2019). Additionally, the interrogators cursed, slammed the table and told Cees B. that they could help him with the problem if he confessed. He was later convicted and sentenced to 18 years in jail for a crime he did not commit. The result of not having rights for suspects is evident in this case since Cees B. was falsely convicted (De Regt 2019). This proves that The Netherlands does not have ethical or effective interrogation techniques in place to find the true criminal. The rules in these foreign countries show how France, Germany, and the Netherlands differ in their interrogation process. For instance, France and Germany have the exact opposite rules for legal counsel, bringing up the matter of which country enforces ethical interrogations.

The contrasting interrogation methods between U.S. police, military, and foreign countries raise a debate over which methods can be seen as ethical. U.S. law enforcement emphasizes the importance of ethical interrogations, to the extent that Bram’s confession obtained through unlawful methods was deemed inadmissible in court (Eichen 2024). On the contrary, despite the creation of new laws in the

military, unethical methods continued to prevail. Finally, foreign countries contradict one another with opposing laws such as having legal counsel in the first 24 hours. Additionally, in the Netherlands case, as a result of unethical interrogation techniques, Cees B. was wrongfully convicted and sentenced to 18 years in jail (De Regt 2019). To keep procedures ethical and for suspects to be treated fairly, interrogation methods must be done according to the law with consequences for law enforcement who are unwilling to do so. It is essential for policymakers to understand the ramifications of unethical interrogations and to focus on procedures that protect the rights of all involved. This will ensure that the actual suspect is held accountable for the crime committed.

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Ethics and Food Quality

Sophia Klein

The Center for Disease Control “estimates 48 million people get sick from foodborne illnesses each year in the United States” (CDC 2019). *Food Inc.*, a documentary directed by Robert Kenner, states that a veil is dropped between the people and where their food is coming from (Kenner 2008). This “curtain” hides the truth behind the production, processing, and distribution of the food people eat (Kenner 2008). Lyle MacWilliam, author, educator, and biochemist, explains: “Most of us are simply unaware of our level of exposure to persistent environmental toxins through the foods we place daily on our table”, exemplifying how lack of awareness among individuals opens up opportunities for the foods they consume to impact their health significantly (MacWilliam 2024). To understand the ethics behind food quality, one must first understand the implications behind it. Agricultural production, processing, and distribution play vital roles in the quality of food, leading to ethical ramifications.

Unsustainable agriculture paves the way for immoral practices and diminishes food quality. There is a high demand for food to be produced efficiently and abundantly due to the hungry population. According to Robert Kenner, the system of intensive production is to produce a lot of food on a small amount of land at a very affordable price (Kenner 2008). However, MacWilliam has shown that this unsustainable practice of forcing more crops on a small amount of land is unethical as it depletes the nutrients in the food: “In 1930 an acre of land would yield about 50 bushels of corn. By 1960, yields had reached 200 bushels per acre—far beyond the capacity of the soil to sustain itself” (MacWilliam 2024). This shift in intensive production

illustrates the strong demand to increase crop yields while also showing that there are clear implications. On another perspective, Norman Borlaug, an American agronomist, believes that while unsustainable agricultural practices are unethical, they are relied on to help produce enough food to eradicate hunger (Borlaug 1970).

MacWilliam notes, “Pesticides and herbicides have been linked to a wide range of human health effects, including immune suppression, hormone disruption, diminished intelligence...and cancer” (MacWilliam 2024). According to CNN news, after John McKivison, who was diagnosed with cancer, successfully sued Monsanto, an Agrochemical company, for their Roundup herbicide product being the cause of his cancer, Monsanto continued selling the herbicide even though the World Health Organization said glyphosate could potentially cause cancer (Wolfe 2024). Not only can these unsustainable practices result in health consequences, but “the depletion of the nutrient content of our soils, through unsustainable agricultural practices, results in the inevitable loss of nutrient value in our crops” (MacWilliam 2024). Due to this, consumer demands for organic and healthier food options have risen to such an extent that M. Morales-de la Pena et al., from the Technological Institute of Monterrey, explains that “fresh-like characteristics with high content of nutrients and antioxidants are some of the most requested attributes by consumers, without leaving aside food safety” (Morales-de la Pena et al. 2019). One way for corporations to fulfill these high consumer demands is through sustainable agriculture and technology, such as “thermal sterilization treatments [that] guarantee efficient reduction of microorganisms” (Morales-de la Pena et al. 2019). These concerns regarding the quality of food products have led to an increase in alternative options for purchasing food such

as farmers' markets, as explained by Rachel Dodds et al., Professor at the Ted Rogers School of Hospitality and Tourism Management (Dodds et al. 2013). Overall, through sustainable agriculture, consumers are able to have the option of organic and healthy products rather than detrimental ones.

While production plays a significant role in the ethics of food quality, food processing is also an essential contributor to food standards. With the main focus in current food production being to increase food output, processing factories are enlarging. According to Michael Korthals, a Professor of Philosophy of Food at the University of Gastronomic Sciences in Pollenzo, Italy, "Large shareholders speculate with food and make the food trade a casino, with all the risks for food security and price stability" (Korthals 2015). In other words, the reason behind expansion of factories is greed and desire for profit. Korthals explains that the "diffusion of the fast-food system" is solely focused on high profits and production efficiency, not sustainability (Korthals 2015). These companies are not worried about whether the food they produce is sustainable, but only if they will boost their revenue (Korthals 2015). These enlarged factories also become vulnerable to harmful pathogens and diseases, as they are "just perfect for taking bad pathogens and spreading them far and wide" (Kenner 2008). The consequences of the desire for processed products is a reduction in the quality of food, which can lead to dangerous foodborne illnesses. For example, Kenner tells the story of two-year-old Kevin who went from a "perfectly healthy...boy" to dead in 12 days, due to E. Coli, a disease which was found in hamburgers (Kenner 2008). Korthal adds that "Food safety is a problem for many, although probably behind the fear of contamination...lurks the often

unspoken distrust of the public toward a food system that exercises immense but not controllable power" (Korthals 2015). In order for consumers to confidently purchase and consume quality food, the food industry must take action against the obstacles within their processing systems.

Once food is produced and processed, the next aspect of food ethics is the pivotal role distribution of products plays in accessibility to high or low quality products. Julie A. Caswell, a professor at the University of Massachusetts Amherst, and Eliza M. Mojdzuska, research assistant in the Department of Resource Economics at University of Massachusetts Amherst, the principle approach of labeling from the government allows consumers to remain informed of the food quality they are purchasing and consuming (Caswell and Mojdzuska 1996). Korthals states, labeling and types of certification on content are helpful for consumers to make reasonable food choices in accordance with his or her lifestyle (Korthals 2015). Kenner conveys the idea that consumers have the right to know what is in their food (Kenner 2008). Next, maintaining ethical standards in the food industry requires corporations to be mindful of the food quality they distribute to consumers. Some corporations fail to maintain these upright standards and consumers remain facing the consequences. For instance, Kenner states, "ConAgra, which recently recalled peanut butter contaminated with salmonella, was aware of problems in its plant two years ago" (Kenner 2008). Corporations like ConAgra do not maintain moral principles with their food quality forcing consumers to face consequences that are at times irreversible. According to CBS news, 88-year old JC Smith died from an E. coli outbreak originating from a McDonald's quarter pounder (Morfitt 2025). Kenner notes that "to eat well in this country costs more than

to eat badly... That's one of the reasons that we need changes at the policy level, so that the carrots are a better deal than the chips" (Kenner 2008). As a result, corporations need to improve their production and processing methods to ensure product quality is at the highest level when distributed to consumers.

In conclusion, the ethics and integrity of food quality determined by agricultural production, processing, and distribution of foods is crucial to ensuring the safety of consumers. Due to the incorporation of harmful pesticides in production and desire to increase crop yields, food quality has been diminished and consumers face the consequences through foodborne illnesses. Furthermore, as processing factories enlarge through motivation of profit, harmful pathogens and foodborne illnesses affect consumers at a large and decrease food quality. Lastly, the distribution of low quality food is immoral and while the government helps with labeling policies, they must do more in lowering prices for healthy foods. Rather than taking advantage of consumers, the food industry should be responsible for ensuring that people are provided with healthy and nutritious food sources in order to fulfill their basic needs and maintain a healthy lifestyle.

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**Economic Factors of Poor
Food Quality and Obesity**
Eyal Nathan

According to the Centers for Disease Control and Prevention, “the prevalence of obesity among U.S. adults 20 and over was 41.9% during 2017” (“Adult Obesity Facts” 2024). In the United States, society is facing a serious epidemic of obesity and health issues. Diana Carvajal-Aldaz et al., a Professor at ESPOL’s Life Sciences Department, explains how the overconsumption of calorie dense processed foods high in saturated fats, sugars, and sodium is heavily attributed to this ongoing situation (Carvajal-Aldaz et al. 2022). The problem with food quality in the United States is partly caused by economic factors such as profit maximization by the food industry and the varying accessibility and affordability of food among socioeconomic classes, and it negatively impacts individuals’ health.

To begin with, fast food companies and restaurant chains prioritize cost reduction with the use of poor quality ingredients in order to maximize profits. In a blog post from Comosense, a platform that helps retail and food/beverage businesses create personalized customer loyalty programs, it is explained that “cost-cutting strategies are essential for restaurants to enhance profitability and thrive in a competitive industry” (“The Secret Ingredients for...” 2023). However, according to Jessica O’Neill, a 5th year doctoral candidate at the University at Buffalo, large corporations often implement these strategies by selling consumers cheap processed foods (O’Neill 2019). One example of this is McDonalds, which, according to Abhishek Rajawat, who works at the ABES Engineering College in Ghaziabad, India, has achieved success because it “keeps low costs and earns more

income by selling food at low prices” (Rajawat et al. 2020). McDonald’s is a fast food chain notoriously known for selling food of poor quality. In a report by Fox News, “consumers surveyed said McDonald’s has the lowest quality food out of all the big fast food restaurants” (“Report: Consumers Say McDonald’s...” 2017). In fact, according to Justin Boggs, a journalist at WCPO 9 Cincinnati, a McDonald’s employee was fired for taking pictures revealing the filthy state of the kitchen he worked in (Boggs 2017). The former McDonald’s employee, Nick, stated, “sometimes my coworkers would drop the food and put it back on the bun” (Boggs 2017). Furthermore, some companies knowingly break the law and commit economically motivated adulteration, which is also known as food fraud. According to the US Food and Drug Administration, economically motivated adulteration (EMA) occurs when someone intentionally alters a food in order to make more money from it, usually worsening its quality (“Economically Motivated Adulteration” 2021). Alexander Pavlovic, who got his degree from the University of Cambridge, writes about one devastating instance of EMA and its impact when a string of Chinese milk companies in 2008 were watering down milk and adding melamine to it (Pavlovic 2019). This was done to decrease the cost of producing the milk and increase the profit they would make from selling it (Pavlovic 2019). However, “melamine dramatically increases the likelihood of kidney problems... and by the end of 2008 over 300,000 people had become ill, with over 50,000 children hospitalized” (Pavlovic 2019). According to Austin Ramzy, a reporter for Time, this incident also affected Chinese farmers who made a living selling milk because people stopped buying dairy products (Ramzy and Yang 2008). Ramzy mentions a farmer

named He, who states, “we are trying to find other buyers, or sell directly to consumers, but no luck so far... I have 300-400 cows in production, and it’s just not possible to store the fresh milk” (Ramzy and Yang 2008). Whether legal or not, the prioritization of profits is a major factor for the issue of poor food quality and the consequences that come along with it.

In addition to profit maximization, the overreliance of low income communities on fast food is part of the reason why poor food quality causes an ethical dilemma. According to Meron Lewis, who works in the School of Public Health in the University of Queensland, between the years of 2019 and 2022, “the prices of healthy foods and drinks [increased] at almost double the rate of increase in prices of unhealthy items” (Lewis 2023). This affects people in the lower class because they can’t afford the healthier options and have to opt for processed or poor quality food. According to Jessica Fu, a freelance reporter who has written for The Guardian, a 61-year-old woman named Kimberly Hart, who had high blood pressure and cholesterol and was trying to make changes to her diet, stated, “I know that wheat bread is healthier for me, but I also know that white bread is cheaper” (Fu 2022). In addition, this problem is also rooted in the accessibility of healthy food in low income communities. For instance, according to the Food Empowerment Project, a nonprofit organization that promotes ethical food choices, low income communities have limited access to high quality food (“Food Deserts” 2017). People living in food deserts have to rely on the overabundant junk food due to the lack of better options. Savannah Latimer, who grew up in Feltonville, a northern region of Philadelphia and a food desert, details her experience living with limited access to healthy food; “[I would barely buy] anything from the store because

almost all of the inventory was unhealthy” (Latimer 2023). Its for these reasons why, according to Simone French et al., who works in the Division of Epidemiology and Community Health at the University of Minnesota, “lower income households purchase foods of lower nutritional quality compared to higher income households... [which] could contribute to the lower diet quality observed among lower income individuals” (French et al. 2019). This causes a major ethical dilemma, as people in the lower class have essentially no choice other than to sacrifice their health in order to eat.

Ultimately, the shortcuts taken by companies to increase revenue, as well as the lack of accessible and affordable food options, have a detrimental effect on health. Poor quality food is a leading cause of many different health implications; according to Joel Fuhrman, a doctor who works at the Health Science Faculty in Northern Arizona University, “all the junk people are eating contributes to obesity, diabetes, heart attacks, strokes, dementia, cancer... [and even] mental illness” (Fuhrman 2019). In fact, poor diet is even one of the leading causes of death in the United States. According to the Institute for Health Metrics and Evaluation, “10.6% of all deaths in 2021 were associated with poor diet” and “30% of deaths from cardiovascular disease were [also] attributed to poor diet” (“Diet” 2021). These diet-related health impacts significantly affect the lower class. For example, according to Patti Neighmond, an award-winning journalist, a 29-year-old woman named Anna Beer who lives in Spokane, Washington and works a minimum wage job is living off of canned food and frozen vegetables and has been having migraines partly caused by her poor diet (Neighmond 2015). Beer states, “my health is deteriorating and I know what the cause of it is, but I can’t fix it” (Neighmond 2015).

The sale of cheap, poorly produced food by corporations as well as the inaccessibility of healthier food options in lower class communities creates a moral predicament where people of a lower socioeconomic status face health problems caused by poor diet.

In conclusion, economic factors such as profit maximization and accessibility and affordability cause health related ethical issues from the consumption of poor quality food. Possible solutions that could help fix the obesity epidemic in the country are enforcing higher food quality standards to restaurants and incentivizing the addition of healthier food options in lower income communities. However, implementing these solutions on a national scale could be challenging and require significant government resources, and there is the possibility of resistance from the food industry. Nevertheless, this problem must be solved in some way, because fixing the quality of food in America is not only beneficial, but necessary to ensure the health of the people and the future generations.

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The Impact of Authority and Fear on Morality

Dalya Prezant

The National Institute of Justice reports that over 30 years, there were “57,000 corruption cases in federal courts” (National Institute of Justice 2020). Politicians, individuals in high power who take an oath to be responsible, specifically have committed more than 1,100 acts of fraud and bribery combined (National Institute of Justice 2020). Politics is not the only realm where unethical behaviors present themselves. In the stimulus material, Robert F. Kennedy is quoted as saying, “Few men are willing to brave the disapproval of their fellows, the censure of their colleagues, the wrath of their society” (Thomas and Chaleff 2017). This stems in part from a universal psychological need to please. The desire to obey authority and fear of failure come together to overtake one’s moral values, throughout all aspects of life. This is seen in the government, the workplace, and individuals’ everyday lives.

The power structure of governments often leads to situations where people blindly follow orders. During World War II, for example, the Germans listened to Joseph Goebbels, a direct lieutenant under Hitler. Professor Howard Becker, of the sociology department at the University of Wisconsin, interviewed a German justice of the peace who explained that “the German people believed in victory until the very last minute. We had to believe in victory; we did not dare to believe otherwise... And we believed Goebbels; we Germans are like that” (Becker 1949). Hitler had convinced his regime they would win, yet even when they realized they were fighting a losing battle, they kept loyal. The justice of peace spoke about this, saying, “I knew that the hands of the clock had reached midnight and beyond. Yet, I continued to obey orders” (Becker

1949). In other words, deep down he knew defeat was imminent, yet he obeyed authority anyway in the hope of success, and to not let the Germans down.

Furthermore, this premise carries on into the U.S. military, where their mental models or thought frameworks, can encourage immoral, unethical, or illegal behavior. Ted Thomas, Director of the Department of Command and Leadership in the U.S. Army Command at Fort Leavenworth, along with Ira Chaleff, president of Executive Coaching & Consulting Associates assert, “Organizational culture and operational pressures can sometimes cause the values of people to become blurred when the mission becomes more important than virtues” (Thomas and Chaleff 2017). In situations like these, good soldiers can make unethical decisions. An example is when officers in 2015 submitted “distorted intelligence reports” about the progress of the fight against ISIS and al-Qaeda in Syria, in an effort to align intelligence assessments with the political narrative of their administration. Thomas and Chaleff explain, “Their senior officials altered reports that effectively rose to the level of lying to fit a political narrative in line with President Obama’s contention that the fight against ISIS and al-Qaeda in Syria was going better than it actually was” (Thomas and Chaleff 2017). They go on to explain how these officials attributed their actions to the “hostile climate” in which they worked and claimed they could not provide an accurate assessment because their commanders wanted to protect their careers (Thomas and Chaleff 2017). The intelligence analysts, feeling obligated to follow directives from senior officials, were put in a position to choose between their duty to report honestly and the fear of what would happen if they failed to align with their superiors’ desired narratives. This underscores how powerful

authority influences behavior and decision-making, despite conflicting with personal ethics and the moral responsibility to tell the truth. Thomas and Chaleff say the military “has created an environment where it is literally impossible to execute to standard all that is required. Military culture is replete with such terms as ‘make it happen,’ ‘that’s NCO business,’ ‘check the block,’ ‘what happens in theater stays in theater,’ and ‘make your statistics’” (Thomas and Chaleff 2017). Soldiers often feel a great deal of pressure from authority to complete their mission, which can override their judgment. Phil Klay, a graduate of Dartmouth College and a veteran of the U.S. Marine Corps, says “Ideals are one thing [but in the military], the messy business of putting them into practice is another. That means giving up on any claim to moral purity. That means getting your hands dirty” (Klay 2016). This shows how the military culture can pressure soldiers into believing they have no choice but to engage in immoral behavior to fulfill their duties.

Moreover, for politicians, unethical behavior can stem from their desire to stay in power. Madison Richmond, a PhD student at Liberty University, in her Senior Thesis, established that “many political leaders have found immense success in that they secure a significant following, but practice extremely unethical behavior in their leadership” (Richmond 2023). A prime example of this is President Richard Nixon and the Watergate scandal. According to the Federal Bureau of Investigation, the Watergate Scandal happened on June 17, 1972, during private democratic meetings, when several people broke into the Democratic National Committee Headquarters. Subsequent investigations by the FBI, Congress, and the media proved these intruders were connected to President Nixon's campaign. It was determined that Nixon was attempting

to steal documents and audio tapes of his opponents to gain an advantage in the upcoming race. (FBI 2024). According to Dr. Ruth P. Morgan, professor of political science at Southern Methodist University, “In [Nixon’s] determination not to let the demonstrators drag him down as had happened to his predecessor, [he] committed acts that were ‘to plant seeds of illegal and immoral activities that would eventually lead to the President's downfall’” (Morgan 1996). Nixon’s fear of losing power, and desire to please his party, led him to commit criminal and immoral acts, ultimately leading him to lose the very power he was trying to protect.

These challenges carry over into the workplace, where employees can get wrapped up in corruption and illegal practices. According to Nadiatus Salama et al., faculty of Da'wah and Communication, at the University of Islam Negeri Walisongo, Semarang, Indonesia, “One in four [employees], had felt under pressure to do things they knew were unethical” (Salama et al. 2020). She explains that “in the work environment, if [a] superior orders a subordinate to perform unethical practices, the compelling desire to obey authority acts as a powerful external stimulus, meaning that the individual is likely [to] obey the order without focusing on how the act will conflict with his or her ethical position” (Salama et al. 2020). Two notable examples of mass corporate misconduct happened at Wells Fargo and Volkswagen. Regarding the Wells Fargo scandal, Thomas and Chaleff explain, “Their employees created over two million fake accounts, incurring various customer expenses to include interest charges and overdraft protection fees” (Thomas and Chaleff 2017). Thomas and Chaleff discussed how these employees were under intense pressure from their bosses to meet sales quotas, which led them to act immorally (Thomas and Chaleff

2017). Another case is Volkswagen's 2015 emissions scandal. Thomas and Chaleff write about how "Volkswagen equipped 11 million of its cars with software designed to lie about emissions tests. This deception started over a decade ago when their leaders knew they could not meet the United States clean air standards" (Thomas and Chaleff 2017). In both cases of company fraud, significant pressures encouraged cheating and dishonesty to achieve the desired outcome. Employees followed immoral and illegal orders due to coercion. This highlights how corporate culture driven by pressure from leadership, and a perceived need to please authority, can lead workers to prioritize success within the organization over ethical decision-making due to the fear of retribution from their superiors.

Sometimes, the authority isn't a boss or a politician, but just one individual. Stanley Milgram, a psychologist at Yale University, conducted an experiment in the 1960s to learn about the effect of authority on obedience. Thomas and Chaleff describe that "Two thirds of those in the experiment followed the orders of [presumed authority]... to administer electrical shocks to another person" (Thomas and Chaleff). They reveal that despite the subjects believing they may be injuring or potentially killing an innocent person, they obeyed anyway, "administering shocks of up to 450 volts" (Thomas and Chaleff). Milgram's experiment demonstrates how people will follow instructions to inflict harm on others simply because they are told to do so by an authoritative figure. The fact that more than 65% of participants were willing to administer potentially lethal shocks reflects how deeply the psychological need to obey administrators is rooted, to the point of overpowering an individual's empathy or rational judgment. Charles K. Hofling took Milgram's research findings a step further in 1966. Caroline J. Hollins Martin, a senior

lecturer in the School of Health and Social Care, at Glasgow Caledonian University, with Peter Bull, senior lecturer in the Department of Psychology at the University of York, explains that in Hofling's experiment, a "medication order was transmitted over the telephone by an unfamiliar doctor and in violation of hospital policy" and ultimately, the results showed that 21 out of 22 nurses didn't hesitate to attempt to give a patient a deadly dose of medication (Martin and Bull 2008). This shows how the nurses' need to obey a doctor overrode their better judgment, even when they knew their actions would cause an overdose.

A tragic real-life example played out in 1978's Jonestown massacre, where there was a deadly outcome of hundreds of people blindly following the orders of charismatic cult leader Jim Jones. Richard Barrett Ulman, Assistant Research Professor, of the Department of Psychiatry and Behavioral Sciences, New York Medical College, and D. Wilfred Abse, clinical professor of psychiatry, at the University of Virginia and Consultant Psychiatrist, at Wilson Psychiatric Hospital, write about how the cult "was founded on a pattern of interaction that was characterized by his sadistic demand for mirrored grandiosity and their masochistic surrender" (Ulman and Abse 1983). Ultimately, the compound was investigated, but instead of surrendering, he ordered them to all kill themselves. According to Alison Eldridge, a managing editor at the Encyclopedia of Britannica, "The death toll exceeded 900, including some 300 who were age 17 and under, making the incident one of the largest mass deaths in American history" (Eldridge 2021). In this case, the fear of disappointing their leader drove hundreds of vulnerable individuals to prioritize blind obedience, even at the cost of their own lives.

Overall, there is a need to go against the orders of authority when obeying them becomes a question of morality. Although uncommon, there have been times when individuals boldly went against authority and acted on their moral principles, despite knowing there would be consequences. According to Thomas and Chaleff, National Security Agency contractor Edward Snowden was outraged by the amount of information being collected, so he “leaked documents to the media concerning massive amounts of internet and phone surveillance by United States intelligence agencies. He committed several crimes by doing so, including communication of classified documents, stealing government property, and unauthorized disclosure of information vital to national defense” (Thomas and Chaleff 2017). Snowden is different from countless others who, instead, submit to authority. He stood up for what he believed in, despite the pressure, high stakes, and inevitable consequences. Snowden is quoted as saying “I do not want to live in a world where everything I do and say is recorded” (Thomas and Chaleff 2017). He knew that bringing this information to the public would cost him his job and his reputation, but he blew the whistle anyway. Another exception is Elouise Cobell, who vigorously fought until the end of her life advocating for her American Indian community. As said by Melinda Janko, the producer of a feature-length documentary about Elouise Cobell’s fight for justice, Cobell, alone, fought for Indian Americans’ rights to fair compensation for the mismanaged trust funds held by the U.S. government, not backing down despite the uneven power dynamic (Janko 2013). During one meeting with government lawyers, Cobell told the Attorney General, “You ought to be ashamed of yourself... You have got to understand that every day Indian people are dying in Indian communities without the

money that they need for the basics of life, and you ought to be ashamed of yourself” (Janko 2013). This statement shows Cobell’s willingness to challenge authority without fear or hesitation. Cobell and Snowden depict the ability to go against the cultural norm of blindly obeying authority, to help create a statue of courage.

In conclusion, the compelling drive to follow orders, seek approval, and avoid failure often overshadows society’s standards of moral integrity. The psychological ramifications of this can be seen throughout every facet of life, but specifically across the government, in the workplace, and within an individual’s day-to-day life. Recognizing this toxic dynamic is essential to addressing the bigger issue of ethical responsibility while discouraging blind obedience. While there are a few notable occurrences of individuals who went against this norm, unfortunately, these examples are far too rare. It is imperative that society rewards people for having the courage to stand up for what they believe in, to create a culture of greater accountability and integrity.

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The Negative Effects of Childhood Trauma

Abigail Gizersky

According to a jarring quote, “About 64% of adults in the United States reported they had experienced at least one type of ACE before age 18. Nearly one in six (17.3%) adults reported they had experienced four or more types of ACEs” (Centers for Disease Control 2024). This statistic is stated by the U.S. Centers for Disease Control and Prevention as a primary operating component of the Department of Health and Human Services. The statistic shows that a significant portion of the population is exposed to potentially traumatic events during childhood. The Blue Knot Foundation, the National Centre of Excellence for Complex Trauma, continues by explaining, “Childhood trauma can occur when a child witnesses or experiences overwhelming negative events in childhood” (Blue Knot Foundation 2024). The Blue Knot Foundation highlights how childhood trauma arises when a child faces intense, distressing experiences that exceed their ability to cope. These events might include abuse, neglect, loss, or witnessing violence, leaving a lasting impact on emotional and psychological development. Such trauma can disrupt a child’s sense of safety and attachment, potentially leading to complex issues (Blue Knot Foundation 2024). Therefore, childhood trauma has a negative impact on one’s future through nostalgia, identity loss, and fear of change.

Nostalgia can invoke negative emotions about a traumatic past. Tarryn Frankish, professor at Durban University of Technology, and Jill Bradbury, professor of psychology at the University of the Witwatersrand, explain that “trauma and nostalgia are theoretically and practically linked. While nostalgia denotes a positive attachment to a past real or imaginary home, trauma denotes the negative inability to deal

effectively with a past event” (Frankish and Bradbury 2012). By reminiscing, individuals attempt to relive their youth by reflecting on the values and lessons they learned from their upbringing. Nostalgia allows individuals to long for a happier time, often before the traumatic event, creating a sense of comfort and stability (Frankish and Bradbury 2012). However, trauma survivors may struggle to engage with these positive memories because distressing experiences overshadow their past (Frankish and Bradbury 2012). Additionally, Kaytee Gillis, a psychotherapist and the author of 4 books explains that “nostalgia often involves romanticizing or idealizing memories of the past” (Gillis 2024). For trauma survivors, this idealization can feel especially significant because it contrasts with the complex realities they experienced. Trauma survivors might seek refuge from the trauma by romanticizing specific memories, focusing on moments of perceived happiness or safety. This creates a gap between the perfect version of the past and the painful truth of their upbringing, which can heighten feelings of loss, longing, and regret (Gillis 2024). As a result, nostalgia can bring comfort and pain, blending joyful memories with the sorrow of what was lost (Gillis 2024). Furthermore, Imi Lo, a mental health consultant, philosophical consultant, and writer who guides individuals and groups toward a more meaningful and authentic life, explains, “Toxic Nostalgia is a trickster. This trickster will do all they can to trick you down the memory lane of a glorified, imaginary past. Every time you visit the memory lane, you find no new surprise. You come back feeling diminished, depressed, plagued with regrets and self-doubt” (Lo 2025). Unlike healthy nostalgia, which can offer comfort or meaning, this “trickster” form traps individuals in repetitive, unproductive reflection. Ultimately, this pattern can

prevent emotional healing and keep people stuck in a narrative that diminishes their sense of self-worth and possibility (Lo 2025). Evidently, adverse emotions can be created through the feeling of nostalgia.

Childhood trauma survivors can struggle with identity loss due to their past. Rachel Kaadzi Ghansah, an American essayist who won a Pulitzer Prize for Feature Writing in 2018, is an example of the effects and emotions of identity loss through her personal experience. Ghansah illustrates, “Perhaps, because I am now thirty, I’ve found that I want for my mother and her family in a way that even I don’t understand. This hunger for them, a biological tug to return, scares me—a hunger that goes unrequited, since I cannot go back into their arms, their wombs, or their laps” (Ghansah 2012). The “biological tug to return” highlights how this longing is instinctive, tied to Ghansah’s sense of self and identity. However, Ghansah acknowledges that this desire cannot be fulfilled because physically returning to the comfort and safety of their family is impossible, creating a sense of nostalgia that remains her of the adverse memories. This unfulfilled longing emphasizes Ghansah’s struggle to reconcile her present identity with the loss of connection to their past, leaving her feeling disconnected and incomplete. Mehmet Sakiroglu et al., a Professor at Adnan Menderes University, investigate how early traumatic experiences impact emotional regulation, identity formation, and the development of psychological disorders. Sakiroglu et al. define “identity development as the individual’s perception of existing with a unique and specific mannerism and its continuousness. Negative emotions, which gain a place in personality throughout childhood, cause identity confusion” (Sakiroglu et al. 2018). When negative emotions — such as fear, shame, or rejection

— take root during childhood, they can disrupt the process of identity development, leading to identity confusion (Sakiroglu et al. 2018). Furthermore, Mardi Horowitz, a professor of psychiatry at the University of California, continues by saying, “Individuals with identity vulnerabilities before a recent stressor event exhibit heightened likelihood for prolonged symptoms of identity disturbance afterward” (Horowitz 2018). People who already have a fragile or unclear sense of identity before experiencing a stressful event are more likely to struggle with lasting identity disturbance afterward. Since their sense of self may not be stable, the stressor can intensify feelings of confusion, insecurity, or disconnection (Horowitz 2018). Undoubtedly, identity loss can pose a difficulty for trauma survivors.

Trauma survivors’ past can make them fearful of the future. Olga Molina is a member of the Council of Mental Health Experts and explains that “Fear of change is often caused by anxiety and a negative outlook about life usually stemming from difficult childhood experiences or current conditions” (Molina 2018). Trauma can create a deep fear of the future, making it difficult to embrace what is to come. This fear may stem from anxiety about experiencing another traumatic event or the possibility of reliving a similar situation. The uncertainty of the unknown can heighten this fear, making any kind of change feel threatening (Molina 2018). Similarly, Sharon Martin, a licensed psychotherapist, explains, “The stress of change can trigger a sense of danger for someone with a trauma history. The unknown can re-activate a body’s memory, stored with the knowledge that something bad happened when your world changed before. A trauma survivor may appear to react with a fight, flight or freeze response, which may seem to some like an overreaction to something new” (Martin

2019). For trauma survivors, change can feel dangerous, as the unknown may trigger memories of past harm. Their body stores previous experiences as warnings, causing new changes to reactivate feelings of threat. This can lead to the previously explained fight or flight responses, which may seem extreme to others but are instinctive self-protection rooted in past trauma (Martin 2019). Moreover, Tracey Griffin is a staff-licensed mental health counselor and explains, “After you experience trauma, you might find it difficult to remember specific details about what happened” (Griffin 2022). The body, however, remembers how it reacted, such as a racing heart or seeking safety in isolation. This happens because the body's main priority is survival, even if the threat is less visible, like a stressful situation (Griffin 2022). Griffin proposes that trauma survivors may also struggle with mental health issues such as PTSD. With PTSD, the body depends too heavily on its threat response, triggering alarm signals in situations that don't seem dangerous. Over time, change itself may feel threatening, causing automatic fight, flight, freeze, or fawn reactions. Not only can the loss of memories invoke PTSD responses, but it can also create a romanticization of memories of the past, creating a false sense of nostalgia (Griffin 2022). Clearly, childhood trauma can conjure a fear of change in survivors.

Despite some trauma survivors experiencing the harmful effects of nostalgia, it can invoke positive emotions and help them cope with one's traumatic past. Constantine Sedikides et al., a Professor of Social and Personality Psychology at the University of Southampton, explain, “Nostalgia is a self-relevant and social emotion: The self almost invariably figured as the protagonist in the narratives and was almost always surrounded by close others. The canvas of nostalgia is rich, reflecting themes of

selfhood, sociality, loss, redemption, and ambivalent, yet mostly positive, affectivity” (Sedikides et al. 2008). Nostalgia is often centered around the self and the people who matter most, making it a deeply personal and social emotion. For trauma survivors, recalling positive memories from the past can bring a sense of connection, belonging, and identity, offering moments of redemption and hope amidst their struggles. Even though nostalgia can carry complex emotions, it is predominantly positive, providing solace and a reminder of love, support, and a time when life felt whole (Sedikides et al. 2008). Additionally, Johan Norberg is a Swedish author and historian of ideas devoted to promoting economic globalization, which he describes as classical liberal positions. Norberg clarifies that psychologists view nostalgia as a natural and crucial emotional state. Tying our identity to something lasting provides stability, especially when everything around us feels uncertain. Change is inevitable, but individuals need consistency to feel secure. When change happens too quickly, we can lose our sense of control. This is why nostalgia often arises during significant transitions, such as growing up, retiring, moving, or adapting to fast technological progress (Norberg 2022). During times of rapid change, such as transitioning into adulthood, aging, or facing technological shifts, trauma survivors look back to the past for comfort, seeking the predictability and sense of control that may be lacking in the present. Psychologists argue that this yearning for the past helps preserve a sense of identity and grounding amid the overwhelming nature of transformation, reminding us of what has remained constant in our lives (Norberg 2022). Moreover, Dina Simpson experienced a traumatic event and began writing about her experiences. Simpson explains, “Nostalgia takes us back to a period when our life was not so

stressful, a time when the responsibilities were not so heavy” (Simpson 2023). It transports us to our “happy places,” whether that is a cherished location, a favorite song from childhood, or the comforting smell of a loved one’s cooking. These memories are deeply emotional, so we mentally revisit them, allowing a temporary escape and reconnecting with moments of peace and joy from our past, providing a sense of warmth and reassurance (Simpson 2023).

One’s future can be affected by the trauma one faces during adolescence. As previously stated, for trauma survivors, nostalgia can evoke negative emotions by emphasizing the gap between idealized memories and painful realities, deepening feelings of loss, regret, and longing, creating a bittersweet experience where past comfort is overshadowed by unresolved trauma. Childhood trauma survivors frequently face identity loss as unresolved emotions and past experiences disrupt their sense of self, creating confusion and making it difficult to form a stable, cohesive identity, which complicates their understanding of who they are and how to navigate life. Trauma survivors may fear the future because past traumatic experiences trigger anxiety and a heightened sense of danger, making them view change or the unknown as threats. This fear can lead to an overwhelming sense of insecurity and difficulty coping with new challenges. One viable solution is in an article written by Caitlin Geng and reviewed by Janet Brito, a Licensed Clinical Psychologist and Social Worker. Geng explains, “Treatments and management strategies for child and adults who experienced childhood trauma include psychotherapy, support, stress reduction, and a healthy routine” (Geng 2023). For individuals who have experienced childhood trauma, treatments like psychotherapy can help process and resolve past pain, while support from loved ones provides emotional

stability. Additionally, stress reduction techniques and a healthy routine can promote overall well-being, helping trauma survivors regain control, rebuild their sense of identity, and better manage anxiety or fear about the future. Limitations still pose a threat, as therapy is not a solution for all, and people have different ways of coping. Overcoming childhood trauma can be difficult, with many complex emotions involved, leaving a lasting impact on emotional and psychological development.

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Health Risks and Greek Life

Ilan Leff

Stacey Hurt-Milner, an 18-year Student Affairs professional with experience in Fraternity & Sorority life, expresses the degrading culture of Greek life on college campuses. She states that sorority members would often taunt each other with phrases like “She’s fat,” “What makes you think you’re good enough,” and “You are worthless,” (Hurt 2022). Participation in Greek life can lead to an attack on one’s appearance, diminish one’s self-worth, and lower one’s self-esteem, all of which can heavily affect members’ mental health (Hurt 2022). This begs the question: what mental and physical health risks are posed to those who participate in Greek life? The Newport Institute, a nationwide series of evidence-based healing treatment centers, states that 750,000 college students currently belong to Greek life groups (“How Does Greek Life” 2023). Many of these students who belong to a fraternity or sorority end up participating in binge drinking, substance abuse, and conform to peer pressure to maintain their social status (“How Does Greek Life” 2023). With the growing popularity of Greek life, it’s crucial to examine its harmful practices to better understand and address the health risks that hundreds of thousands of students face. Harmful practices within Greek life can lead to a range of health risks for participants, including bodily damage from substance abuse, mental health issues, and physical harm.

To start, Greek life organizations are often associated with increased rates of binge drinking and the misuse of prescription drugs. David Hampton, a Certified Professional Recovery Coach (CPRC), points out, “If a student believes that binge drinking or drug use will make them seem more fun or more cool, they are

more likely to engage in the behavior” (Hampton 2014). This displays how fraternity and sorority members may tend to drink excessively, disregarding the serious health risks of their actions. Dr. Brian Borsari, a health behavior consultant at the San Francisco Veterans Affairs Medical Center, wrote that this social stigma surrounding alcohol contributes to the approximate “600,000 unintentional alcohol-related injuries, and 1,500 alcohol-related student deaths each year” (Borsari 2023). In addition to these alcohol-related accidents, the Centers for Disease Control (CDC) lists the physiological side effects of drinking too much alcohol. The CDC states that drinking too much alcohol can lead to “high blood pressure, heart disease, liver disease, stroke, digestive problems, and a weaker immune system” (“Alcohol Use and Your Health” 2024). Moreover, young females who drink excessively, like sorority members, have a higher risk of developing breast cancer in the future (“Alcohol Use and Your Health” 2024). These severe alcohol-induced detriments display how Greek life poses serious health risks for members. In addition to binge drinking, Kathleen May, Division Chief of Allergy-Immunology at the Medical College of Georgia, states that participation in Greek life can often contribute to the non-medical use of prescription stimulants (NMUPS) (May 2023). In her study with college students, she found that Greek-life members were twice as likely to misuse prescription amphetamine compared to non-members (May 2023). The misuse of amphetamine can result in dangerous side effects like seizures, cardiac issues, and extreme increases in body temperature (May 2023). Students and leaders in these groups must be informed and educated on the medical risks of alcohol and drug misuse to prevent further casualties for members.

Beyond health concerns relating to drug and alcohol misuse, participation in Greek life can lead to a series of mental health issues and stresses for students. Jo Hannah Burch, a past member of a sorority at Young Harris College, recalls how she was forced to participate in traumatizing activities like standing outside in freezing weather, blindfolded, as sorority members would taunt her. Burch stated that “when [she] got home from the nights of being hazed, [she] felt so completely low, so depressed” (Hurt 2022). These feelings of depression and anxiety, induced by these traumatizing experiences, heavily damaged her mental health (Hurt 2023). On the same note, pledging activities in Greek life go beyond getting screamed at and tormented in the freezing night, but they often include morally degrading activities that dehumanize members. According to the official website of Geneseo College in New York, participating in Greek life may require members to complete “humiliating activities (e.g. requiring pledges (new members) to scrub floors or toilets with toothbrushes or requiring pledges to be indecently exposed)” (“Hazing Examples” 2024). Activities like these, where members are indecently exposing themselves, can lead to a series of social anxiety and mental stresses for members as they may get overly embarrassed (“Hazing Examples” 2024). Just as Jo Hannah Burch was forced to go through traumatizing experiences that contributed to her mental decline, many students at Geneseo College risk their self-esteem and mental well-being by engaging in humiliating activities. According to Ashley Mowreader, the Student Success Reporter for Inside Higher Ed, “Sorority members were more likely to report emotional abuse, being touched sexually without consent, being stalked or being a victim of sexual assault... compared to their nonmember female peers”

(Mowreader 2024). This sexual assault and emotional abuse faced by sorority members, according to Mowreader, can lead to a series of mental health issues like chronic hopelessness, being overwhelmed, loneliness, depression, and anxiety (Mowreader 2024). The physical harm from substance and alcohol abuse, combined with the mental stress from sexual assault, highlights the significant health risks of participating in Greek life. Personal therapy should be available to support students in these groups to help them express and resolve these concerns.

Lastly, participation in Greek Life can physically harm members' health. Travis Martin, an Associate Dean of Students and Director of Fraternity and Sorority Life at the University of Michigan, defines hazing as a common practice in Greek life where new members are forced to participate in unethical activities with or without consent. Hazing can lead to physical injuries from activities that include self-harm. For instance, exercising until collapse through extreme activities like “multiple sit-ups, running, or other calisthenics” (Martin 2019). To show how this is possibly detrimental to students' health, Thijs Eijssvogels who studied at the Radboud Institute for Health Sciences in the Department of Physiology, states, “High-intensity exercise can acutely increase the risk for sudden cardiac arrest or sudden cardiac death in individuals with underlying cardiac disease” (Eijssvogels et al., 2018). On the same note, Geneseo College's administration states that another common hazing activity is forcing pledges to eat spoiled foods and ingest or drink noxious substances while hazing (“Hazing Examples” 2024). Luda Kopelovich who is a researcher at Cardno ChemRisk, a consulting firm that works with Poison Control Centers and their research, states the consequences of ingesting nail polish (a

noxious substance), including nausea, vomiting, and irritation (Kopelovich 2015). Additionally, Ashley Williams, a writer for Healthline Media that provides public health information checked by medical professionals, states that common symptoms of eating spoiled foods include nausea, vomiting, diarrhea, and abdominal cramps, and severe cases require medical attention for dehydration or prolonged fever (Williams 2015). Physical risks posed by ingesting harmful substances and alcohol, combined with social pressures and psychologically traumatizing experiences, display how Greek life puts students' health in jeopardy. Awareness and education of these risks are essential to protecting students from harm.

Overall, medical issues caused by alcohol and drug misuse, the mentally degrading environment, and physical detriments resulting from dangerous activities in Greek life pose many health risks for student members. Dr. Brian Borsari states that it's crucial to inform and educate these college students in fraternities and sororities of the consequences of their actions to prevent future harm. Colleges can promote alcohol-free activities and implement education programs to teach responsible drinking and decision-making across Greek life groups to create a safer environment (Borsari 2023). Currently, hundreds of thousands of young adults are putting their health and futures at risk by participating in Greek life, and to protect their well-being and ensure a culture of care, immediate measures must be taken to protect them.

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Effects of Negative Leadership on Subordinates

Natasha Shor

As referenced by *Encyclopedia Britannica*, ‘the end justifies the means’ (Mansfield, 2024), or so was argued by Italian Renaissance philosopher Niccoló Machiavelli who promoted the concept in his famous work, *The Prince* (Mansfield 2024). James Rick and John Fraedrich, associate marketing professors at Southeast Missouri State University and Southern Illinois University define the philosopher’s branding of Machiavellianism as “a process by which the manipulator gets more of some kind of reward than he would have gotten without manipulating” (Ricks and Fraedrich, 1999). How can Machiavelli’s cynical idea be applied to the modern concept of unethical leadership and demonstrated that it is incorrect? A Professor of Management and Leadership at the University of Melbourne, Sen Sendjaya et al., answered this question by positing that selfish leaders directly embody the Machiavellian concept, using any means necessary to reach their desired outcomes, regardless of which subordinates they hurt in the process (Sendjaya et al., 2016). Thus, it is argued that Machiavelli is wrong, the end does not justify the means, and leaders who employ intimidation and fear tactics in their self-interest will do more harm than good. Understanding Machiavellianism as an issue may help protect subordinates from abuses they might face. Examining the treatment of soldiers in the military, employees in the workplace, and athletes in sports will further underscore this point.

To start, the culture and abuses of soldiers within the military highlight the negativity of Machiavellian leaders. Ted Thomas, director of the Department of Command and Leadership in the U.S. Army Command, and Ira Chaleff, president of Executive Coaching and Consulting

Associates in Washington, DC, point to the culture of the military as the root of its problems: “Military culture is replete with such terms as ‘make it happen,’... ‘check the block,’ ‘what happens in theater stays in theater,’ and ‘make your statistic’” (Thomas and Chaleff, 2017). Though these mentalities may help further the productivity of commanders and may get them to the top, they can potentially encourage “immoral, unethical, or illegal behavior” (Thomas and Chaleff 2017). In this context, the commander is willing to do anything to help the unit's success, potentially allowing for abuse to occur. The negative effects of authority figures' attempts at domination are evidenced by the purposeful loss of faith during World War II (Bergen, 2001). Doris Bergen, professor of Holocaust Studies at the University of Toronto, posits that the Nazi regime was against religion: “Hitler and his inner circle of friends made no secret of their contempt for Christianity, a religion they considered nothing but diluted Judaism propagated in a conspiratorial effort to weaken the so-called Aryan race” (Bergen, 2001). While authorities were threatened by Christianity as something that could deter their rule, this belief eventually spread to their young conscripts. (Bergen, 2001). Faith could have deterred many horrors committed during the Holocaust as it would have provided a spiritual outlet for them (Bergen 2001). However, Hitler's insistence on achieving ultimate power, no matter the consequences, discredited faith, and deprived soldiers of a connection with God. The modern Russian Army serves as another example of abuse in the military. Iva Savic, a project analyst at a weapon disarmament non-profit in Serbia collaborating with the United Nations and a graduate of Columbia University, explains that since the fall of the Soviet Union, the number of conscripts has fallen dramatically (Savic, 2010). Needing to fill these units, recruitment officers use

any strategy necessary to obtain more soldiers, ignoring medical waivers or even acquiring youths randomly: “[Men] picked up on the street, in the metro...or from their apartments and taken, often by force, to military enlistment offices” (Savic, 2010). The young men are under tremendous pressure from authority figures and often get threatened by detrimental practices such as “Dedovshchina” (Savic, 2010). This procedure is the hazing of young soldiers to keep them disciplined: “Newcomers essentially have no rights...They are ‘not eligible’ to eat, wash, relax, sleep, be sick or even keep track of time...[and are subject to] degrading treatment, systematic and violent beatings, denial of medical care, and detrimental living conditions” (Savic, 2010). The young men live under a constant threat of violence, directly perpetrated by commanders. This has drastic effects on the physical and mental health of conscripts (Savic, 2010). In 2008, for example, out of the 471 non-combatant deaths in the army, 231 were suicides, whose deaths were linked to Dedovshchina and the inability to stand up for their rights (Savic, 2010). Although sometimes successful in battle, this army culture has many drawbacks as it hurts soldiers and civilians. The commanders fit the description of Machiavellian leadership, demonstrating that this mentality is damaging. In such organizational structures, the moral courage of subordinates is lacking due to the influence of abusive leaders.

Moral courage could also be applied in the civilian context such as the workplace. While strong employees are vital for a successful business, leaders are often corrupted and selfishly abuse subordinates (Thomas and Chaleff, 2017). Thomas and Chaleff, affirm that “leaders who stress ends or results over means or methods will breed dishonesty and reap the results of a culture which says one thing and does another” (Thomas and Chaleff, 2017). The

researchers explain that corporate organizations often become corrupted due to their leaders and culture, citing Volkswagen as an example, where employees “equipped 11 million of its cars with software designed to lie about emission tests. This deception started over a decade ago when their leaders knew they could not meet the United States clean air standards” (Thomas and Chaleff, 2017). In a corporate culture that prizes only profit, it takes moral courage and strength to stand up to this corruption, but it is difficult to do so. Jamie-Lee Campbell, a doctor of psychology, and Anja Göritz, a professor of behavioral health technology at the University of Augsburg, affirm that “corrupt organizations expect their employees to facilitate criminal behavior to attain organizational goals” (Campbell and Göritz, 2014). Such expectations will cause the workers themselves to lose their way and indulge in behaviors such as “abstaining from blowing the whistle when witnessing corruption” (Campbell and Göritz, 2014). In this context, the employees lack moral courage and are forced to become the Machiavellian perpetrators themselves, for fear of losing their jobs and status. In addition to fear, Joanne Leck and Bella Galperin, professors of management at the University of Ottawa and Tampa, highlight common employee bullying and explain that in the United Kingdom “as many as 53 percent of employees felt like they had been bullied at work at some time in their life” (Leck and Galperin, 2006). This hierarchical bullying and eventual stress leads to pathological problems and disorders. It induces anxiety, insecurity, suicidal tendencies, and even homicidal feelings (Leck and Galperin, 2006). Bullying employees to perform comes at a very high cost, one that is detrimental. The hazardous effects on employees show that even the possible productiveness of the company and the use of Machiavellian immorality are less

important than the well-being of the organization's members.

It is also important to examine the nature of competitive sports. While the coach-athlete relationship is vital to the development of the athlete, coaches often abuse their power (Stewart 2014). Craig Stewart, professor of health and human development at Montana State University, affirms that "abusive coaches and their treatment of athletes have become an all-too-frequent occurrence in sports. The abuse occurs at every level and too often it is either ignored ...or excused" (Stewart, 2014). Competitiveness pressures coaches: "Coaches at every level are constantly evaluated by parents, administrators, boosters, and a society that places overt importance on winning. When the primary measure of athletic success is winning, coaches are placed in a position of constant appraisal" (Stewart, 2014). These pressures may result in a negative coaching style that ultimately harms the athlete. This suffering can be seen with mental effects. Stewart points out that in a survey of youth athletes, "over 75% had been emotionally abused by their coach... conveying to the young person that they are worthless, defective, damaged, unloved, or endangered" (Stewart, 2014). This abuse leads to anxiety, poor motivation, and eventual burnout (Stewart, 2014). These statistics demonstrate how often abuse takes place in sports and the vast negative effects on the lives of subordinates. Julia Smith, a senior at the University of Hamilton and a *Spectator* staff writer, examined Eteri Tutberidze, one of the most successful Russian skating coaches whose style exemplifies abuse in sports (Smith 2022). In her article, she points out that though Tutberidze's methods are superficially successful, records of training skating superstars like Evgenia Medvedeva and Yulia Lipnitskaya, show that the results are actually extremely damaging: "Tutberidze

expects her skaters to have extremely low body weights, as the triple and quadruple jumps that she champions rely on prepubescent bodies instead of a sustainable building of muscle and strength" (Smith, 2022). As a result, serious physical injuries and eating disorders are common for her skaters, leading to excessively early retirement (Smith, 2022). For example, Yulia Lipnitskaya retired at the age of 19 citing hip injuries and anorexia, and Evgenia Medvedeva at 22 due to a back injury (Smith, 2022). Coaches like Tutberidze, embody the Machiavellian personality and use any means necessary to win, disregarding completely their young athletes' mental and physical states. This is a dangerous reality. It shows that, in most cases, the trophies and power of coaches come at the expense of a child's happiness and well-being. Such behavior is immoral and Machiavellian, and should not justify superficial victories.

Despite claims made by the majority that the end does not justify the means, Machiavelli and others argue that the use of harsh discipline is necessary for making strong soldiers, efficient employees, and winning athletes. Some claim that, though Russian Army practices may be seen as immoral, they are often necessary to discipline a rowdy soldier and help shape combat: "Disciplining eighteen-year-old boys is hard enough. Interviewed officers claimed a method of recruitment that prefers a more unhealthy and unruly pool of soldiers, not to mention those forced into service, makes it even harder" (Savic, 2010). Leaders sometimes believe that there are sometimes harsh, yet necessary steps a person in a position of power must take to help get their subordinates back on track (Savic, 2010). Marcus Thompson, a lead columnist in San Francisco, also argues that in some cases, the end justifies the means. In Thompson's article, he discusses Simone

Biles, the most famous modern gymnast, and her athletic journey. Thompson writes, “This is Simone Biles... The same woman who named herself as a survivor of a sexual assault ring” (Thompson, 2021). He suggests that though Simone Biles had suffered much, especially being subjected to sexual abuse by her trainer, in her case, the end did justify the means. Her perseverance and courage in the face of a traumatizing experience made her a stronger athlete and person. In his view, the harsh approach, though morally wrong, helped Biles achieve greatness. However, cases where the Machiavellian approach betters subordinates are indeed outliers. Too often, leaders who abuse their power are not ethical in their approach and harm their subordinates.

Based on the analysis above, it is imperative to address the problem of corrupt leadership. Changing the values of an organization where harmful and selfish leadership prevails is vital. An analysis done by Yinchung Wang, professor of pediatrics at Emory University, and Baiying Yang, professor chair of the Human Resources Department at Tsinghua University, points out that the type of culture matters. Leaders in high-power distance relationships in societies like China, are most likely to use hard-tactics or abusive ways against their employees (Wang and Yang, 2017). However, in low-power distance relationship societies, like America, “when the [authority] treats the [subordinate] in an unfair way, we believed that the [subordinate] would respond with the use of aggressive and forceful hard tactics, regardless of the target’s position” (Wang and Yang, 2017). Implementation of a freer environment, where subordinates do not feel intimidated by their authority to use moral courage and stand up for themselves, would reduce the issue significantly. To do so, it is important to understand the importance of hiring coaches, employers,

and generals based on their values of moral leadership (Wang and Yang, 2017). Sen Sendjaya et al. contribute: “Findings suggest that organizations should actively recruit and select leaders who possess low Machiavellianism” (Sendjaya et al., 2016). Hiring based on ethical leadership values focuses on what is good for the organization as a whole, while still keeping employees safe. This can be applied to all fields: eliminating military abuse, creating safer workplaces in which employees are less likely to be bullied and become corrupt, and helping young athletes win while staying safe. Abuses of subordinates in the pursuit of their leader's selfish interests are often detrimental to subordinates' well-being. If reform does not happen, suicides in the Russian military, homicidal feelings with employees of corrupt companies, and behaviors such as anorexia in sports will proliferate. Thus, understanding the devastating effects of Machiavellianism on subordinates is vital. Niccoló Machiavelli was not right; the end does not always justify the means and usually hurts many people in the process.

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Formula 1's Impact on the Environment

Yahli Kotler

According to Hannah Ritchie, a researcher at the Oxford Martin Programme in Global Development, and Max Roser, Programme Director of the Oxford Martin Programme in Global Development, “carbon dioxide emissions are the primary driver of global climate change” (Ritchie, Roser 2024). According to Formula One’s 2019 impact report, the organization emitted 256,551 tons of carbon dioxide. The statistics showed that 45% of emissions came from logistics, 27.7% from business travel, 19.3% from facilities and factories, 7.3% from event operations, and 0.7% from the engines of the vehicles (“F1 2019 Impact Report” 2019). Since the release of this report, F1 has made significant changes to promote sustainability and reduce its carbon footprint, which has completely changed the sport and how it is viewed. Drivers and engineers have different opinions on the sport's changes and future. Formula 1, proving that it is capable of becoming fully sustainable, could considerably benefit the environment and help reduce climate change because other racing organizations would make similar changes. Overall, F1 harms the environment but is on the right path to becoming fully sustainable.

Formula 1 has made many changes in the past few years to reduce carbon emissions and become more sustainable. For instance, Stewart Mitchell, a technical researcher and engineering journalist, states, “Formula 1 introduced new fuel regulations for 2022, including a 10% ethanol fuel percentage” (Mitchell 2022). In relation to this, the Driving, Boating, and Transport sector of the New South Wales government states, “E10 fuel can lower greenhouse gas and other emissions that cause serious health and environmental damage” (“E10 and the

environment” 2021). As a result, F1 experienced a 13% decrease in carbon emissions by the beginning of the 2023 season (“Formula 1 2023 impact report” 2023). The fuel adjustment indicates a change made by F1, positively impacting the environment, which shows the organization staying proactive towards its cause. However, this change may not have been beneficial to the vehicles. Hywel Thomas, the engine chief for the Mercedes F1 team, talks about issues of using the E10 fuel: “The engine is going to react slightly differently to the fuel. Some areas of the performance we are really happy with, and other areas... honestly, we are less happy” (Thomas 2022). Although the changes may benefit the environment, he still believes that the fundamentals of the sport are essential and the engine’s efficiency is crucial to his team's success. In summary, Formula 1 has already made positive changes to reduce emissions and plans to become fully sustainable in the near future.

Formula 1 has plans to implement changes in the coming years that will completely change the dynamics of the sport and how it is viewed worldwide. To begin, Samarth Kanal, a staff writer for Formula 1, talks about the upcoming changes to the engines of the F1 cars: “The new F1 power units will run on fully sustainable fuels” (Kanal 2022). He then says that “in 2013, 160kg of fuel was used in a race; in 2020, that stood at 100kg; and in 2026 F1 is aiming for each car to use just 70kg of fuel during a Grand Prix” (Kanal 2022). In relation to this quote, Lucas Di Grassi, a former Formula 1 and Formula E driver turned journalist, talks about the increase in electrical power: “The electrical power output will almost triple from 120kW to 350kW...But it should be noted that the new V6 engines will be less efficient” (Di Grassi 2023). Formula 1 plans to make all of these changes to benefit the environment;

however, they will compromise certain aspects of performance. F1 is prioritizing the environment because it understands that the future of the sport relies heavily on the changes it makes today. Many F1 drivers support this approach. For example, Lewis Hamilton, a driver for the Mercedes F1 team, states, “In terms of the things that I’m doing in my life, I’m trying to make sure that I’m carbon neutral at the end of the year...I have a new smart electric (car) at home” (Medland 2019). On the other hand, when Max Verstappen, driver for the Red Bull F1 team, is asked the same topic, he responds, “I like fuel...I don’t like electric stuff” (Medland 2019). Although drivers have differing opinions on the future of the sport, ultimately, they will all have to accept the drive to sustainability as F1 already has plans for their future to ensure they do not harm the environment. However, there are still problems hindering the sport from reaching its goal of being sustainable.

Although Formula 1 has already addressed many issues regarding sustainability, there are still aspects that the sport must work on before being considered fully sustainable. This is evident in research done by Hope Ross, a student at the University of Strathclyde Glasgow, in which she calculates, “The estimated air freight emissions produced by F1 in 2019 [was] 77,414 tonne” (Ross 2020). Air travel is the primary source of carbon emissions for the F1 organization, and it has yet to address this problem which prevents it from reaching its goal. To further illustrate this, Jack Graham, a journalist for the Thomson Reuters Foundation, writes about a statement from Benjamin Stephan, a transport expert at Greenpeace Germany, in which he states, “He pointed out that in 2024 there are a record 24 grands prix, compared to 22 in 2023 and 16 when he first started watching as a child” (Graham 2023). Similarly, Madeline Coleman, a Staff Writer

following Formula 1 for the New York Times, talks about how the sport must work on grouping the calendar better: “Although the sport said it wanted to better group the calendar regionally to reduce travel, the placement of the 23 races in 2023 slate is hardly mileage efficient. For example, races in Azerbaijan and Miami are back-to-back, but nearly 7,000 miles apart” (Coleman 2023). F1 states they are working hard to benefit the environment, however what it has been doing seems counterproductive. One can see that F1 must make changes to reduce the distance teams must travel to deliver their equipment to each race, which would lower the total amount of carbon emissions. In a separate article, Madeline Coleman talks about another way that F1 could reduce its carbon footprint; she states, “Mercedes was the first global sports team to invest in it(Sustainable Aviation Fuel). The F1 team estimated that using SAF would reduce its personnel’s air carbon footprint in half” (Coleman 2024). There is a way to reduce emissions; however, only one team has invested in it, which demonstrates how there is not enough attention within the organization towards this topic. The reader can see that F1 should invest in SAF to reduce its total carbon footprint. Therefore, it is evident that Formula 1 must continue to work on ways to lower carbon emissions regarding air travel.

Overall, Formula 1 is detrimental to the environment, but as of recently, it has been striving towards becoming fully sustainable, and it has work to do before reaching this goal. The changes that F1 has made and plans on making in the next few years prove they are being proactive towards their cause. However, to reach their goal, they must develop new fuels to reduce their travel emissions. Looking at the bigger picture, F1 must make these adjustments because it is just one of many racing organizations worldwide. If they prove it is

possible to become fully sustainable, many other organizations will benefit from this as they would understand that they are capable of making similar changes. This would benefit the environment tremendously and could change the path in which the planet is currently heading.

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The Stigma Surrounding Mental Health *Edden Elmalich*

According to Samantha Weber et al, Department of Nursing and Health Science, at Limestone University, “The risk of depression in collegiate student-athletes ranges from 15.6% to 33.2%” (Weber et al. 2023). Mental health has become a form of stigma that is negatively viewed by society. This is seen as athletes try to hide the status of their mental health, as shown by Jay Hyber, Vertimax coach and blogger with years of experience. Hyber states, “In sports culture, there can be a tendency to 'play through the pain,' to refuse to show weakness” (Hyber 2024). Post-traumatic stress disorder, also known as PTSD, is another form of mental health that is overlooked. According to Liana Zanette et al, educators and scholars at the Department of Biology of the University of Western Ontario, stating that “PTSD is the cost of inheriting an evolutionary primitive mechanism that considers survival more important than the quality of one’s life” (Zanette et al. 2019). The fear-induced PTSD in animals is similar to how athletes react to stressful situations. According to Marcus Thompson II, a lead columnist at The Athletic known for his writing on Bay Area pro sports, Simone Biles faced mental health issues and had to decide whether to stay in competition or not when Biles states, “I was fighting all those demons. I just don't trust myself as much as I used to. Never felt like this before. No, the mental is not there” (Thompson II 2021). Simone Biles relates to how animals deal with PTSD by using the flight or fight response before she lets the stigma of mental health destroy her performance. Thus, the stigma of mental health affects athletes' performance, causing injuries, disruption between teammates, and ultimately poor performance.

Athletes with mental health issues can suffer from reaggravation of injuries as well as initial injuries. Priscila Marconcin et al, a doctor and professor from the Autonomous University of Chile, states that “The most common depressive symptoms are the loss of energy, increased fatigue, the difficulty thinking, concentrating, or making decisions” (Marconcin et al. 2023). Mental health issues cause severe fatigue, which causes athletes to have shortness of breath. This shortness of breath makes athletes more susceptible to injuries that can cause months of rehabilitation and recovery. Marconcin also states that athletes with mental health issues have a hard time thinking and concentrating, which could make them more vulnerable to getting hit in sports like boxing, UFC, and Formula 1. Davis Rogers, a clinician with over fifteen years of experience, conducted a study where “In the German First League, approximately of sampled injured soccer players surveyed wanted psychiatric support during their tenure; this cohort of players had significantly higher mean depression scores, yet only 10% reported receiving psychiatric intervention during their career” (Rogers 2024). Over 40% of injured players wanted mental health support during their career, while only 10% reported getting that psychiatric support. This signifies the stigma around mental health and how organizations are not giving their players enough mental stability during their tenure to keep their mental health strong. According to Joanne Barker, a faculty member within the American Indian Studies Department at San Francisco State University, “In one study of ACL reconstruction patients, those with higher levels of fear were 13 times more likely to suffer a second ACL tear within two years of returning to sports than those who were less fearful” (Barker 2021). People with mental health issues are 13 times more likely to reaggravate an injury

because of all the stress and anxiety going on with their mental health. Mental health problem affects rehab and reconstruction after the first injury, especially when the injury is as severe as a torn ACL, which could take “6-9 months,” according to the Cleveland Clinic, an infamous clinic known for its knowledge of medicine and science. As shown by Simone Biles, mental health has the possibility of causing injuries similar to animals with PTSD.

In addition to injuries, mental health issues also create friction between teammates, which could affect their team performance. Charlotte Scott et al, researchers from the University of Oxford who discuss athlete mental health, stated “Male and female athletes with poor psychological well-being (i.e., high levels of anxiety or depression) are more susceptible to negative teammate influences, while athletes with good psychological well-being (i.e., high self-esteem) reap the protective benefits of supportive teammate friendships” (Scott et al. 2020). As shown by Scott, athletes with mental health issues get into arguments or negative interactions more frequently than athletes without mental health issues. These arguments are because of the stigma surrounding mental health, as teammates fail to recognize the issues with their successors, which leads to bad leadership and performance in the sport. According to Brittany Ghiroli, a senior writer for The Athletic covering MLB, “Duchscherer, who spent the majority of the 2010 season on the IL, signed a one-year deal with Baltimore in 2011. He was categorized as “crazy” by people on the team in at least two situations directly witnessed by this reporter. Duchscherer admits that, “it altered the perception of [him]” (Ghiroli 2023). Duchscherer, who struggled with mental health issues, did not seek the proper therapy to help deal with his anxiety because of the stigma surrounding

mental health, which altered his teammates' perception of him, calling him names like “crazy”. Duchscherer dealt with a lot of trauma and pain, and his teammates called him names like “crazy” as a result of this, instead of giving him the proper support to prosper, which caused a lack of chemistry between the team. ESPN, an entertainment and sports programming network with over fifty years of experience, interviewed Ben Simmons, NBA superstar, on his mental health when he stated, “All I wanted, was help. I didn't feel like I got it from coaches or teammates. -- but I didn't feel like I got that, and it was just a tough place for me” (ESPN 2022). Ben Simmons, who dealt with mental health issues during his tenure with the Philadelphia 76ers, spoke about how his teammates and organization did not do enough to help him deal with his psychological health. Ben Simmons stated that he dealt with a lot of criticism from the fans during his time with the 76ers for his lack of performance, and the lack of support from his teammates put him in a rough state of mind. The 76ers organization suffered from this as there were often various incidents between players and coaches, which affected the chemistry between the team. Overall, the perception surrounding mental health negatively affects chemistry between teammates as there is a failure of support between them.

Ultimately, the image surrounding mental health issues affects an athlete's performance on the court, as shown by Simone Biles before she quit competition because of her psychological health, according to Marcus Thompson II. Isaac Aleman, an iNews Class Reporter with over ten years of experience, reported on John Wall, a former NBA phenomenon, stating, “In December 2019, Wall’s mother passed away from breast cancer, which pushed him over the edge. He was even considering suicide. My brother Jose, a fan of the NBA,

said, “It was hard seeing him like that. His body gave up on him, the Team gave up on him, and his mental health gave up on him” (Aleman 2021). The death of John Wall’s mother affected his mental health, making him consider suicide and pushing him into depression. John Wall did not seek help during this time because “So my whole mentality, no matter the situation, was always, ‘I don’t need anybody’s help. I’ll figure it out. I’ve gritted through everything else, so why not this?’” (Aleman 2021). John Wall was later traded from the Washington Wizards to the Houston Rockets as his performance was falling heavily. According to Haley Van Horn, a writer and editor for People.com with over a decade’s worth of experience involving pop culture, sports, and crime, “Jace died by suicide in April 2020 — he was 31 years old” (Van Horn 2024). In 2020, after the death of Dak Prescott’s brother, his stats suffered severely according to ESPN, an entertainment and sports programming network with over fifty years of experience, his statistics on the football field dropped from 4,449 passing yards and 37 touchdowns to 1856 passing yards and 9 touchdowns the year his brother died (ESPN 2022). The death of Dak Prescott’s brother, Jace, caused Dak to go into severe depression because his mother was also struggling with depression, according to Haley Van Horn, a writer and editor for People.com with over a decade’s worth of experience involving pop culture, sports, and crime. The stigma surrounding mental health forbade Dak from getting the right help, which ultimately affected his stats and win percentage as a team. Sarah Farris, a psychological counselor and writer with eleven years of counseling experience and over 20 years of psychology experience, stated, “An athlete may feel overwhelmed, distracted, and doubtful when tension builds up. If an athlete’s performance is more directed towards alleviating anxiety and less

towards development, conditioning, or achieving sport-specific goals, then anxiety is likely interfering with athletic performance” (Farris, 2013). Athletes who are more focused on fixing their mental health issues and alleviating anxiety levels tend to put less focus on their sport, which causes a lack of performance. Athletes spend more time in individual therapy rather than team therapy because of the stigma surrounding mental health, which causes less development and conditioning, and this can cause a lack of individual performance and even a team win percentage. The negative perception of mental health in athletes affects their individual and team performance, which can similarly relate to the fight-or-flight responses animals undergo as they are forced to decide whether or not they will quit.

Although there are many negative effects of the stigma surrounding mental health, some research shows that it can also have beneficial effects. Thompson II explains how Biles withdrew from the competition due to psychological issues. This helps get rid of the stigma surrounding mental health as she speaks out and informs people about the issues of mental health rather than conforming to societal norms (Thompson II 2021). Dave Quinn, a Senior Editor for PEOPLE Magazine, working across several verticals including the Entertainment, Lifestyle, and News teams, reported a conversation between Lebron James and Kevin Love, two infamous NBA players, when they sat at the end of the bus. James stopped. Love to say, ‘You helped a lot of people today. It’s important.’ When Love responded with “That was super powerful for me, not only is he the best athlete in the world, the best basketball player in the world, but his influence and having my back with that was super important to me” (Quinn 2018). The stigma surrounding mental health can have a

positive effect on teammates as they can strengthen their bonds with one another. Kevin Love says that LeBron James helped him through his depression fight and now they are “brothers for life” (Quinn 2018). Having awareness of mental health can create a close bond between teammates as they are forced to lean on one another. According to the Performance Pursuit, a performance consulting organization that serves athletes, coaches, and exercisers but also professionals from all fields with over five years of experience, “Some performance-enhancing factors come with experiencing the emotion of anger, such as an adrenaline release (increased energy), increased pain tolerance, and increased strength” (Performance Pursuit 2024). Anger and sadness in athletes can affect their performance positively, as athletes can see an increase in adrenaline, which could help them in sports where pain tolerance and strength are needed. The stigma surrounding mental health could positively affect athletes' performance as they are seen to have more energy because of the anger within them. All in all, there could be a counterargument to the claim that the stigma surrounding mental health negatively affects the way athletes perform.

The perception of mental health negatively affects the way athletes perform. Philip Drost, a journalist with the CBC with over 5 years of experience interviewed a former Toronto Raptors coach who said, "He should be credited across the NBA," "By him putting that tweet out, [there's] no telling how many lives he saved and how many players he helped to make it, not such a bad thing to ask for mental help” (Drost 2024). This provides a possible solution to speaking out against the stigma surrounding mental health and making it a societal norm rather than a negative connotation. The fear of injury, deterioration of team dynamics, and subpar performance are all outcomes of

the stigma surrounding psychological health. Society must realize the perception regarding mental health and use it as a way to normalize mental issues. In conclusion, overcoming the perception surrounding mental health in athletics is crucial for fostering a healthier, more supportive environment that allows athletes to perform at their best.

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Dead Musicians are More Revered Than Those Alive

Yael Regev

Freddie Mercury, Queen's frontman and singer, once said, "I will be a legend," and it became true for him and many other musicians (Mercury 2025). Jimi Hendrix, John Lennon, and Elvis Presley are some musicians who died relatively young, yet remain revered musical figures. Many artists have iconic titles, such as Selena Quintanilla, the queen of Tejano music, and Elvis Presley, the King of Rock and Roll. These nicknames were used during their lives but ultimately became more popular after their deaths. While living musicians like Madonna and Dolly Parton have similar titles, their longer lives make them less nostalgically revered by society and could evoke a weaker emotional connection in audiences. Nostalgia influences the reverence of musicians. Johan Norberg, a Senior Fellow at Cato Institute, identifies different types of nostalgia: collective and historical. He defines collective nostalgia as, "the emotional attachment to collective cultural identities" and historical nostalgia as, "a generalization about what the past was like ... the good old days" (Norberg 2022). Both forms of nostalgia elevate a musician's admiration after death and change their cultural significance over time. Sam Smith, a freelance music writer, reviewer, and radio broadcaster, believes that nostalgia is a tool the music industry constantly utilizes (Smith 2018). Smith writes, "The nostalgia market is enormous in the music industry" and that, "As long as people ... are willing to pay, nostalgia in music will stay" (Smith 2018). Nostalgia is a marketing tool that preserves the legacies of musicians. Society admires musicians who perished more than musicians who are currently alive; this is seen in musicians who died young, those

who are still active in their careers, and those who died as legends.

Society revered musicians who died young more than those who are still alive. This is seen with artists like Jimi Hendrix, Amy Winehouse, and Selena Quintanilla. Hendrix passed at 27, and according to Encyclopedia Britannica writer, Charles Shaar Murray, he fused music genres to "redefine the electric guitar" (Murray 2018). Tantri Wija, a writer for the Seattle Times, writes that Hendrix was originally buried in his family section of a cemetery with a simple grave, but his father believed that his son needed a memorial befitting his remarkable life (Wija 2024). Due to this and the amount of traffic his gravesite saw, in 1995 he created a larger monument for his son (Wija 2024). Similarly, Amy Winehouse, an English singer-songwriter, passed away at 27 years old, from alcohol abuse. According to BBC News, the British Broadcasting Corporation, in 2014, she was honored with a statue by Scott Eaton, a sculptor who explores the human figure, meant to showcase her personality, strengths, and insecurities (BBC News 2014). Four years after her passing, a critically acclaimed documentary, "Amy" was released using personal testimonies and archival footage to "present an intimate portrait of ... Amy Winehouse" (IMDb 2015). Keith Caulfield, the Managing Director of Chart and Data Operations at Billboard, reports that in 2010 she had 239,000 downloads (Caulfield 2012). However, eight days after her death, she sold 281,000 songs (Caulfield 2012). In just eight days, Winehouse had more downloads than in a year. Hendrix and Winehouse are two members of the '27 Club' which consists of musicians with high fame that died at 27, showing how society is fascinated with musicians post-death, rather than during their lives. Moreover, Selena Quintanilla was an American singer, who performed

songs in the Tejano genre. Quintanilla was dubbed by her fans as the “Queen of Tejano [Music]” but was shot in 1995 by “the founder of her fan club, Yolanda Saldivar” (Britannica 2024). Kimberly Manning, a writer and communications expert for Biography.com, writes that the same year, her posthumous album *Dreaming of You* was released and “topped the Billboard 200 chart” (Manning 2021). Her album topping the charts shows how people are nostalgic and continue to adore her after her death. To continue, Deborah Paredez, author of a book about Quintanilla's life, writes how Quintanilla's family opened a museum in her honor “in response to the thousands of fans who visited the recording studio following her death” (Paredez 2009). The museum has become such a staple of Quintanilla's life that, according to Google Arts and Culture, which partners with museums and organizations for content, the museum is one of the “top tourist attractions ... attracts visitors from throughout the country and around the globe” (Google Arts and Culture 2025). The memorials made for Quintanilla reveal how society revered her after death. These examples illustrate how nostalgia elevates the musician's admiration after their deaths, preserves their legacies, and makes them more revered after death than during their lifetime.

Furthermore, some artists died after their careers rose, but still had room to evolve. This includes John Lennon, Bob Marley, and Freddie Mercury as they died during their active careers. According to Britannica, in 1980, John Lennon was “shot to death by a deranged fan,” similar to Selena Quintanilla (Christgau 2018). Since then, he has been honored with multiple memorials, including a Central Park memorial and a statue. Built in 1985, 5 years after Lennon's death, the “Strawberry Fields” memorial in Central Park, named after the song “Strawberry Fields Forever”

contains a mosaic completed with the word *Imagine* after one of Lennon's most popular songs, (Central Park Conservancy 2025). Additionally, a professional Beatles London tour guide, Richard Porter, writes how the sculpture “entitled ‘Imagine’ ... is set to grace ... Carnaby Street ... on what would have been his 81st birthday” (Porter 2021). In 2008, Rolling Stone Magazine ranked him among the 5 greatest singers of all time (Rolling Stone 2018). This list was compiled in 2008, 28 years after his death, further illustrating how nostalgia and death have a role in a musician's legacy as without his death, Lennon likely would not have been included on the list. Similarly, Bob Marley became more revered after his passing. Bob Marley was a Jamaican singer-songwriter and guitarist who passed away at 36 years old. Timothy White from Britannica writes that though “his songs were some of the ... most critically acclaimed music ... Marley is far more renowned in death than he had been in life” (White 2019). However, unlike Lennon, Marley's legacy was not honored through many statues or mosaics, but through his hairstyle which became largely popular after his death. White continues to write about how his “dreadlocks hairstyle... became popular in the United States and other parts of the world” mainly through Marley's popularity and cultural influence (White 2019). 20 years after his passing, he was given the “Grammy Lifetime Achievement, an honor given to ... ‘performers who during their lifetimes, have made creative contributions of outstanding artistic significance to the field of recording’” (Bob Marley 2020). This award shows how Marley made an impact after his lifetime, solidifying his status as a legend. Freddie Mercury, Queen's iconic frontman, died in 1991 due to complications related to AIDS. According to the Public Broadcasting Service (PBS), in 1992, the surviving members announced the start of the Freddie

Mercury Tribute Concert in Wembley Stadium, featuring legendary singers including Elton John, Robert Plant, David Bowie, and others (PBS 2025). This tribute concert unites people in collective nostalgia, allowing people to relive memories of Mercury. IMDb, a website that provides information on popular culture that verifies information with studios and filmmakers, states how he is also commemorated through a biopic, *Bohemian Rhapsody*, released in 2018, titled after one of the band's most well-known songs, this biopic goes through the start of Queen to the end of Mercury's life, as an official memorial to him and the legendary band (IMDb 2018). As mentioned by Sam Smith, the music industry uses nostalgia as a tool and this biopic is an example of this, as it uses historical and collective nostalgia to revive or create an interest in Queen's music for old and new fans. These tributes demonstrate how society reveres musicians more after their passing, showcasing how nostalgia is used to admire and solidify these musicians' status as icons.

Lastly, some musicians were already known as legends at the time of their death, including Elvis Presley, Prince, and David Bowie. According to Encyclopedia Britannica writer, Dave Marsh, Presley is known as the "King of Rock and Roll" and after his passing, his mansion, Graceland, was turned into a museum which is now one of the top tourist attractions in the country, offering a glimpse into the past (Marsh 2019). According to its website, his wife, Priscilla, turned the mansion into a museum in 1982, five years after his death (Graceland 2025). More recently, in 2022, a movie, *Elvis*, was released about his life, from birth to death, showing all the complexities of his life, and creating a new sense of admiration for his life and music (IMDb 2022). Additionally, Prince has many memorials. Prince died in 2016 due to a drug overdose. According to Biography.com

editors, he was so loved by his fans that after his death, "thousands of mourners sang 'Purple Rain' in downtown Minneapolis on the night of his death" (Biography 2021). This reflects the collective nostalgia the thousands of mourners felt for Prince. A mural was also unveiled in his honor, as Peter Diamond, editor of Minneapolis St. Paul Magazine, writes, "The new mural is being unveiled ... as part of a weekend of events in celebration of Prince's life, who would have turned 64 on June 7," keeping his legacy alive. (Diamond 2022). Lastly, David Bowie, also known as Ziggy Stardust, died in 2016 due to liver cancer. Two days after his death, his final album was released, *Black Star*, and as his website, says, a musical he co-wrote, *Lazarus*, "would open in London at the King's Cross Theater, to run [from] October 25, 2016 [to] January 22, 2017" and that Mayor Bill de Blasio of New York City proclaimed January 20, 2016, would be David Bowie Day (Bowie 2014). Henry Chu, of Variety's international coverage, writes how after his death, there was an overflowing amount of emotion in England, and music promoter, David Stopps, decided that he must make "a monument for the town and David Bowie" (Chu 2018). Thus, a statue was created to show Bowie throughout the years. Nostalgia is a great explanation for all of these monuments for these legendary actors, similarly to the other musicians, people are nostalgic for the time they were alive, and create these monuments for them out of a feeling of collective historical nostalgia.

Contrastingly, some believe that singers who are still alive are just as revered as those who passed away, such as Madonna and Dolly Parton. Madonna is a pop singer and actress who rose to fame in the 1980s. During her time, according to Victory Ayeni, journalist and researcher, Madonna was breaking "all the conventional boxes of her time" (Ayeni 2023). In 2023, Mary Gabriel

published a biography about Madonna using any interviews, books, and articles she could find about Madonna. The biography is titled, *Madonna: A Rebel Life*, in which People Magazine says the author goes through the rise and influence of “the greatest female pop icon of the modern era” (Gabriel 2023). Like Mercury’s tribute concert, this biography allows fans to revisit moments of Madonna’s career. Her industry-defying career made people heavily admire her, just as much as musicians who passed away. Additionally, Dolly Parton is an American country singer, known for combining country and pop music styles. In 1986, Dolly Parton opened an amusement park named Dollywood in Pigeon Forge, Tennessee, and according to Jamie Davis Smith, an author for Yahoo Entertainment, Dollywood sees about three million visitors annually (Smith 2023). This theme park also utilizes nostalgia for her fans and gives a physical space for people to enjoy her legacy and long career. While Madonna and Dolly Parton delight fans with their influence and achievements, the admiration for artists like John Lennon and Freddie Mercury, often fueled by nostalgia, leads to a more intense and lasting legacy, as seen through monuments and tributes in their honor.

In conclusion, society admires deceased musicians more than those currently alive, as seen through musicians who passed young, those who died while still active in their careers, and those who passed away with legendary status. This is seen in many musicians, including Jimi Hendrix, John Lennon, Elvis Presley, and many others, through the monuments and memorials they have. One solution to this issue is to celebrate and appreciate musicians while they are alive. This could be achieved through creating more awards and tributes, such as a museum or documentary. It could also be resolved by

encouraging the music industry to invest in building the legacy of musicians, rather than capitalize on their deaths by using nostalgia. However, as public perception is unpredictable, society may not engage with these tributes the same way they do for posthumous ones. Society also experiences cultural shifts and musical trends change, making it difficult to ensure an artist’s impact is fully appreciated. Ultimately, nostalgia and cultural impact make musicians into legends.

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The Media and Cultural Identity

Lanna Schor

According to Aparajita Bhandari, a PhD in Communication at Cornell University, and Sara Bimo, an MA in Communication at York University, “Self-representation can be understood as a form of mediation and involves the social process of creating media objects that stand in for, transform, and recreate a person or object” (Bhandari and Bimo 2022). Self-representation of different cultures in the media allows for a shared cultural identity. According to the Cambridge Dictionary, cultural identity is “the fact of belonging to, or feeling that you belong to, a particular culture” (“Cultural Identity” 2025). Cultural representation within popular culture is required to preserve and represent the history and integrity of contrasting cultures. Without published representation, there would be a lack of understanding between cultures, therefore creating an intolerant society. If used correctly, the media and popular culture are positive assets in preserving cultural identity, which can be seen through songs, celebrities, and film.

Artists write lyrics that symbolize, represent, and preserve cultural identity. Sarah Nielsen et al., Doctor of Philosophy, discuss the American song “Raggedy Old Flag” by Johnny Cash, an American musician, referencing the American flag in the song lyric, “On second thought, I do like to brag ‘cause I’m mighty proud of that ragged old flag” (Nielsen et al. 2021). David Butz, assistant professor of psychology at Morehead State University, discloses that “subtle exposure to the U.S. flag may lead Americans to report higher levels of nationalistic identification” (Butz 2009). Therefore, the song lyric preserves American pride and identity through the symbolism of the American flag, allowing

popular culture to be a helpful resource in preserving cultural identity. Furthermore, Latinx culture explicitly uses songs to preserve their customs. In a stimulus article, Deborah Paredes, an American poet, scholar, and cultural critic, declares, “Tejano music exemplifies the best of border cultural production by providing a historically resilient and innovative space wherein Tejanos have (re)fashioned an identity” (Paredes 2020). Listening to traditional Tejano music helps preserve history, tradition, and language because Tejanos are unified under their shared hardships and customs, and connect through the language displayed in Tejano music (Paredes 2020). This, along with the fact that Tejanos use these songs to form a shared identity, causes strong feelings of cultural identity due to the media (Paredes 2020). Folk music, much like patriotic and Tejano songs, is used to preserve history and identity within religious culture. Further, some religions even manipulate folk songs to better represent their heritage. In a stimulus source, Johan Norberg, author and senior fellow at the Cato Institute, states, “Folk songs...were rewritten with new lyrics because the old ones were just a bit too authentic—far too vulgar and not sufficiently patriotic” (Norberg 2022). Religious folk songs manipulate their lyrics to patriotically represent their culture, fostering collective memory, and causing an upheld sense of cultural identity and values (Norberg 2022). An example of a religious group that produces folk songs is, according to Khatira Kamalova, Department of Social Science at Karakalpak State University, and Raushan Kamalova, a Senior Research Fellow in the Karakalpak Branch Academy of Sciences, the Karakalpak people (Kamalova and Kamalova 2021). The authors state that the Karakalpak people wanted to create an independent religious identity, and did so through folk music (Kamalova and

Kamalova 2021). Zhanibek Piyazov, a famous Karakalpak opera singer, performs folk songs at large venues in an attempt to spread awareness of the Karakalpak people's independent religious identity (Kamalova and Kamalova 2021). The need for independence that unites the Karakalpak people through folk songs represents how popular culture preserves cultural identity. The importance of taking advantage of culture within the media is that people of differing backgrounds can connect to their history and feel united under one shared mindset. Songs within popular culture are direct testimonies from people of varying descent, and listening to these songs increases identification with the culture.

Just as music preserves culture, celebrities use entertainment platforms to preserve cultural identity in society. American culture is upheld by Oprah Winfrey, an American host and television producer. In one of her speeches, Winfrey discusses why American values are important and how promoting unity allows for cultural conformity ("Oprah Winfrey Talks Bodily Autonomy..." 2024). Winfrey states, "What matters most to me to you and all of us Americans: freedom...when we stand together it is impossible to conquer us" ("Oprah Winfrey Talks Bodily Autonomy..." 2024). Winfrey continues to talk about how the harsh history that Americans endured to obtain the freedom to vote unites Americans under a cultural identity ("Oprah Winfrey Talks Bodily Autonomy..." 2024). Because people look to conquered hardships of the past to feel pride and confidence in current cultural events, looking back on the fight for the American value of freedom promotes cultural identity (Paredes 2020). Moreover, Latin culture is heavily influenced and represented by celebrities, such as Latin musician Selena Quintanilla-Pérez. Paredes comments, "Selena and her subsequent

phenomenon opened up a space for the representation of working-class, brown women and made visible traditionally ignored Latina/o histories and the ongoing Latina/o presence within U.S. cultural, political, and economic spheres" (Paredes 2020). Selena, although deceased, is a monument and call to unity for Latin culture and identity due to her Latin characteristics and pride in her culture (Paredes 2020). Selena produces the previously mentioned Tejano music, which upholds Latin values and preserves Latin culture (Paredes 2020). This represents how both music and superstars represent identity. Celebrities also preserve religion. Adel Al-Wugayan, PhD and professor of marketing at Kuwait University, clarifies that "because religious figures are iconic symbols of the prevailing faith or religion, they represent the dual function of being religious authority symbols and motivators for compliance" (Al-Wugayan 2022). In an article published by *People Magazine*, American magazine that specializes in celebrity news, Denzel Washington, American actor and director, discusses his baptism, disclosing, "If [God] can do this for me, there's nothing He can't do for you. The sky literally is the limit" (Macias 2024). By encouraging compliance with religious values, Washington effectively causes religious action among followers (Macias 2024). Therefore, the documentation of celebrities causes their cultural beliefs to serve as "motivators of compliance" for followers to maintain their values (Al-Wugayan 2022). The importance of famous individuals discussing their cultural pride in popular publications is that it ensures that no culture's history and traditions are forgotten or discriminated against by society. This is because the representation of minority cultures within the media, such as the Karakalpak people and the Tejano people, generates understanding within cultures. Household

names who are proud of their heritage are likely to show the public the traditions of their culture, allowing their followers to maintain cultural identity (Paradez 2020).

Similarly, the film industry produces cinema that documents the customs and traditions of varying cultures, just as celebrities do, preserving cultural identity. Tom Brown, a senior lecturer in Film Studies at King's College, discusses Abraham Lincoln's presence in American film, explaining, "The prominence of Lincoln in the American cinema has waxed and waned over the medium's history, inevitably in broad accordance with wider cultural and political trends" (Brown 2023). Brown also mentions how Lincoln is a "'big' figure in American consciousness" (Brown 2023). Consequently, Lincoln's esteemed status in American culture causes people to view the usage of Lincoln in movies as a symbol of cultural awareness and remembrance, allowing the media to positively enhance cultural identity (Brown 2023). Film representation of culture is also seen in Latin culture. Kristin Moran, PhD in Communication from the University of Washington, discusses the effects of Latin representation on television through the usage of the Latino-themed program, *LatiNation* (Moran 2015). Moran discusses an experiment in which two groups are asked their opinions on *LatiNation* as compared to other, non-representational programs, and she discloses that "the participants saw *LatiNation* as inspirational and teaching audiences about the Latina/o community" (Moran 2015). Not only does Latin representation spread awareness about the Latin community, but it can also motivate audiences to feel connected to their roots. Angie Vega, a Master's degree in Mass Communication/Media Studies at Brigham Young University, discusses the cultural effects of the Disney movie *Coco*, stating, "Cultural identity embodies each

character to represent what Latino audiences can see in their own lives as they reflect on their cultural traditions" (Vega 2024). The idea that movies with Latin representation can maintain tradition, such as food, music, celebrations, and clothing, clearly represents how popular culture helps to maintain ethnic identity (Vega 2024). The importance of portraying a large variety of traditions and cultural values in the media is that it allows for all cultures to be seen and heard, and it sparks feelings of belonging and acceptance in consumers as they relate to the characters they see on the screen (Vega 2024). The notion of appreciating one's culture when perceived in television is seen by Cecilia Maldonado, professor in the business department at Georgia Southwestern State University, and Dawn Valentine, professor in the marketing department at Georgia Southwestern State University, when they state, "The Latino market likes commercials 51% more if viewed in Spanish rather than English" (Maldonado and Valentine 2013). When Latinos see themselves on television, they are proven to relate to the televised characteristics of their culture, which in this case is language, and feel belonging and appreciation (Vega 2024). Religious culture, like the Jewish people, is also accurately portrayed in the media. Patricia Oliver, Master's in Theatre Education from Columbus State University, discusses the traditional Jewish movie *Fiddler on the Roof* when she mentions a quote from a past director that discloses, "By turning [Torah]-Jewish law and religious practice into 'tradition,' it handed over a legacy that could be fondly claimed without exacting any demands. Through *Fiddler on the Roof*...millions of spectators...could cherish, honor, and admire a legacy" (Oliver 2018). *Fiddler on the Roof* allows people of Jewish descent to find themselves on television, causing them to connect further with their culture, therefore enhancing

cultural identity (Oliver 2018). Just as in Latin culture, Jewish people relate to the different aspects of Jewish life portrayed on screen, such as the clothing style and wedding traditions, allowing for increased unity in the Jewish idea of identity (Oliver 2018; Vega 2024). Visual representation allows people to see themselves in widespread publications and connect with cultural identity, proving that the media and popular culture are significant factors in preserving identity.

Despite the evidence stating that the media is a good resource for preserving cultural identity, some believe that it is used to distort cultural identity through stereotypes. American culture is stereotyped through the song “This is America” by Childish Gambino, an American musician (Gambino 2018). Some lyrics presented in this song are, “We just want the money,” “This is America,” “Police be trippin’ now,” and “Guns in my area” (Gambino 2018). These lyrics contain a limitation of preserving culture in the media, as they include stereotypes of American people. Additionally, Justinas Braslauskas, Lecturer in the Faculty of Creative Industries at Vilnius Gediminas Technical University, explains, “Intercultural stereotypes often lead to misunderstandings or even cultural conflicts in communication, as they interfere with the rational assessment of individuals from one national culture” (Braslauskas 2023). Thus, if these lyrics are listened to and taken seriously, they distort American culture and pride. There is, however, more evidence proving that the entertainment industry does indeed preserve cultural identity and helps create a sense of unity within American culture. The song “This Land is Your Land” by Woody Guthrie, American singer-songwriter and composer, helps to promote American unity through lyrics like, “This land is your land and this land is my land/From California to the New

York island... This land was made for you and me” (Guthrie 1945). Although old, this song is a permanent testament to the unified culture of America and allows Americans to find pride in their shared values (Guthrie 1945). Accordingly, the entertainment industry is more an asset to cultural identity than a threat.

Overall, popular culture is intertwined with cultural identity and traditions as it is a beneficial tool in preserving culture. Ensuring that the media is used purely to accurately portray ethnicity rather than distort it allows for increased acceptance and representation of varying cultures throughout the world. Further, creating a world of understanding and belonging instead of a world of intolerance will increase the unity of society. The entertainment sector is also used to ensure that people feel unified with others within their culture due to their shared sources of representation and causes these people to remember their values and traditions. American, Latin, and other cultures are represented through songs, celebrities, and movies. Songs represent culture because they are symbolic of history and traditions. Superstars who embrace their culture encourage others to remember their history and commemorate their ethnicity. Finally, movies allow for a visual representation of different customs and communities, increasing understanding. If the media is not used to preserve culture, ethnicities will have harsh and dehumanizing stereotypes placed upon them, and their history and pride will be forgotten due to the lack of documentation. Through auditory and visual representations of culture within the media, unity within and between cultures is fostered, creating a considerate and tolerant society for all ethnicities.

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The Effects of Negative Environments and Peer Pressure on Child Stars

Abigail Gizersky

Child Star Negative Effects

“Ever since the Victorian period, [people] have so eroticized children that we cannot help but turn kids into centerfolds. Stars, paid to be the objects of our gaze, have little choice but to stand before us unprotected” (Kincaid 4). Children are becoming more prominent in the Hollywood industry, with more celebrities starting when they are young. As more child stars emerge, discussing the impact of adverse environments and peer pressure on children and adolescents is crucial. These challenges children face when young could persist into adulthood, affecting them in the long term. The trauma and pressures they face during their childhood can hinder healthy self-development and lead to difficulties in adjusting to life outside the spotlight. Child actors are negatively impacted by their environments and peer pressure.

Child stars are often put in extremely negative environments when they are young. Shivani Gonzalez, a senior news assistant on culture working for the New York Times, explains that on the set of Nickelodeon, Brain Peck, a dialogue coach, was arrested for sexually abusing a minor, Jared Drake Bell, in 2003. The abuse happened over four months in 2004, and at the time of the abuse, Bell was 15, and Peck was 41 (Gonzalez 4). Bell was manipulated and isolated from his family throughout the four months while slowly gaining Peck's trust. Bell also lacked support from adults in the industry, as most of his coworkers sided with Peck (Gonzalez 4). Furthermore, Mara Wilson is a previous child actress who published a book about her experiences of being in the spotlight at a young age. Mara Wilson writes about the inappropriate comments she received on set from adults who were supposed to protect

her. Wilson writes, “I nodded and looked down at the floor again, tears stinging my eyes. Why did I feel like I had done something wrong? ‘Oh, don’t look so sad,’ Lucy said, giving my shoulder a squeeze. ‘It’s not a bad thing. Boobs are fab!’” (Wilson 26). Wilson stated that while filming for a children’s show at the age of 12, her adult castmates had already discussed her puberty without her, not realizing that puberty had begun for her (Wilson 26). Wilson felt particularly uncomfortable about this as her castmate, Lucy, made her wear a binder, commenting on her chest size. Additionally, Rebecca Shabad is a professional author and political reporter covering modern-day topics for NBC News and wrote about the sexual abuse that occurred behind the scenes by an Olympics doctor. Shabad stated that while giving her testimony to the FBI, Biles broke down in tears as she shared her story of being sexually abused by USA Gymnastics doctor Larry Nassar (Shabad 1). Biles’ reaction highlights the severity of abuse going unnoticed in environments. Another Olympic star, McKayla Maroney, stated, “That evening, I was naked, completely alone, with him on top of me, molesting me for hours. I told [the FBI] I thought I was going to die that night because there was no way that he would let me go. But he did,” said Maroney, who went on to detail many other instances when Nassar molested her” (Shabad 3). Biles and Maroney’s environment should have been safe, but instead, they went through a terrifying experience displaying the adverse environments young stars can confront. Like Biles and Maroney, many children are silenced, and others may feel they aren’t allowed to speak up about their experiences, no matter how extreme. The negative environments can then affect children’s mental health, as the pressure to succeed affects them equally.

Additionally, pressure and mental health can affect child stars when young. James Kincaid, a Professor of English at the University of Southern California with multiple published books, speaks about the sexualization of children in mainstream culture. Kincaid states, "Some feel (and many have said) that she looks as if she had just had sex or something equally unthinkable for a fifteen-year-old (which explains why we think it). Others say, c'mon, get over it, she's only doing what kids enjoy doing, get a life, leave her alone" (Kincaid 1). The quote discusses the opinions of a photoshoot Miley Cyrus, a famous musician and actress, took at 15 years old, which showed her back in an arguably sexual way. This photo sparked controversy among viewers as they felt the need to comment on whether or not it was okay for a fifteen-year-old to participate in such a photoshoot (Kincaid 2). Comments such as these pressure children to conform to society's wishes, trying to appear older or younger (Kincaid 2014). Similarly, Mara Wilson, a former child actress, wrote a book sharing her experiences growing up in the spotlight. Wilson describes her experience with finding pornographic photos of older women with her head edited online. After Wilson finds the images, she states, "All day long, I cried. I didn't want to tell my father. It wasn't my fault, I knew, but I still felt ashamed" (Wilson 60). Although Wilson understood it wasn't her fault, she still felt disgusted and ashamed. Likewise, Taylor Denning, a certified psychologist who published her findings through the *Pipe Dream Journal*, explains that many young stars struggle with mental health issues like anxiety and depression due to the intense scrutiny they experienced during their formative years. The pressure to maintain a perfect image often drives them to shed their innocent personas as soon as possible (Denning 4). Many stars feel the pressure to

conform to society and in Hollywood, which makes them grow up faster and, therefore, appear older. When young stars conform to this belief, others can begin to criticize them for seeming too old. Examples include Miley Cyrus being sexualized at a young age and Mara Wilson experiencing shame after discovering doctored pornographic images of herself online. These pressures highlight the harmful environments young performers navigate, which often lead to mental health challenges like anxiety, depression, and identity struggles.

Similarly, the lasting effects of these experiences lead into adulthood. Jasmine Atwal, certified by the American Board of Psychiatry and Neurology in both General and Child and Adolescent Psychiatry, states, "Childhood trauma has been found to be a risk factor for eating disorders and alcohol abuse. For example, a study by Corstorphine et al. (2007) found that individuals who had experienced any form of abuse in their childhood were more likely to develop any type of eating disorder in their adult lives" (Atwal 2). Atwal explains how childhood trauma affects adults in the future, with stars like Demi Lovato explaining that she had an unhealthy relationship with food since the age of eight. Lovato stated this began from overeating at such a young age and lasted for ten years (Atwal 2). Furthermore, Charlotte Edwardes, an interviewer at *The Times Post* in London, England, describes his experience interviewing child actor Daniel Radcliff, who starred in the *Harry Potter* movies. Radcliff states, "The alcohol abuse got worse towards the last of the *Harry Potter* movies, which came out in 2011. "I think a lot of the drinking that happened towards the end of *Potter*, and for a little bit after it finished, was panic and not knowing what to do next and not being comfortable enough in who I was to remain sober, honestly" (Edwardes 6). Radcliff's struggle

to assimilate to life shows the difficulty child stars can often face when put under pressure and forced to succeed without any help when doing so. Hannah Yasharoff, an entertainment and wellness reporter who published her article in USA Today, a daily newspaper and news broadcasting company based in the U.S., aimed at a broad, mainstream audience, explains why this happens to child actors, stating, “It's very difficult to grow into a grounded, mature adult when you haven't had the chance to experience an actual childhood,” Rockwell says, adding that “child stars often miss these important steps. This can lead to mental health challenges like anxiety, depression, or a constant state of longing, focusing on external validation rather than internal self-worth” (Yasharoff 3). Yasharoff’s explanation shows what most child actors struggle with, providing a reason for why many actors resort to alcohol or develop mental health issues. The lack of a normal childhood and reliance on external validation contribute to these struggles, as seen in cases like Demi Lovato's unhealthy relationship with food and Daniel Radcliffe's battle with alcohol abuse during and after his time as a child actor.

Despite some child stars having negative experiences, their ventures when younger could prepare them for the industry when they are older. Marcus Thompson II, a veteran sports journalist and author, shows this argument. Thompson states that it's clear Simone Biles likely faces traumas and emotions that money can't erase. She probably anticipated that her decision to step away from the competition would be met with criticism and that revealing the truth would lead to her being labeled a quitter. Throughout her career, she has been aware of the cultural backlash from going against expectations (Thompson II 5). Despite understanding she could receive backlash, Biles’ knowledge of when to step away

shows that her childhood experiences taught her the importance of knowing when to take a step back. Additionally, Julianna Salinas, a popular reporter for The Mirror, explains that Ariana Grande’s music career has been highly successful since her leave from Nickelodeon, with her music reaching high on the Hot 100 billboard charts. She now stars in the new musical Wicked and continues her music journey with 2 Grammys under her belt (Salinas 4). Although Grande has been on negative sets, such as Nickelodeon, she has achieved significant success in the music and acting industry, showing that most child stars can make it out unscathed. Sheryl Reeder, a well-versed reporter, explains despite her past of being sexualized in her youth in campaigns and movies, Brooke Shields continued acting and working despite the setbacks (Reeder 1). Shields and Grande’s success and perseverance in adulthood show that child actors are not always negatively affected by negative experiences on set and can learn from them, as through these experiences, they understand how to handle people on set and the press. Although this point can be made, there is overwhelming evidence that shows negative experiences with child actors that can lead to mental effects.

Child actors are adversely affected by their surroundings and peer pressure. Negative environments can greatly impact child actors, leading to mental health issues like anxiety, depression, and low self-esteem. These challenges often persist into adulthood, affecting relationships, career transitions, and overall well-being. There are available solutions to this problem as Tsukasa Tanihara (et al.), an Associate Professor and researcher at Ritsumeikan University working in the Department of Social Sciences, provides details of how people stood up to negative working environments. The study centers on a pivotal

instance where the silence surrounding sexual abuse in the entertainment industry was disrupted, in which the late company president had allegedly abused idol trainees of the company for decades (Tanihara et al. 2). Additionally, Ted Thomas, who serves at the U.S. Army Command and General Staff College, has conducted extensive research on moral courage in military contexts explains that, “Miller makes the case that “moral courage is lonely courage.” It risks being isolated and singled out for painful personal consequences such as ridicule, rejection, and loss of job and social standing” (Ted Thomas 7). Both cases prove that a solution to proper working environments is for adults to maintain moral courage and speak up when children are in danger against their peers or social pressures. To truly support child actors, society must prioritize their mental and emotional well-being, ensuring that their careers do not come at the cost of their long-term health and happiness. Although, sometimes it may be difficult to do so as this is a rarely discussed topic in the Hollywood industry, which fails to address children’s needs.

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Ethics of Greek Life

Gisele Yanovich

Garry Butler, a scholar with a Doctorate in Higher Education from the University of Arkansas, explains that colleges offer students to join the tradition of Greek life, noting, “The foundation of social fraternity and sorority organizations [is] built on principles such as sisterhood, brotherhood, scholarship, service, philanthropy, and leadership” (Butler 2021). According to Maureen Sirhal, an editorial assistant at Policy Review, Greek life has existed for over 200 years (Sirhal 2000). Since then, the organization has evolved, but the focus on these principles is often overshadowed by ethical concerns regarding practices within Greek life. Michelle A. Finkel, a doctor at the Department of Emergency Medicine at Massachusetts General Hospital, reports that the easy accessibility of alcohol and instances of forced sexual activity are serious concerns in Greek life (Finkel 2002). Thus, the ethical ramifications of Greek Life are in question through practices such as hazing, the recruitment process, and the implementation of policies and regulations.

To start, hazing in Greek life puts individuals at risk and raises concerns about the group's morals. Finkel describes hazing as forcing an individual to perform or endure acts that create a risk (Finkel 2002). Finkel explains how joining a fraternity or sorority can involve hazards from hazing, such as excessive alcohol use, leading to death (Finkel 2002). Kelly-Leigh Cooper, a journalist with the BBC's UK Insight team, reports that Tim Piazza, a Penn State University student, was being hazed during a “run the gauntlet” event involving rapid drinking, receiving “18 drinks in the 82 minutes before he fell 15ft (4.6m) down the steps of the fraternity house's basement,” leading to his death (Cooper 2017). Piazza's

incident highlights the unethical consequences of extreme hazing in Greek life. Finkel adds that hazing also involves forced sexual activity where members “may be made to simulate sex...forced to have unwanted sexual relations with members, or be raped” (Finkel 2002). Carolyn M. Porta et al., Ph.D., from the School of Nursing at the University of Minnesota, report that 24% of sorority members experienced sexual assault, with 50% occurring in fraternity houses (Porta et al. 2021). Such practices reveal ethical concerns within Greek life, as hazing causes harm and violates personal consent. Jennifer Earl, the Vice President of Growth and Engagement at CBS News and Stations, reports that Central Michigan University student Andrew Seely, with a severe peanut allergy, reacted after a student was hazed into smearing peanut butter on his face (Earl 2017). Andrew's dad, Paul Seely, says, “He could have died. He really could have. If peanut butter had gotten into his mouth, it would have been dire” (Earl 2017). Heather Smith, director of communications at Central Michigan University, deemed the incident a criminal matter and disbanded the Alpha Chi Rho fraternity in 2011 (Earl 2017). Seely's experience reveals the unethical hazing practices in Greek life, as it put his life in danger and made the individual responsible for serious misconduct. On the contrary, Timothy C. Marchell et al., from the Skorton Center for Health Initiatives at Cornell University, state that hazing teaches “group-relevant skills and attitudes, convey[s] hierarchy, and promote[s] social dependency” (Marchell et al. 2022). While some suggest hazing fosters ethical values, its impact on the well-being of those in Greek life remains questionable.

Furthermore, the Greek life recruitment process is seen as unethical for its lack of inclusivity. Jay Walker et al., an assistant professor of economics at Niagara

University, states, “Still today, fraternity and sorority recruitment is perhaps the most formalized and explicit version of social evaluation and exclusion on campuses,” limiting diversity (Walker et al. 2014). Kate Gallop, a graduate of Washington University in St. Louis, where she majored in Psychology, notes, “Recruitment may be harder for some people because of the homophobia, transphobia, racism, and classism perpetuated in Greek Life” (Gallop 2024). According to Landon Mion, a writer at Fox News and Fox Business, Grant Sikes was rejected from every sorority at the University of Alabama for being transgender (Mion 2022). Sikes said on TikTok, “I’m sad because I wanted to be part of a sisterhood, and more than that, a community” (Mion 2022). Sikes’ rejection due to gender identity demonstrates the unethical recruitment process in Greek life. Moreover, racism exists in these organizations as Matthew W. Hughey, from the Department of Sociology at the University of Virginia, states, “The root causes of racial separatism are systemic and endemic to the sorority recruitment process itself” (Hughey 2007). Tressie McMillan Cottom, an associate professor at the University of North Carolina, informs that in 2022, 85% of sorority members in the Alabama Panhellenic Association were white (Cottom 2023). Nicole Polizzi, an adjunct lecturer in Sociology, Philosophy, and Composition at ASA in Manhattan, reports that a black University of Alabama student was denied admission to all 16 sororities (Polizzi 2013). Sorority members “wanted to [recruit] the gifted black girl—who was asked to remain anonymous—but were told by the chapter alumnae that it was not an option” (Polizzi 2013). This reveals the unethical discrimination in Greek life recruitment.

Finally, laws and policies in Greek life often bring ethical challenges. Traci L. Toomey et al., a professor in Epidemiology

and Community Health at the University of Minnesota, states that despite laws banning alcohol for minors, they still easily access it (Toomey et al. 1996). As previously mentioned, Porta states, “fraternity members expressed worry...[about] violating alcohol rules,” and although they demonstrated awareness they could “keep alcohol in their individual rooms and quietly drink or distribute it during parties” (Porta et al. 2021). In a report, one sophomore sorority member stated, “I think also freshman year we didn’t have that money to spend on the bars [...] frats are free” (Porta et al. 2021). This reveals an unethical component of Greek life, as members violate laws relating to alcohol consumption. Additionally, Megan Agnew, a Senior features writer at *The Times* and *The Sunday Times*, notes that the Stop Campus Hazing Act, signed in 2024, is a law to “provide anti-hazing [programs] to students and to report incidents, publishing the names of organizations that have violated policies” (Agnew 2025). Melanie Bennett, Senior Risk Management Counsel at United Educators, notes that 44 states “have anti-hazing laws making it a criminal offense throughout the U.S.” (Bennett 2023). Had these laws been implemented earlier, the hazing tragedies of Piazza and Seely could have been prevented. However, due to hazing laws, “applicants [are] instructed not to share details of what takes place,” allowing practices to persist (Agnew 2025). Greek life highlights its unethical nature by violating legal efforts to prevent harm. Despite the damage it causes, several required policies are considered ethical. Ashley Tull, a Clinical Associate professor at Southern Methodist University, writes, “Many members of fraternities and sororities have been found to volunteer at higher rates than their non-affiliated college student peers” (Tull 2018). The “2024-2025 University of Florida Greek Standards

Accreditation Policy” mandates houses to organize at least two service projects, one philanthropy project, and requires members to participate in one leadership development opportunity. These policies highlight the ethical commitment of Greek Life organizations through service.

Ultimately, the ethical implications of Greek life arise from hazing instances, the admission process, and the disregarding of laws and policies. Forcing students into excessive drinking or sexual assault underscores the unethical side of Greek life, yet hazing promotes group cohesion. Additionally, fraternity and sorority recruitment is often criticized for limiting diversity. Lastly, Greek life faces ethical challenges with alcohol and hazing, despite legal efforts to prevent it, though service projects remain positive aspects. Wesley Routon, an assistant professor of economics at Georgia Gwinnett College, and Jay Walker, an assistant professor of economics at Niagara University, state that to find a solution, national organizations have added “risk-management practices to discourage inappropriate and illicit student behavior” (Routon and Walker 2016). Implementing these practices successfully could address many ethical concerns to foster a safer Greek life environment.

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