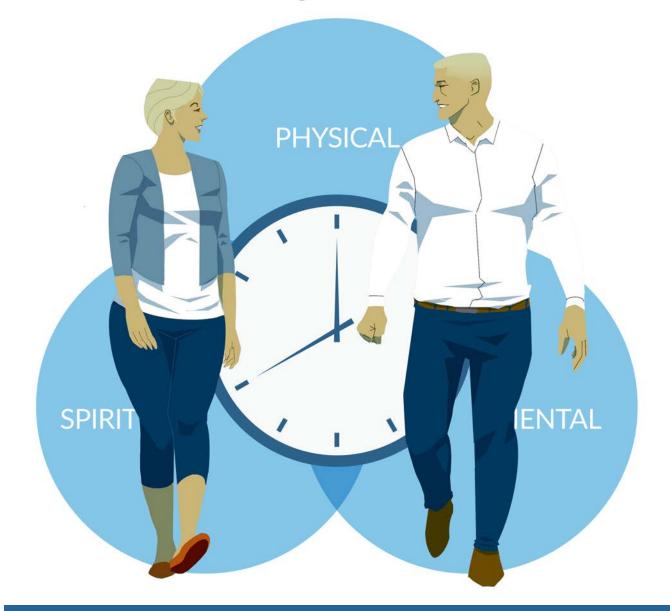
# Millennials and Fasting: A Healthy Alternative



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## ABSTRACT

Millennials are facing more chronic health problems than any previous generation. They are experiencing a higher rate of disease for all the top conditions that affected their predecessors at the same age range (DePew and Gonzales). Most of these issues stem from an overconsumption culture that drastically increased during the millennial generation and is only projected to worsen. These habits start from a young age when the youth are taught to finish eating everything on their plate, even if they are not hungry, and consume at least three meals a day, which is seen as a mandatory requirement for a healthy lifestyle. Unfortunately, this way of life carries on into adulthood, which can cause the slow degradation of their health.

This thesis focuses on advocating for fasting among millennials through design education and information. It analyzes the physical, mental, and spiritual benefits of fasting and aims to encourage millennials, through art and design, to embrace it for their health as they age.

The study uses a literature review, content analyses, and visual analyses to develop a visual solution that educates millennials about the health benefits of fasting.

*Keywords*: design, fasting, health, illustration, millenials



# **CHAPTER 1**

## Introduction



## **MOTIVATION**

As I considered what to address in my MFA thesis, I reflected on my life experiences and what is important to me as a nearly forty-year-old millennial. Besides my family, my health and ways to enhance it are crucial to me. As an active-duty military service member for 17 years, fasting has been the most impactful thing I have learned and used to maintain a healthy weight, stay off medication, and improve my overall quality of life.

I picked up fasting while stationed at Keesler Air Force Base in Biloxi, Mississippi. One of my troops, who was very health-conscious, had started eating one meal a day at the same time every day. He had learned this habit while deployed in the Middle East. At first, others and I told him that we thought it wasn't healthy, that he would not have enough energy, and that he might pass out. However, my troop was already in top shape and would score in the high 90s on his annual physical fitness test. After three months of fasting, he had lost almost 30 pounds. His blood work results showed that he was then the healthiest member of our 30-man team, and he easily passed his annual fitness exam with a 100% score. This kickstarted my nearly decade journey of alternate day fasting.



## **RESEARCH PROBLEM**

Millennials often do not consider fasting as a means to improve their health due to a lack of awareness, which may result in them missing out on the opportunity to enhance their health as they age. They are unfamiliar with the long-term advantages of time-restricted eating, which could impede their journey toward optimal health. This could lead to overeating, a habit closely linked to the prevalence of diseases in our society of abundance. However, fasting can be critical in preventing diseases, managing weight, and addressing other health issues millennials may face as they age.

## **STAKE HOLDERS**

The information presented is valuable for all adults, but the focus is primarily on millennials. This generation is facing a significant increase in health-related issues, and they are also the largest working-class group worldwide (DePew and Gonzales). The research conducted in this thesis will also impact licensed physicians as they are the only ones legally allowed to provide medical advice. In addition, nutritionists will find this work helpful as it challenges the traditional taboo of skipping meals and suggests that it can be a healthy approach within certain limits. The thesis also provides valuable information on reducing medication and food consumption, opting instead for natural healing methods, which will influence the Food and Drug Administration. Furthermore, this project will also be important to the American Cancer Society and Diabetes Association as it provides insights into managing these diseases.

## **OBJECTIVES**

The objective is to educate millennials about the benefits of fasting so they can use it along with the various alternatives to address their health issues. Fasting offers a unique approach by focusing on how often adults eat and directly targeting the root of the problem. This research will present documented evidence of fasting's historical significance and validate its health benefits. It's crucial to overcome the negative perceptions surrounding fasting and encourage its adoption as a health tool in millennials' daily lives through a marketing and informational campaign.

## **KNOWLEDGE GAP**

Gender bias is present in fasting-related research because there is a vast amount of information available on female-only trials, while research on male-only trials is limited. Further studies are needed to understand the long-term effects of fasting on humans since most trials were conducted over a few months to a couple of years. Measuring the spiritual effects of fasting is subjective and can be intertwined with the mental effects of fasting, making it difficult to quantify. Additionally, it is crucial to gather more information on the effects of fasting on individuals with different genetic backgrounds. It is also necessary to conduct more research to understand why doctors rarely prescribe fasting to their patients despite the overwhelming evidence of its health benefits. Bridging these knowledge gaps could help more millennials embrace fasting as a way to improve their overall health.

## BIASES

I have personal experience with intermittent and alternate day fasting, which has benefited my health significantly for almost a decade. Before practicing fasting, I struggled with high blood pressure readings, joint pains, and elevated high cholesterol despite not being overweight. My physician suggested that I make healthier lifestyle changes through diet and exercise, but they were not sustainable for me in the long run. Since I have adopted fasting, I haven't been diagnosed with any of those chronic health issues I suffered from ten years ago. However, I understand that my personal experience may have influenced my research, and I have tried to remain unbiased while conducting it.

## SIGNIFICANCE

Improving one's health is closely linked with transforming one's entire life. As we age, we gradually lose control over age-related health factors, which can be concerning. However, fasting can significantly enhance the overall wellness of adults, offering a promising future of better health. It can help delay age-related health issues and prevent the early onset due to overconsumption of food (Mattson). This thesis aims to educate millennials, who currently comprise a significant portion of society, about the benefits of fasting and encourage them to pass on this practice to future generations, ensuring a healthier future for all.

## **CHAPTER 2** SUMMARY OF FINDINGS



## **RESEARCH RATIONALE**

As millennials age, their health has declined faster than previous generations. Fasting, a practice often misunderstood and dismissed as pseudoscience or unhealthy, can play a crucial role in reversing this trend. Scientific evidence supports fasting as a useful tool for promoting a healthy lifestyle and enhancing all aspects of health in most adults.

This thesis will provide information on the health benefits of fasting as a potential tool to counteract the significant decline in overall health that began with the millennial generation. The research will cover the impact of fasting on physical, mental, and spiritual health and the history of fasting. The thesis will also explore scientific data, investigate fasting from a spiritual perspective, and provide information on unique cultural and educational factors affecting millennials.

## **RESEARCH METHODS**

### **Literature Review**

A literature review is a research method used to explore and gain understanding of existing studies and knowledge on a particular topic. This literature review aims to answer specific questions related to the topic, such as: What is the historical background of fasting? What are the physical health benefits of fasting? What are the mental health effects of fasting? Are there any spiritual health benefits associated with fasting? Additionally, the literature review seeks to identify the unique cultural and educational factors affecting the millennial generation.

### **Case Studies**

A case study is a study of a specific subject that provides the framework for research. They are crucial for comparison and assist in understanding current visual solutions. The three case studies will be analyzed using the following outline:

- Define who initiated and is responsible for the project.
- Identify the motivation of the project.
- Summarize the project.
- Identify challenges they faced.
- Project outcome.
- Identify and connect relevant elements back to your identified problem or theoretical solution.

### **Visual Analysis**

The thesis proposal relies on a visual analysis to inform its visual solutions. A visual analysis is beneficial due to the diverse array of designs found in educational materials. It is an essential tool for making informed design choices and ensuring the chosen aesthetics are successful. Only one visual analysis aligns with a case study in this thesis. The outline for the visual analysis is as follows:

- What does the selection depict?
- Who is the audience?
- How do people consume the visual solution?
- How is this project embedded in a wider cultural context?
- What is the interrelation between the image, the form, or object, and the accompanying text?
- Compositional Interpretation
- Content Analysis
- Semiotics
- Iconography
- What aesthetic choices led to the success or failure of the visual solution?
- How do the aesthetic choices relate/ connect back to your identified problem or theoretical solution?

## SUMMARY Of LITERATURE Fasting Historically Introduction

It has been observed that millennials are encountering more chronic health issues than any previous generation. They are experiencing a higher frequency of diseases for all the top conditions that affected their predecessors in the same age range (DePew and Gonzales). Most of these health issues arise from a culture of overconsumption that has significantly increased during the millennial generation and is projected to worsen in the future (Leonard).

Millennials are reluctant to accept fasting as a viable way to improve their mental, physical, and spiritual health because of a lack of education, which has caused many of them to miss opportunities to improve their health as they age. This literary review examines the historical and contemporary contexts of fasting, its impact on physical, mental, and spiritual health, and the cultural and educational factors that affect millennials' attitudes toward fasting. Additionally, this review investigates alternatives typically recommended instead of traditional fasting for those seeking a healthy mind, body, and soul. Finally, the review concludes with a critical analysis of the findings.

# **Historical Secular Fasting**

Fasting has been practiced throughout history for various reasons. Researchers have demonstrated that fasting is the body's natural response to difficult situations and can occur subconsciously during heightened stress and awareness (Walker). Many ancient civilizations, including the Greeks, Egyptians, and Babylonians, practiced fasting as a means of healing and purifying the body. Additionally, numerous indigenous cultures have also practiced fasting for generations; some still incorporate it into their lives today.

#### **Historical Religious Fasting**

The origins of fasting are debated, particularly in relation to religious traditions and practices. The Babylonians, Greeks, and Egyptians are the primary civilizations that religious scholars attribute to the origins of spiritual fasting. However, many proponents of religion claim ownership of fasting for their religions simply because it is part of their tenets and overlook overlapping belief systems and historical documentation. These claims exist not only in the Abrahamic religions, which is expected since they all share the same source material, but also in most other major religions and spiritual practices worldwide. Despite all the disagreement, the intentional implementation of calorie restriction for religious piety can be traced to practical purposes before it was done for religious and spiritual beliefs.

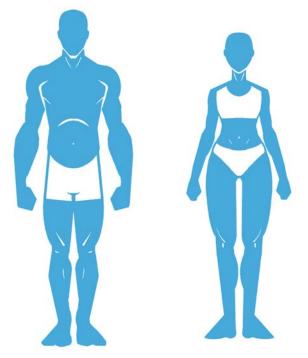
#### **Modernized Fasting**

Modern fasting has evolved beyond its historical origins. People who fast have various reasons for doing so, including improving their psychological fitness, engaging in protests, improving their physical appearances, following trends, practicing philanthropy, and so much more. Dr. Jo Nash, a writer, researcher, coach, and former mental health lecturer at the Faculty of Medicine, University of Sheffield, believes that modern fasting is more about achieving body goals and focusing on new-age enlightenment rather than expanding spiritual consciousness. According to her, fasting has lost its true meaning and promotes the development of issues such as anorexia and weight loss (Nash). Dr. Kathleen M. Dungan, a professor of theological and religious studies at the University of San Diego, California, shares the parallel view. She argues that modern fasting has been demonized due to food-related illnesses to the point that some view it as violence against themselves (Dungan). The history of fasting varies depending on the source of information. However, the physical effects of fasting are less opinionoriented and more based on scientific facts.

#### The Effects of Fasting on Physical Health Sex Bias

A significant amount of research on the effects of fasting on physical health has been conducted on both animals and humans. However, much of the available evidence focuses on clinical human trials that have been conducted on female humans rather than male humans for reasons that have not been clarified. For example, Karger Publishers, a worldwide scientific and medical content publisher that is headquartered in Basel, Switzerland, researched the effects of short-term modified fasting on sleep patterns and daytime vigilance in non-obese subjects; this study included only one male participant out of 13 total participants. Similarly, Dr. Fereidoun Azizi, a professor of endocrinology and metabolism at Shahid Beheshti University of Medical Sciences, researched Islamic fasting and health during Ramadan by focusing on 108 female trial participants. He concluded that fasting is safe primarily for healthy individuals and those with various health conditions and diseases like high blood pressure and type 2 diabetes but that others should consult their physicians before fasting. He suggests in his study that the body metabolizes differently depending on race, location, gender, and time of year, which directly impacts fasting results and the beginning of the post-absorptive period (a typical fasting period being 8–16 hours without consuming calories; Azizi). Dr. Mindy Pelz, a functional health expert and author, also conducts extensive research

exclusively on the effects of fasting on women's hormones. Her research demonstrates that a 30day fasting regimen can help reset older women's hormones and negate some of the effects of menopause (Pelz).



#### Analysis of Sex Bias

The study conducted by Catherine E. Harnois, a professor at the Department of Sociology and a faculty member of the Department of Women's, Gender, and Sexuality Studies at Wake Forest University, and Dr. João Bastos, an associate professor at the Department of Public Health at the Federal University of Santa Catarina, Brazil, helps explain the issue in part. Based on existing research on gender and health in the United States and other countries, women tend to live longer than men but also suffer from higher rates of nonfatal chronic health problems. Additionally other researchers have observed that women are more prone to experiencing high levels of depression and anxiety, whereas men are more likely to develop antisocial personality and substance abuse dependence disorders (Bastos and Harnois).

Men have been reported to be more susceptible to life-threatening illnesses such as emphysema and heart disease, and women have been reported to be more prone to developing milder chronic conditions (Bastos and Harnois).

A critical evaluation of the various sources reveals that women typically tend to experience chronic health issues more frequently throughout their lifetime. This observation suggests that fasting protocols may routinely impact the health of women than men. This could explain in part the gender-specific bias in the existing research on fasting. Regardless of the gender bias present in many studies, multiple researchers have noted that fasting has universal health benefits. The most prevalent concerns related to fasting's impact on physical health are disease prevention and antiaging properties.

#### **Disease and Aging**

Dr. Michael Anson conducted a study on how intermittent fasting affects glucose metabolism and neuronal resistance to injury in relation to calorie intake. The National Academy of

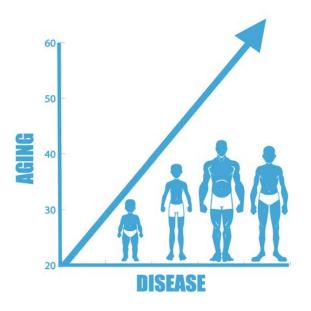
Science in the United States published the study. According to the article, restricting calorie intake below voluntary consumption by fasting is the only environmental factor that has significantly impacted aging rates across various species. This restriction can produce benefits such as a reduced aging rate, increased average and maximum lifespan, reduced cancer formation and kidney disease, and the improved resistance of neurons to dysfunction and degeneration in experimental models that involved Alzheimer's and Parkinson's diseases and stroke formation (Anson). Dietary restriction paradigms have been proven effective in increasing lifespan and disease resistance in rats and mice. However, Dr. Anson's study did not include findings from any actual human trials.

Dr. Yoshinori Ohsumi received a Nobel Prize in 2016 for his research on the relationship between fasting and physical health. His studies on autophagy, which is a process that involves the degradation and recycling of cells in the body, demonstrate that prolonged fasting can activate this process, which can help eliminate diseasecausing cells, including cancerous cells (Kolata). It is worth noting that the term "autophagy" is a Greek word that means "self-eat,". Additionally, thousands of researchers have conducted animal and human trials to study this topic prior to Dr. Ohsumi publishing his research. In 2013, Dr. David Stipp published an article in the Scientific American Journal titled "Is Fasting Good for You," which summarized the results of various animal and human trials that had been conducted since the early 1900s. He stated that although calorie

restriction may not help people live longer, much data supports the idea that limiting food intake can reduce the risk of age-related diseases and extend the period of peak health (Stipp).

The Scandinavian Journal of Public Health recently published an article on the correlation between weight status and the number of meals eaten by Norwegian adolescents. During the course of this study, 2,870 participants were surveyed, and 85% of them were found to be overweight based on the number of meals they ate (Vik). Adolescents in Norway typically eat four meals a day: breakfast, lunch, dinner, and supper. The researcher who conducted the study found that participants who ate only two or three meals a day were less likely to be overweight. However, it is important to note that this research was based on self-reported data and was not conducted in a controlled environment, which could have affected the results.

Dr. Mark Mattson, an expert from the National Academy of Sciences, is currently researching the effects of meal frequency on health and disease. He has found that the most common eating pattern in modern societies (three meals plus snacks daily) is abnormal from an evolutionary perspective. According to findings from animal models and human subject studies, intermittent energy restriction periods of just 16 hours can improve health indicators and counteract disease processes (Mattson). This research suggests that the standard Western meal frequency is unsuitable for children and adults and significantly increases health risks and diseases.



#### Negative and Adverse Effects of Fasting

The benefits of fasting have been discussed, but it is important to note that calorie restriction can also have adverse effects. While fasting and starvation are different, the body performs the same internal functions in both cases. Therefore, it is crucial to consider any related health risks before deciding to fast. For example, people with type 2 diabetes are encouraged to fast, but people with type 1 diabetes are not. Fasting can also increase stress levels, disrupt sleep, cause headaches, lightheadedness, and dehydration, especially if a dry fast is performed. Most health experts do not recommend dry fasting (not drinking or taking in any fluids), and some believe that fasting can cause the body to burn muscle if one does not eat for a prolonged period. However, Dr. Ohsumi and nephrologist Dr. Jason Fung

refute the muscle burning claim. Dr. Jason Fung, the world's leading expert on low-carb diets and intermittent fasting, says that the human body burns all body fat off first before it begins to burn muscle. These claims that the body would lose muscle when a person stops eating do not make sense from a biological and evolutionary standpoint (Fung).

The School of Sports, Exercise and Health Sciences at Loughborough University conducted a study on the effects of fasting on metabolism and performance. They found that fasting, which spares carbohydrates and increases reliance on fat as the primary energy supply, led to a slight decrease in performance during athletic activities but nothing substantial performancewise (Maughan et al.). The study, which drew its results from Ramadan-style fasting and monitored participants' performance during exercise, concluded that while no significant difference was observed under normal conditions, more research is needed to understand the effects of prolonged fasting in different environments and with varying intensity, acknowledging the limitations of their studies parameters.

Similarly, Wolters Kluwer, a global provider of professional information, replicated the results of the previous study. They found no substantial benefits to athletes fasting during athletic performance overall. The results primarily drew from Ramadan fasting, but other variations of fasting were also included in the study. Sprint times during fasting were significantly slower, while fasting during high-intensity exercise results constantly varied (Levy et al). These findings highlight the potential risks of fasting, particularly in activities that heavily rely on carbohydrate availability. The same results were observed in endurance sports like rowing, where athletes overwhelmingly experienced negative performance after fasting from 24 hours to 4 days. However, it is essential to note that athletes who performed resistance training under the same conditions over an 8-week trial saw decreased body fat but maintained and, in some cases, improved muscle mass (Levy et al.). Lastly, it showed that intermittent fasting is overwhelmingly used to drop weight for sports and shows consistent results.

The Journal of Fasting and Health published a study on the Adverse Effects associated with Islamic Fasting. They found many positive health attributes contributed to fasting, including reduced risk of cardiovascular disease, cancer, diabetes, hypertension, and asthma (Maideen et al). However, some studies show that there are adverse side effects of fasting, such as anemia, decreased sleep quality, dehydration, headaches, heartburn, and constipation (Maideen et al.). It was concluded that to help alleviate or decrease the chances of these side effects; individuals should engage in a balanced diet and drink sufficient amounts of fluids during fasting regimens.

The Department of Internal and Complementary Medicine at Immanuel Hospital Berlin, the Institute of Social Medicine, Epidemiology, and Health

Economics at Charité University Medical Centre in Berlin, the Institute of Pharmacogenetics at University Hospital Essen, and the Department of Internal Medicine V at Kliniken Essen-Mitte in Essen, Germany jointly conducted a study that focused on the effects of fasting on 15 participants (13 females and 2 males). The researchers who were involved in this study found that people with specific genotypes experienced more significant changes in mood swings and harsher hunger pains than others with different genotypes. The genotype that experienced the most discomfort displayed increased ghrelin levels, which increased their mental discomfort. This partially explained the genotypes increased risk for obesity because of significant discomfort during fasting (Michalsen). The researchers also found that individuals with an increased mental aversion to fasting lost as much weight as everyone else if they continued the fast. Additionally, the researchers observed that the effects of fasting on individuals' moods and mental health vary. In that study, however, researchers did not thoroughly explain the reason for the different effects of fasting on individuals' moods and mental health.

### The Effects of Fasting on Mental Health

#### Mental Health Results Produced

#### by Fasting

Fasting has produced promising results in clinical trials regarding specific mental health issues. These disorders are becoming increasingly prevalent, and social media can play a significant role in their rise. Several researchers have established a correlation between social media usage and increased levels of anxiety and depression in millennials who regularly use it (Layer). Most healthcare professionals recommend medication and therapy as treatments for mental health disorders; however, fasting has a proven track record as a viable alternative to help counter the growing mental health crisis worldwide.

The National Center for Biotechnology Information published Dr. Elisa Berthelot's article "Fasting Interventions for Stress, Anxiety, and Depressive Symptoms: A Systematic Review and Meta-Analysis," which explores the relationship between disorders. The article reports that fasting has been found to have positive effects on stress, anxiety, and depressive symptoms. The study involved 11 research projects that comprised 1,436 participants, and the results were consistent. Most participants experienced improved mental clarity and overall mood and documented increased hormone balance after fasting; fasting periods varied from 12 hours to two days (Berthelot). Even participants who had type 2 diabetes exhibited improvement, which was not the objective of the study. Depression and anxiety disorders are the leading causes of disability and reduced quality of life among millennials worldwide. Being overweight or obese is also directly associated with depression and mental health issues. Although antidepressants are often used to treat mental disorders, the study suggests that the gut microbiota plays a significant role in the development of anxiety and depression (Berthelot).

Dr. Berthelot's research demonstrates that fasting can impact mental health. However, there are some limitations to safely practicing fasting as a means of treating mental health disorders. The research does not specify how long people should fast for optimal mental health results. In some cases, fasting can have legitimate positive impacts for a limited period before this practice becomes detrimental to individuals' health.

#### Fasting and Its Impact on Hormones

Fasting research indicates that hormones are crucial to an individual's overall health. According to Dr. Jason Fung, a renowned expert on obesity, unbalanced hormones cause a lack of control, which leads to obesity. Obesity can affect or directly cause mental health issues such as depression and anxiety, which can be treated by balancing hormones, as Dr. Berthelot suggests.

Dr. Pelz, who authored Fast Like a Girl: A Woman's Guide to Using the Healing Power of Fasting to Burn Fat, Boost Energy, and Balance Hormones, specializes in teaching women about the benefits of a fasting lifestyle, diet variation, detoxing, and hormone balancing. The central concept of Dr Pelz's book is that fasting can assist in balancing hormones that play a crucial role in mental health disorders such as anxiety and depression. Additionally, weight gain is often associated with mental illnesses, and fasting can help manage it (Fung). Women, who are overall more prone to chronic non-life-threatening diseases throughout their lifetimes, overwhelmingly benefit from fasting to balance their hormones (Pelz).

## Why Is Fasting Not Prescribed by Doctors as a Mental Health Treatment

Although there are some promising data on how fasting can impact mental health, fasting is not prescribed as a mental health treatment because it really should be conducted under the care and constant monitoring of a mental health professional (Wang and Wu). Many researchers have stated that long-term fasting can have significant mental health benefits. However, initially, because of withdrawal from food and other associated reasons, some individuals may experience increased depression and anxiety until they have engaged in fasting for several hours. The few examples that involved physicians prescribing fasting as a mental health treatment often required the patients to go to a retreat where they were monitored continuously throughout the fasting period and worked with several specialists to be sure to avoid potential adverse effects (Wang and

Wu) . Although mental disorder improvement and mental clarity were mentioned in almost all the fasting studies across the board, not enough peerreviewed studies have been conducted explicitly on fasting's impact on treating people with mental health disorders.

Taking food away from someone already suffering from mental issues is, in some ways, unethical and cruel and could lead to eating disorders; therefore, until more clinically controlled trials with willing participants that specifically focus on mental health and not weight loss, fasting should not be used to treat mental health without the direct involvement of a physician. Fasting for mental health is directly related to fasting for spiritual health because they are thoroughly intertwined. Depending on one's personal beliefs, there is no clear delineation between the two.



### The Effects of Fasting on Spiritual Health

#### **Christian Fasting**

Dr. Brandon Walker is a member of the Department of Theology and Religious Studies at the University of Nottingham. In his study, Dr. Walker discusses the efficacy of fasting as a ritual that started as part of early Christian practices. According to Walker, fasting should not be seen as a magical tool to gain favor with God but rather as a religious practice mandated in early Israelite culture. Dr. Walker's perspective on fasting is not about a supernatural enhancement of spiritual well-being but about a practice that cultivates spiritual strength. This practice, he argues, is a journey that tests the body's endurance and fosters mental resilience.

Dr. Kathleen Dugan,\*- the author of "Fasting for Life: The Place of Fasting in the Christian Tradition," which was published in the Journal of the American Academy of Religion, has a perspective on Christian fasting that aligns with Dr. Walker's. Dr. Dugan describes fasting from the perspective of a Catholic Christian woman. She believes that fasting is a means of sanctifying a day in memory of Christ's death and should usually be practiced communally. She also points out that Catholic Christians implement fasting more often than Christians who belong to other denominations and that fasting is described in the Bible as one of the natural parts of spiritual life. According to early Christian traditions, fasting is part of a transformative and joyful experience. Dr. Dugan stated that before she had any personal experience with fasting connecting her to God in an organic way, fasting was pressed upon her through her religious traditions:

"Prolonged fasting is difficult at first for the body but the spirit enjoys a unique liberation. When I began seriously to fast as part of a mature spiritual discipline, it soon became apparent that something wonderful happens to consciousness."

As Dr. Dugan became an adult, her experience with fasting shifted from an incomprehensible concept to a profound spiritual practice.

#### Interpreting Biblical Fasting Views

Dr. Walker and Dr. Dugan both hold Christian perspectives based on the Bible. Due to the existence of various sects and denominations in Christianity, beliefs regarding fasting differ. Dr. Walker's perspective is more grounded in a matter of fact view of fasting. Many scholars know that the Israelites were legally mandated to observe fasting, whether they wanted to or not. The expectations surrounding this requirement were like the tithes that the Israelites were legally bound to pay during the Old Testament era. Dr. Dugan's perspective, however, maintains that fasting should be used to remember Christ's death and a way towards spiritual enlightenment. Both authors argue that fasting can improve spiritual health, drawing examples from the Old Testament and New Testament. However, Dr. Dugan believes that fasting can offer something beyond a tangible building of strength. Both perspectives are valid biblical views.

Dr. Walker states that fasting first originated with the Israelites. However, while most Christians associate fasting with Christ due to the famous 40-day and 40-night fast that Jesus underwent to become closer to God and resist temptation, Dr. Dugan only explains why Catholics fast and does not claim that fasting began with Jesus either.

In summary, Dr. Walker discounts the reasons why Christians fast in the present day. He may view it as one of the traditions that became law, which Jesus spoke of. However, if people try to follow Christ's life through the Bible, they should note that Jesus never commanded them to fast. Instead, they should fast to become closer to God, which is similar to Muslim views of fasting.



#### **Muslim Fasting**

There is a significant amount of scientific data documenting Muslims' physical health during fasting, including Ramadan, which is more extreme in terms of calorie restriction than Christian fasting traditionally is. Dr. Joseph B. Tamney is a sociologist who conducted a study that involved 1,437 students from five Southeast Asian universities. The sample included Muslims, Roman Catholics, Protestants, and non-affiliates. The study focused on the importance of fasting in Islam and Christianity. The results indicate that fasting seems more important to Muslims than to Christians (Tamney). However, both groups mainly engage in fasting to demonstrate their obedience to God and not so much for mystical prayeranswering reasons.

Dr. Tamney's article "Fasting and Modernization," published in the Journal for the Scientific Study of Religion, discusses the differences between Christian and Muslim fasting.

Christians view fasting as an act of penance and self-punishment, which should be done to remove the effects of sin. Conversely, Muslims view fasting as a form of praise and obedience (Tamney).

It is important to note that both Muslims and Christians see fasting as having benefits beyond those explicitly expressed in Dr. Tamney's journal. For instance, Muslims use fasting to practice selfcontrol, which is emphasized in Islam. Moreover, Muslims also fast to seek forgiveness for their sins and to reconnect with the teachings of the Quran.

#### The Decline of Spiritual Fasting

Dr. Nash, in her article titled "Mutant Spiritualities in a Secular Age: The 'Fasting Body' and the Hunger for Pure Immanence," which was published in the Journal of Religion and Health, discusses how fasting has become abstract in comparison to its original spiritual purpose and has slowly mutated into something else. In her article, she asserts that the loss of spiritual meaning associated with fasting has been primarily caused by traditional social groups being replaced by online communities and social media (Nash). In her work, she delves into how fasting has become a way to express one's inner life, which is characterized by narcissistic behavior. The focus has shifted from one's thoughts, feelings, and language to the body's external appearance. The body is seen as an object to be sculpted and shaped to one's self-expression. (Nash). In her writing, she explores how language often fails to express an individual's sense of detachment, so they try to express it outwardly in some manner. These practices include calorie restriction and over-exercising to achieve what is viewed as a "fasting body" (Nash). In summary, Dr. Nash believes that most of the spiritual meaning behind fasting has become lost due to the rise in attention to the superficial, physical, and mental benefits that fasting can have. To her point, other researchers have suggested that most people fast for reasons unrelated to spirituality.

#### **Deconstructing Fasting and Spirituality**

Spirituality has been defined differently by many people. Due to prejudices and a lack of awareness, one cannot determine whether someone else's fasting is more spiritually centered than another's. For instance, Dr. Nash distinguishes between fasting as part of one's spirituality and fasting simply for body-altering and personal reasons. However, some people worship and believe in their own power indirectly. On a cellular level, people who fast without the intention of demonstrating their obedience to God are going through the same processes and emotions as everyone else. Therefore, it would be shortsighted to say they do not have unique spiritual or closely related mental experiences. Christians and Muslims do not necessarily have the same intentions while performing their fasts. Still, denying them their heartfelt spiritual experiences would be unfair simply because their mindsets are different from others. Spirituality cannot be quantified by any direct physical means. Similarly, the reasons a majority of millennials are not fasting cannot be narrowed down to a particular cultural or educational factor; it is a combination of multiple.

#### Cultural and Educational Factors That Affect Millennials' Attitudes toward Fasting

#### Facts on Millennials

Dr. Rebekka DePew is a resident at PCC Dr. Burdick Family Health Center. She collaborated with Dr. Gilbert Gonzales, an assistant professor at the Center for Medicine, Health, & Society, the Program for Public Policy Studies, and the Department of Health Policy at Vanderbilt University, on a research paper titled "Differences in Health Outcomes Between Millennials and Generation X in the USA." Their research is based on data from National Health Survey interviews that were conducted between 2000 and 2016.

The researchers compared the health outcomes of millennials with those of the prior generation when they were the same age. The results demonstrate that the millennials were more educated but more likely to experience poverty. They were also less likely to smoke but more likely to be obese. According to the study, millennials make up the largest percentage of the workforce at 35% and earn about 20% less than their parents did at the same age (with adjustments made to account for inflation). Although they have better health insurance, they have reported higher rates of poor/fair self-rated health, chronic conditions, the need for assistance with daily activities, and moderate-to-severe psychological distress (DePew and Gonzales). According to Karen Weintraub, a freelance health/science journalist based in Cambridge, Massachusetts, who writes regularly

for the Boston Globe, USA Today, and the New York Times, millennials proportionately suffer more from diseases and mental-health-related issues than any other generation before them.

#### Millennials Alternatives to Fasting

In her article "Can We Stop Aging?" that was published in Scientific American, Ms. Weintraub states that because of laboratory research, doctors recommend many treatments besides fasting. The study presents fasting and alternate information on how to stop the aging process or, in some cases, reverse it. She states that adults have achieved longevity and a greater quality of life by avoiding diseases or delaying them until the end of their lifetimes through their research (Weintraub). Researchers have already developed various techniques to increase the lifespans of animal trials that correlate to human studies. Restricting calorie consumption among mice has been proven to help mice live longer. Whether the same result can be achieved in humans is still being determined. Very few people can or want to maintain such lowcalorie diets for decades to prove definitively that this approach works. Valter Longo, the director of the Longevity Institute at the University of Southern California, has proven that mice's lifespans can be extended by limiting their food on alternate days, cutting their protein intake through dieting, exercising, and taking some medications such as metformin (Weintraub). Making old cells young again would cause them to start dividing again. Controlled cell division causes youthfulness; however, uncontrolled cell division causes cancer

(Weintraub). Scientists are still determining how well this life-lengthening and anti-aging research will translate for humans.

#### The Millennial Diet

Researchers have found that millennials' diet of choice when trying to improve their health is vegan or Mediterranean (Suárez-Gómez and Costa). This is partly due to the copious amounts of research, documentaries, and studies made available throughout millennials' lifetimes. Another widely recognized diet trend is the keto diet, which involves eating while eliminating all sugar and carbs to improve one's health. Because of this massive shift in food consciousness, restaurants have been pushed to offer healthier options and plant-based food products on their menus over the past decade. Most doctors recommend all these diet changes along with moderate exercise to treat conditions such as high blood pressure, polycystic ovary syndrome, and obesity.

#### Exercise

Millennials have significantly changed how people work out, unlike any previous generation. They are being physically active, working hard, and creating new fitness trends, such as becoming fitness influencers (Tricás-Vidal et al.). Fitness does not necessarily equate to good health. Although many people believe that newer generations are lazier than older ones, the number of millennials who engage in physical activities is slightly higher than that of any other generation on record. Today, more gyms, fitness experts, and various forms of exercise are more widely available. Depending on one's health, doctors recommend high-intensity workouts, walking, strength training, and yoga. The internet, workout videos, fitness apps, YouTube, and online personal trainers have made working out more accessible and personalized. The technology developed during the millennial era has improved working out and opened the masses to alternative health practices such as meditation, which was once not taken seriously.

#### Meditation

Millennials have been exposed to new forms of anxiety, stress, and overstimulation than the generations before them. The new disorders that have surfaced in recent times are believed to be caused by various factors such as technological advancements, the advent of social media, constant distractions, the aftermath of the Great Recession, the recent wars that have started, and the political rifts that have occurred in different countries (Layer). Due to the additional stressors that millennials experience, many mental health professionals have begun to recommend meditation as a form of therapy. Guided meditation has proven to be an effective tool for treating mental health conditions such as depression and anxiety. It helps a significant number of millennials who practice it daily to achieve a calmer and more joyful life (Layer). Furthermore, several researchers have suggested that regular meditation can significantly slow the aging process similar to fasting. Meditation is often considered an alternative method for healing in the medical community, whereas medication is the primary option.

#### Millennials and Medication

Medication use can be a sensitive topic, no matter which generation is being discussed. Nonmedical use of prescription opioid drugs by the millennial generation has been an ongoing topic in modern literature (Perron et al.). Although most medications have been proven to improve people's lives, the increase in prescription drug use and abuse among millennials has led to controversy. Research has found that millennials are five times more likely to be prescribed medications than previous generations were for the same issues.

It is essential to note that medicine can effectively cure diseases, correct health problems, ease pain, and even reverse aging. However, it is crucial to address the misuse of prescription drugs among millennials since they have exhibited higher rates of misuse than any other generation before them.

Prescription drugs have become more addictive and easily accessible to consumers, increasing addiction and substance abuse. Users are not to blame, as doctors and hospitals receive kickbacks and other forms of compensation for prescribing such medication (Sheehan and Goldner). This greediness contributes to the rise in dependence and addiction. Millennials often turn to drugs as coping mechanisms due to the pressures of jobs, school, social circles, and economic insecurity.

The increasing dependence on drugs is a concerning issue, which emphasizes the need to promote other forms of self-care instead of relying primarily on medication as a solution. This approach can help prevent the abuse of prescription drugs and encourage individuals to explore alternative health practices, such as fasting.

#### Conclusion

Millennials should incorporate fasting into their daily health routines for their physical, mental, and spiritual well-being. If not, it will continue to lead to missed opportunities to improve their health as they age. Although fasting has a long history and ample scientific evidence supporting its positive effects on health, millennials choose alternatives, because of a lack of education on the practice. The physical benefits of fasting are well-documented, and a physician should monitor the impact of fasting on mental health. Spiritual effects are less tangible and depend on personal beliefs. The peer-reviewed research reinforces that fasting can improve all the pillars of wellness and should be considered by millennials as a valuable tool for improving their health as they age.

### **Additional Research Methods**

#### **Case Studies and Visual Analyses**

The following research presents additional information to continue to reinforce the healthiness of fasting and provides additional information identified as knowledge gaps in the thesis. Also, the visual analyses examine successful campaigns that will be incorporated into the visual solutions.

#### Case Study 1 World Obesity Day 2024: Fasting and obesity prevention

In support of World Obesity Day on March 4, 2024, the World Health Organization (WHO) Eastern Mediterranean Region launched a health campaign coinciding with Ramadan, which will help develop healthier habits in their region with the potential for worldwide adoption. Its multifaceted initiative targets many health aspects, focusing primarily on fasting and obesity prevention. Because of this campaign, the motivation behind the project is the fact that nearly more than half of women and men are obese, and around 20% of school-age children are obese or overweight in the Eastern Mediterranean Region. By the year 2035, the projected obesity rate will be 1.9 billion worldwide, which is roughly 25% of the world population, with a projected economic impact of \$4.32 trillion due to obesity-related health costs.

WHO Eastern Mediterranean Region suggests fasting daily during Ramadan from dawn to sunset, offering a structured way to reset one's relationship with food. The campaign revealed that fasting has been proven to help develop healthy habits, leading to increased weight loss and health. According to their evidence, fasting can also positively impact other aspects of health, such as strengthening the digestive system by improving efficiency. It also helps reduce fat and sugar levels in the blood, promote healthy blood pressure and cholesterol, and improve overall heart health. To get the most out of fasting during Ramadan, the WHO recommends that additional steps be taken to get optimal benefits from fasting. The first is to hydrate and drink plenty of water. Juice and milk are acceptable, but individuals should avoid sugary and high-calorie drinks. Soup is also a good food choice that keeps people hydrated because during Ramadan, during their fasting periods, most individuals refrain from food and liquids. WHO also recommends eating healthy lean proteins faster, not eating too fast, avoiding high-fat, sugary, and salt-filled foods, and engaging in a mild exercise routine. The hope is that these healthy habits are not relegated to just the month of Ramadan but are implemented as part of people's daily lives. The campaign concluded with information about how fasting is only a part of a healthy lifestyle and that any one condition, such as diabetes, hypertension, cardiac disease, or pregnancy/breastfeeding, should consult their doctor before doing so.

The biggest problem with this campaign is that it coincides with Ramadan, which is not celebrated worldwide. Since Ramadan is a religious holiday and this campaign hopes to make a global impact, some individuals are reluctant to take on a practice that coincides with another religious group's faith. Also, most individuals are willing to fast for a short period, but as time goes on, they need more motivation. Another challenge was that people were not individually responsible for their accountability during Ramadan, which made it easier to accomplish this with the support and encouragement of others engaged in the fast. Temporary fasting is not a permanent cure or treatment for obesity and health issues. Only when adults make it a routine practice will there be lasting health improvements; most of the results and benefits of fasting during periods like Ramadan diminish within months.

The World Health Organization recognizes fasting as a viable way of improving health. It implemented its campaign by providing fact-based evidence and statistics relevant to fasting. WHO also provided projected health information on the world's state if people continued to adopt unhealthy eating habits. The design elements depicted in Figures 1 - 3 are simplistic graphic designs with hyper-realistic, clear photos. The designs also feature elements synonymous with the Mediterranean region, the branch that launched the campaign.

#### Case Study 2 The Effects of Fasting on Human Metabolism and Psychological Health

Dr. Yiren Wang and Dr. Ruilin Wu from the Department of Psychology at Beihang University, Beijing, China, initiated the study on the effects of fasting on human metabolism and psychological health. The motivation behind the research project was that fasting is a prevalent approach for weight loss, and it has been proven to treat some diseases such as type 2 diabetes; however, the effects of fasting on health, aging, and other diseases are areas of concern that researchers and the public have not as thoroughly explored. The purpose of the case study is to shed light on the effects of fasting on human fat, protein, and organ metabolism, as well as the psychological health, mood regulation, and emotional enhancing effects induced by fasting.

According to the study, fasting restricts solid food intake based on cultural or religious practices. Many types of periodic fasting are used worldwide. The most popular fasting trends are intermittent fasting, alternate-day fasting, and Ramadan fasting, which were the primary types of fasting referenced in Dr. Yiren Wang and Dr. Ruilin Wu'sWu's research results. Their study found, on average, in multiple trials ranging from three to twenty-four weeks, that fasting can decrease triglycerides (14% - 42%) and saw a reduction in people's total cholesterol (10% -21%) in normalweight and obese people. Fasting also leads to a significant decrease in fasting glucose levels in obese adults and a slight decrease in insulin levels. During fasting, the body breaks down protein to produce energy, which enhances physical and psychological performance.

The study also found that prolonged fasting reduces visceral fat within the organs, increasing the production of human growth hormone, serotonin, and dopamine concentrations. Prolonged fasting also leads to a drop in blood pressure. The myth that the body burns muscle during fasting was debunked, as glucose and fatty acids were found to be the primary energy sources during fasting.

Fasting has various psychological effects, including both positive and negative emotions (Wang and Wu). Short- and long-term fasting can increase negative emotions such as depression, anxiety, anger, and irritability. However, it can also boost positive emotions like vitality, achievement, reward, and pride. Gender was not found to have any significant psychological response related to fasting, but the psychological outcomes were mainly due to the different motivations behind the fast. Those who fasted for religious reasons positively impacted their physical and psychological health during the fast compared to those who fasted striclty because of health reasons. The study also revealed that fasting psychological differences were directly related to an individual's emotional control. People with better self-discipline had a better fasting experience. Groups with prior fasting experience had better-coping mechanisms for fasting. All groups of people who practiced Ramadan fasting positively impacted their depression and stress levels at the end of the fasting period. The study concluded that glucose affects people's emotional health and regulation, not only

during fasting. Lastly, long-term fasting was also found to improve psychological and emotional enhancement.

The main challenge faced during their research project was that there are many ways and lengths of time for individuals to fast, so finding research within their parameters can be a chore. Another challenge was that only a fraction of the presented research was based on their trials and knowledge. The rest of the information had to be narrowed down to specific studies and peer-reviewed articles aligned with their fasting protocols. The project's outcome overwhelmingly proves that fasting primarily positively affects humans' overall physical and psychological health. However, some short-term adverse risks are associated with the psychological effects of fasting. The results further support the thesis that fasting is a safe practice for improving millennials' physical, mental, and spiritual health. It should be used more routinely in their adult lives. The mental and psychological health impacts of fasting are particularly informative due to the lack of information surrounding this topic. Additionally, the information on the effects of fasting on gender was beneficial because it addressed a knowledge gap referenced in the literature review.

# Case Study 3 Impact of intermittent fasting on human health: an extended review of metabolic cascades

Nine doctors from the Institute of Agriculture Sciences at the University of the Punjab in Lahore,

Pakistan, have published a study titled "Impact of Intermittent Fasting on Human Health: An Extended Review of Metabolic Cascades" in the academic publisher Taylor and Francis. The study addressed the complex issues surrounding intermittent fasting, which has been used for millennia to investigate the effects of fasting on human metabolic activity. The three most common fasting strategies are caloric restriction, dietary restriction, and intermittent fasting, all of which have been shown to improve human health. Fasting is an ancient practice that has been largely forgotten. However, recent research has revived interest in its benefits, including weight loss, increased energy, and reversing type 2 diabetes and cancer. The article also compiles data from ninety-three case studies to validate the health effects of fasting on humans.

The study defines fasting as either partial or total abstinence from food or certain foods. Calorie restriction fasting refers to a reduction in caloric intake by 20-40%. In contrast, dietary restriction involves the elimination of one or more food macronutrients with little to no reduction in total caloric intake. Intermittent fasting is a newer approach that has shown positive outcomes compared to other fasting regimens. It entails complete calorie restriction for a few hours a day, alternating days, or several days a week. Numerous studies have been conducted on intermittent fasting and its impact on health, its effects on prolonged lifespans, and the prevention of diseases such as renal disease. various forms of cancer, and diabetes. Studies have also

been conducted on the effects of fasting on cardiovascular health, including lowering blood pressure and heart rate, as well as post-exercise heart recovery.

The journal explores various subcategories of fasting, such as anticancer and antihypertensionpromoting factors. It delves into oxidative stress and insulin sensitivity biomarkers, which lead to the project's overall outcomes. Intermittent fasting is the most effective strategy compared to calorie and dietary restrictions, with different variations. Intermittent fasting has been proven to be a powerful strategy to cope with diseases such as high blood pressure, cardiovascular disease, cancer, diabetes, and oxidative stress. Animal and human trials have shown that intermittent fasting can increase lifespan. However, the authors emphasize that more research is still needed to validate all the positive health claims of intermittent fasting in human and animal trials and case studies.

This case study serves as a testament to the thesis problem that fasting is a viable way to enhance mental, physical, and spiritual health. The case study primarily focuses on the physical health aspect of the thesis, which is the mainstay of most people's health pillars. However, each pillar is equally important. The case study underscores that fasting has been a health-enhancing practice since ancient times. This fact has been unjustly relegated to the fringes of pseudoscience, primarily in the context of Western medicine. The case study also identified that fasting has been proven to cure, reverse, or prevent certain diseases usually associated with aging, including but not limited to cancer, diabetes, high blood pressure, and cardiovascular issues. The primary reason fasting is less utilized is because the commonly known information about fasting revolves around weight loss. To address this knowledge gap, the visual solutions will provide millennials with a comprehensive understanding of fasting's health benefits, as reflected in the associated data. This will empower them to make informed decisions about incorporating fasting into their health routines.

## Visual Analysis 1 World Obesity Day 2024: Fasting and obesity prevention

The graphics from the World Health Organization Eastern Mediterranean Region Fasting and Obesity Prevention Campaign collection showcase hyperrealistic photos depicting individuals engaging in everyday activities. The selection also includes examples of healthy and unhealthy foods to encourage a healthy lifestyle. Additionally, the graphics feature moon graphics that indicate the period of fasting and eating during Ramadan. The collection also includes background watermark graphics representing culturally specific Middle Eastern and Mediterranean elements.

The primary audience for the campaign is the Eastern Mediterranean Region, which is made apparent because of some of the culturally specific design elements within the graphics, including the people's physical appearances, religious contexts, food and dish choices, and architecture represented within the designs. The only thing that makes the graphics set appealing to people outside of the Eastern Mediterranean Region is that they state that this is a worldwide effort on the website. The visual solutions are friendly, welcoming, and lighthearted because of the design elements presented within the set of graphics. The project is situated within a cultural context of utilizing natural remedies to enhance health and treat illnesses without medicine or, in some cases, without needing a physician's care.



Fig 1. "Take care of yourself" World Health Organization

The interaction between the image, objects, and accompanying text is multifaceted. The text within the graphics is not intertwined within the contents graphics and is given room to breathe because of the designer's use of negative space surrounding the text. Figures 1 and 2 use text as a focal point of the designs, and the context itself is clear and concise to help enhance the clarity of the images. Also, the text utilizes the same color palette as the background elements in all three figures. Hence, it forms a harmonious balance and does not standout too much like using black or some other non-complimentary color choice.

All the firgures use authentic photographs to interpret the composition. However, the pictures have been modified to soften the color schemes and create a more balanced look. The natural contrast within the photos has been reduced, and the natural lighting has been placed directly in front of each object. The spatial arrangement of the images guides the viewer's gaze horizontally across the graphic. The graphics focus on the text and pictures, which are highlighted by the desaturated color palettes and subdued background selections. The expressive content conveys a relaxed and joyful mood, as evidenced by the facial expressions depicted in the designs.

Using common foods in figures 2 and 3 such as chicken, rice salad, water, and fruit is a good design choice because they are easily recognizable food items that transcend geographic origins and are familiar to people worldwide. However, using the moon as a design element may not be ideal for a broader world audience as it is a religiousspecific symbol associated with Ramadan, which is not necessarily known to everyone globally. Figure 3 uses the thumbs-down symbol and all the figures utilize the moon as symbolism. The thumbs-down symbol indicates the food's negative connotation. The designer also used color theory to make the graphics more effective, using red to indicate alerts or danger. The moon is a recurring symbol throughout each graphic, signifying the start and end of Ramadan and Islamic iconography.



Fig 2. "Eat a balanced diet" World Health Organization

The designer's choice of using clear visual representation and clear and concise language led to the success of the visual solutions. Using negative space and background desaturation also helped amplify the overall aesthetic appeal. Additionally, although the graphics were created with a specific region in mind, they still have a universal appeal that can resonate with a broader audience. The visual analysis demonstrates that graphic illustrations, such as posters and fliers, can effectively convey information and support the concept of the suggested visual solutions.



Figure 3. "World Health Organization

#### Visual Analysis 2 The Amazing Benefits Of Fasting On Our Body According To Science

The following analysis describes the visual solutions presented by the Mind Journal, a platform that promotes mental and emotional health. All three designs feature medical illustrations of human forms surrounded by data encouraging individuals to fast. The graphics are intended for adults such as patients, medical professionals, or health enthusiasts who want to improve their health based on scientific evidence. Although the visuals are targeted at adults, they are presented simply enough for children to grasp the concept. Each illustration is constructed to convey a message related to human health, even without the accompanying text. The only design element created with aesthetics in mind is the background texture in Figure 4. Overall, the visuals are direct and to the point, and people can understand that they were intentionally designed

this way without the need for superfluous information or graphic elements to enhance their creativity.

The project is situated within a larger cultural context emphasizing achieving better health outcomes through non-medical supervision. For thousands of years, religious communities have considered fasting a self-healing method for various illnesses. However, in the modern era of medicine, especially in Western culture, fasting has lost its significance as a primary tool for healing. This project seeks to bring fasting back to the forefront of modern medicine as a viable way of healing oneself from an educational standpoint and eliminate the idea that fasting for healing is non-scientific.



Fig. 4 "The Amazing Benefits of Fasting" Minds Journal

The relationship between the images, forms, and texts is highly contrasted in each figure. Figure 4 presents a man's form that contrasts with everything except the text color. This draws the viewer's eyes directly to the center of the page at first glance but then returns the viewer's focus to the text of the surrounding page. In Figure 5, the text floats around a single figure, but the eye is never really drawn to it. Instead, the focus is on the text because of the desaturated color palette of the illustration in the Middle of the design. Lastly, in Figure 6, the background is highly contrasted with the transparent male graphic and the text, making the viewer's eye travel across the page from the image to the text.



Fig. 5 "The Amazing Benefits of Fasting" Minds Journal

The negative space contrasted against the illustrations and graphics is apparent throughout the figures. In Figures 4 and 5, the spatial organization is centered around the graphics. However, figure 6 uses the figure's heart as the focal point, making the viewer's eye travel directly across the page to the accompanying text. The rhythm of the visuals is consistent throughout each of the figures, with the focal points all located in the foreground, with an uncomplicated, free space making up the background elements. The expressive content of all three figures is rigid and to the point in nature, with no signs of creativity or additional expressive elements of design.



Fig. 6 "The Amazing Benefits of Fasting" Minds Journal

When analyzing the content of each design, its clear that The Mind Journal used universal symbols to convey the overarching theme of the graphics. These symbols are all simplistic, making it easy for people from different cultures to interpret them accurately. All three semiotics are abstract forms that represent the male figure, with no iconography used in the visuals. The visuals are successful from an aesthetic perspective because of the designer's use of negative space, color palette, and simplistic design approach. Health-related information can be overwhelming for the audience if it is too complex. In this case, less is more, and the designer has captured that strength in the visuals. These design choices directly relate to the theoretical solution, which involves designing a series of posters, brochures, and web content featuring similar designs as in the Mind Journal figures.

#### **Visual Analysis 3**

The following analysis describes the visual solutions presented by Dr. Jockers, a natural medicine doctor specializing in functional nutrition and natural health strategies. Dr. Jockers is also the founder of DrJockers.com, a website created to help people improve their health through science-based solutions, such as evidence-based dietary recommendations and lifestyle changes.

Dr. Jockers presented three designs. Two feature simplistic medical illustrations with simple graphics representing the subject matter. The third design is a brochure or flyer with simple cartoon designs in the same style. The target audience for these designs is adults looking to improve their health, not medical professionals. This is apparent because of the designs' simplicity and cartoonish style, which are intended to make the audience feel at ease and not overwhelmed by complex medical information presented.



Fig. 7 "The Miracle That is Water" Dr Jockers: Super Charge Your Health

The visual aids are meticulously designed to be informative and easily comprehensible. The layout is user-friendly, enabling the viewer to navigate the graphics effortlessly. The accompanying illustrations are very simplistic, facilitating the audience's understanding. The design of the graphics prioritizes clarity, which is evident in the presentation. The project is rooted in a holistic, culturally relevant healing approach. While doctors are not typically trained in nutritional health due to the successful in and out-patient fasting trials, case studies, and testimonials, more doctors are starting to recommend this natural healing approach as a non-invasive alternative to traditional medicine or surgery to improve the health of their patients.



Fig. 8 "Top 12 Benefits of a Fasting Lifestyle" Dr Jockers: Super Charge Your Health

The relationship between the images, forms, and texts in Figures 7, 8, and is highly complementary. The artist uses a triadic color palette centered around blue in Figures 7 and 8, while a green hue dominates Figure 9. All three figures' illustrations and forms are round, contrasting the blocky text styles. This interplay creates interest throughout the design and breaks up the monotony. Negative space is utilized equally around the designs and text, giving the fliers enough room to breathe. This intentional use of negative space makes the audience feel that the designs are well-organized and easy to follow.

The designs are kept simple, with cartoonish

medical illustrations accompanying direct and concise language. This approach makes it easy for viewers to understand complex medical topics through accompanying symbols. Figure 8 contains a variety of symbols, including those for blood vessels, diseases, human organs, cells, mental health, and body inflammation. In Figure 8, the symbol for blood vessels is accompanied by the phrase 'Improves Insulin Sensitivity,' which explains its function. Additionally, an illustration of a woman praying is the only iconography in the figures, also included in Figure 8.

Several aesthetic choices contributed to the success of the visual solutions. The first was to use a simplified color palette. The consistent color palette prevented the graphic illustrations from appearing overwhelming, especially in Figure 8, where they covered multiple elements. Additionally, the use of rounded designs and the contrast with square text were successful design choices. The designer has also utilized negative space throughout the graphics, providing sufficient breathing room, which was an excellent graphical decision that eliminated the worry of potential information overload. Another excellent choice was to present the information in bullet-point format. This format was chosen for its ability to present information concisely and easily digestibly, which is particularly helpful when dealing with science and medicine. Medical illustrations were also simplified, making it easier for the average adult to understand and comprehend complex information. All these choices will be incorporated

into the creation of the visual solutions as a series of posters, brochures, and web design items. The focus will be primarily on the design's ability to convey complex information in a simple manner.



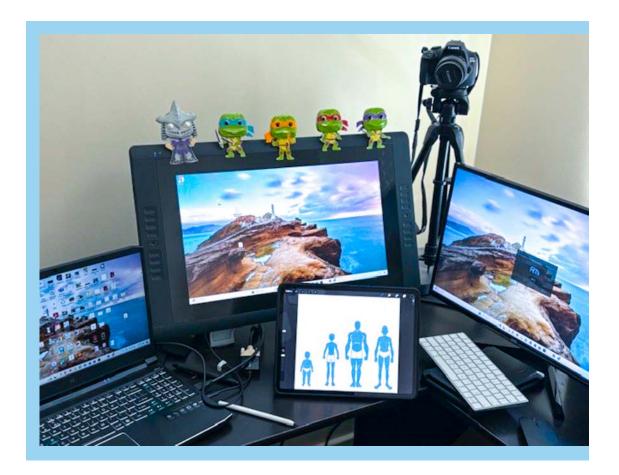
Fig. 9 "12 Strategies to Prepare for an Extended Fast" Dr Jockers: Super Charge Your Health

### CONCLUSION

The research presented in this study draws from various peer-reviewed sources, case studies, and visual analyses. The research findings indicate that fasting for physical health is overwhelmingly beneficial. However, fasting for mental health, although proven to be safe, should not be undertaken without the constant monitoring of a physician due to the lack of research and potential adverse reactions. Fasting for spiritual health, although it may be associated with mental health in some cases, is a great tool to build spiritual strength. However, its effects are measured through intangible means experienced by the practitioner. Because of this, most of the information for the visual solutions will be derived from the physical effects of fasting while only briefly covering the mental and spiritual impacts.

The case studies and visual analysis information also provided some key design and style trends. The deliverables, which include photos, graphic illustrations, and multiple other design elements, should be concise and to the point in their messaging. They should not overload the viewer with too much detailed information. The visual elements should have a logical flow that moves the viewer's eye across the graphic, giving each individual element room to breathe. Any symbolism and iconography used should be universally known to eliminate any misunderstanding or confusion. Lastly, the designs showed that a light-hearted, welcoming campaign using consistent color palettes and design choices worked best in each example, demonstrating the power of visual communication in design.

# CHAPTER 3 VISUAL PROCESS



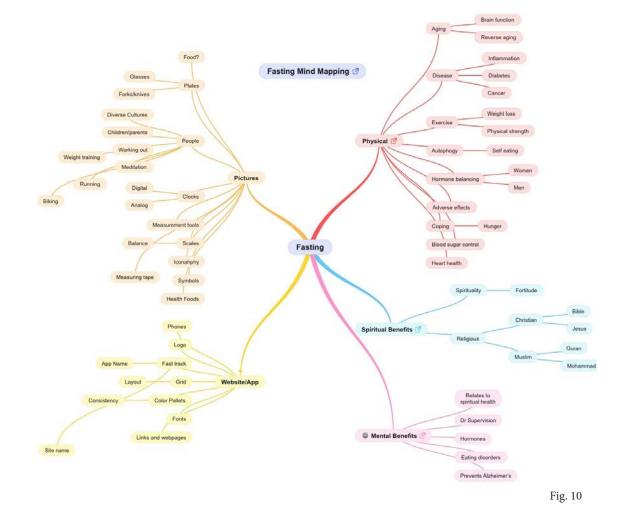
# **VISUAL SOLUTIONS**

For my graduate thesis, I focused on using visual solutions to educate millennials about the benefits of fasting and its potential impact on their health. To make the learning process more engaging, I created mockup designs for an app, a website, social media posts, and posters to encourage millennials to learn about fasting visually and interactively. The primary focus of the visual solutions is on social media posts. Millennials are the easiest generation to target, influence, and persuade through social media (Jain et al.). This is not because they are more easily influenced than other generations but because they perform more research than any other generation, and one of the primary sources is social media.

My research findings reveal that the average millennial's attention span is 8-12 seconds when consuming social media or browsing information (Jain et al.). They are particularly drawn to graphics such as images, illustrations, and photos and prefer information with less text (Smith). Given these insights, I strategically tailored the content to these preferences, making the learning experience more enjoyable and effective for my target audience.

### **BRAINSTORM**

I began my process by utilizing mind mapping as a tool. I wrote down all of my central themes and main activities that I foresaw myself needing to accomplish over the course of my deliverable creations. I honed in on my ideas and made connections that made sense to me so that I could achieve different parts of the project even before I got to them, limiting the number of times I had to do the same thing repeatedly. The most straightforward example would be the photos. I took dozens of pictures at the beginning of the project, most of which I didn't use. I tried to take photos that I thought would be needed throughout the three-phase deliverable creation process. I started doing this in Arts and Design Research Methodologies class, always thinking ahead with the final product in mind.



### **MOOD BOARDS**

Creating mood boards was a crucial part of my design process. They allowed me to gather visual research in one place, which helped me reference design choices that stood out to me positively and negatively. This included pieces outside of my case studies and visual analysis. After analyzing these pieces, I took notes on typography, color palettes, grid use, symbols, and other artistic elements in the designs. In Figure 11, I showcase the information and font styles I used as the foundation for creating successful social media posts and posters. This led me to conduct additional research on how millennials process information and their style preferences, allowing me to better customize my work for them. Additionally, I studied the cartoon and graphic styles used in advertisements that resonate with the target audience.



### **SKETCHES**

#### Website Sketches

Creating sketches, thumbnails, and roughs is the starting point of my design process. I always started with a rough sketch before designing any of the thesis deliverables. The level of detail and information in these sketches varies; some are more developed than others. In most cases, I refine the initial sketch, enlarge it, adjust transparency, and work over it early to use it as a reference. This process of refining the initial sketch and ensuring that the proportions and scale are close to the final product's size gives me a sense of control and direction. It significantly impacts the time I spend on my work as it progresses, and it's especially important when I have multiple pieces, time constraints, and quick turnarounds, as was the case during the creation process—every bit of time saved added up.

During the sketching process, I primarily focus on the composition and consistency of the design. I proceed with the design once I am satisfied with the overall layout. The refinement process varies for each design, depending on its complexity. Figure 12 displays the level of detail created for the website designs. They aren't very detailed and all I tried to focus on during the designing of these websites is the overall look, picture, placement, text location and graphics during these stages.



#### **App Sketches**

Figure 13 displays the refined version of my app design sketches. The original roughs were unrecognizable in terms of the content, so I didn't include them in the figures. I created these refined roughs on Procreate. Afterward, I worked from this stage using a combination of Illustrator, InDesign, and Photoshop to create the mockup app design.

As I worked through the design process in my head, I wanted to ensure that the app looked good and was primarily functional in its purpose. I referenced some popular health and fitness apps that were easy to navigate and aesthetically appealing. The main focuses of my design were simplicity, readability, and functionality.







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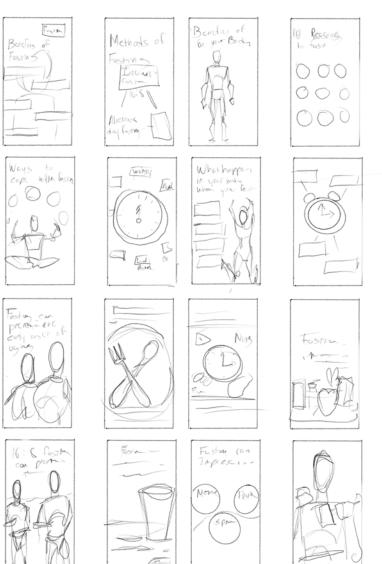


### Socila Media Post Sketches

My social media posts are the focus of my deliverables. Millennials get most of their information from social media when they research. I chose Instagram as the forefront of my social media campaign because Instagram and YouTube are the leading influence and marketing campaigns for the millennial generation (Silvia).

Part of Instagram's success is due to the impermanence of the posts. Sharing a quick moment and jolt of information compared to Facebook, which is usually overloaded with text and content, makes Instagram more successful due to its photos, illustrations, and lack of text. It is pretty straightforward how people consume social media information and allow their attention to be pulled from one post to the next (Israfilzade and Babayev). This enforces the direction of my deliverables by focusing on the simplistic illustrations assisted by small

text blurbs. At one point, I forgot my intent and created elaborate designs loaded with information. I forgot that simplicity and pictures were the keys to my success in making my material. When realigning my campaign direction, I ended up recreating about 70% of my work.



### **COLOR PALETTE**

I chose blue as the main color scheme for my thesis. Research indicates that millennials prefer the color blue, followed by red, green, violet, orange, and yellow (Jain et al.). The study suggests that millennials favor blue regardless of its shade. Blue is also associated with competence, and trust, which aligns with the message I want to convey to millennials (Labrecque). I selected a dark blue to complement the other hue because it is linked to intelligence and reassurance. Considering this information, I decided to use variations of these two blues throughout the project.

White was an easy choice to utilize throughout the design because it is commonly used as a background color; however, it also emphasizes the negative space throughout the project, helping contribute to a clean, minimalist design.

### CMYK: 66, 17, 3, 0 RGB:71, 169, 218

CMYK: 93, 60, 28, 9 RGB: 20, 95, 134

CMYK: 0, 0, 0, 0 RGB: 255, 255, 255

CMYK: 75, 68, 67, 90 RGB: 0, 0, 0

### **TYPOGRAPHY**

The typography for the final deliverables went through several drafts before being finalized. The typography choices had to work well across different platforms, including digital and print. The main concerns were legibility and readability.

For the visual solutions, I alternated between two typefaces: Lato and Roboto. Lato is a versatile font commonly used in digital and print media and belongs to the sans-serif typeface family. Google developed Roboto, a modern sans-serif font designed to look great on all device screens.

Lato was primarily used for body text in the visual solutions, while Roboto was reserved for the headers and text that needed to stand out. Although the font designs are very similar, there are just enough nuances in the letters' curves and line widths to complement each other and create a hierarchy in the designs.

Roboto

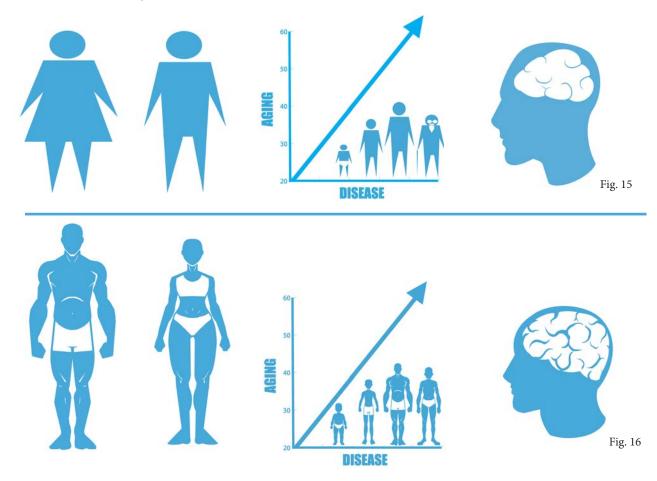
Lato

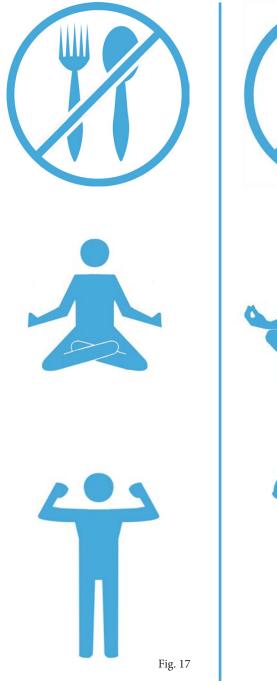
Roboto Light Roboto Regular Roboto Medium Roboto Bold Roboto Black

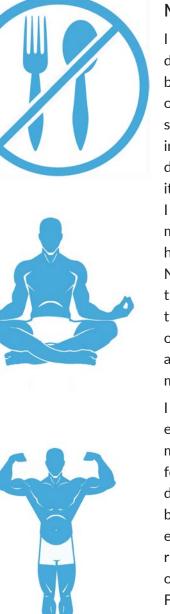
Lato Light Lato Regular Lato Medium Lato Bold Lato Black

## **ILLUSTRATIONS**

The illustrations I created have evolved a lot since the inception of this project. My goal was to create simple, aesthetically appealing designs focused on communicating the message and adding visual interest to break up the redundancy of the text. I used the same blue color to ensure the design's harmony with the rest of the project's color palette. Figure 15 represents the initial version of the sketches, while Figure 16 is the final iteration. Additionally, I kept in mind that the designs shouldn't distract from the text. There were several iterations of the illustrations that I did not showcase. However, I am pleased with the design's evolution from basic characters to a style that reflects my own illustrative approach. This transition was a careful balance between maintaining the original direction of the work and combining it with my style, resulting in graphics that reflect me as a designer while still enhancing the message.







#### **Mockup App Illustrations**

I initially created this series of designs for the mock-up app but used them in other parts of my work as well. My process starts with a rough pencil sketch in Procreate to outline the design's overall form, whether it's a person or an object. Then, I would set the above layer to mirror to avoid redrawing both halves of the image as I refined it. Next, I used the pen tool to fill in the shape and overall form. After that, I exported it to Illustrator or Photoshop to finish the piece as needed to clean up edges and make color adjustments.

I used multiple references to ensure design accuracy while maintaining my style at the forefront of my work when drawing or designing. I tried to be consistent by using rounded edges and avoiding too many rigid ones. The original versions of the designs are displayed in Figure 17, while the final versions are shown in Figure 18.

### Social Media Post Illustrations

The social media posts are the highlight of the deliverables. This is because research underscores that they will be the most influential aspect of my educational campaign, resonating with my target audience the most. I needed to create them in the same style of artwork as the previous illustrations. Still, I wanted to take them further by adding full color and contrast to generate interest while maintaining my color pallet and drawing style.

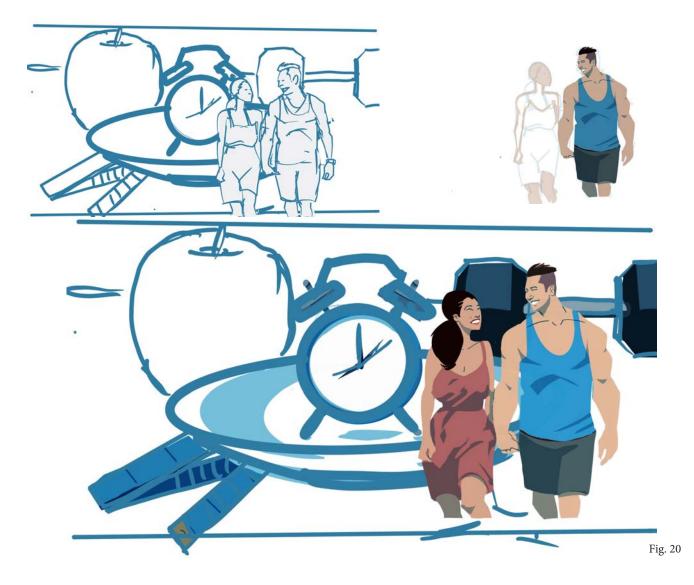
I created the sketch for Figure 19 similarly to how I made the previous illustrations. I started by looking for references for people running and then created a rough sketch in Procreate, displayed above. I had a lot of trouble keeping the figure from looking stiff, so I decided to take a different approach in the illustrations to come. However, I continued refining the sketch, cleaning it up and inking lines.

Next, I exported the design to Photoshop, lowered the opacity, used it as a reference, and began adding colors, building the design over the line layer using the pen tool to build the shapes. Lastly, I exported it to Illustrator and cleaned up some edges as needed.

The look I was going for was to mimic vector illustrations, but this process proved to be inefficient and time-consuming. In the next round of designs, beginning with Figure 20, I streamlined the process, making it more efficient and effective.



The process modification I started in Figure 20 was that I stopped refining the drawing so many times. I realized I wasn't utilizing an outline on my characters anyway, so having a clean contour and constantly refining the sketch was pointless and only making it look stiffer and more unnatural. I started using simpler shapes to draw the characters and objects and then used shapes to block in the illustration's colors. This process was quicker and cleaner, but it still took me a significant amount of time to get the figure's poses to look natural, so I made one more change in the process in the designs to come.

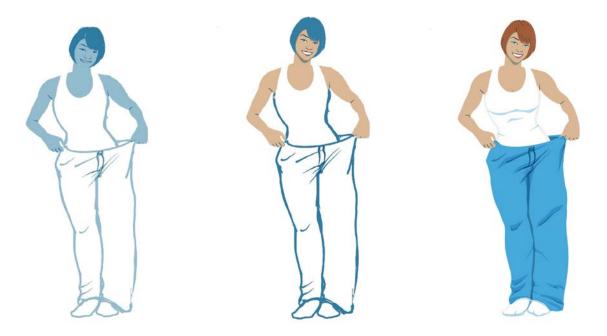


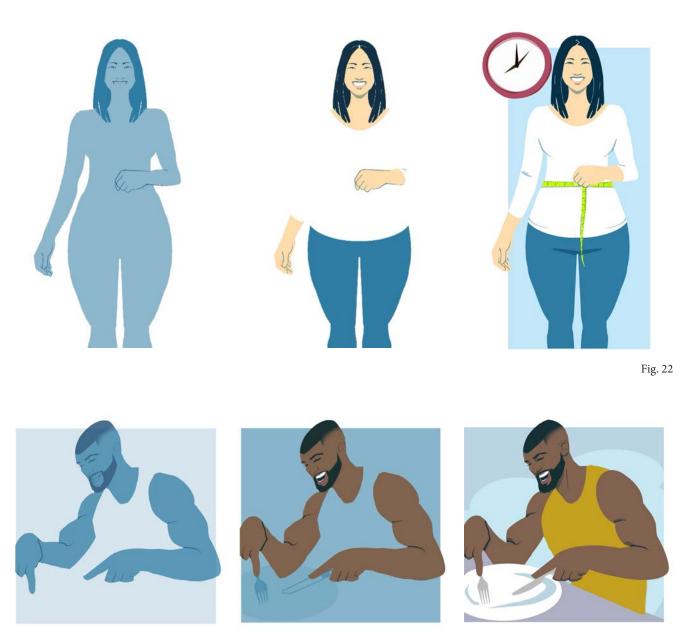
Figures 21 - 24 utilized the same illustration approach, but I altered the designing process even further than previous designs. To help further circumvent the stiff pose problem, I began my drawing process using silhouettes as the base. I learned this technique in a character design class, where I create the initial drawing from just shapes, creating the contour of the character first and then adding the details.

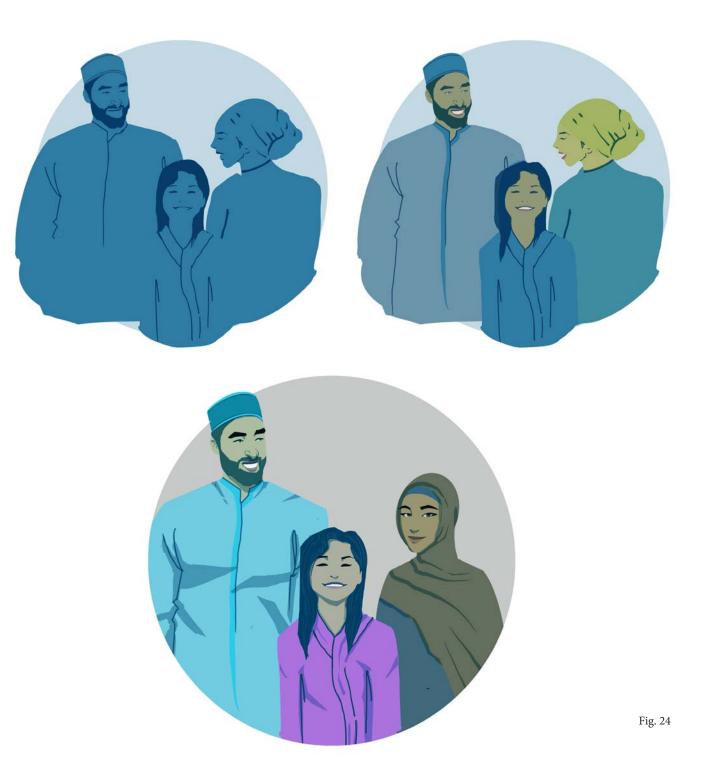
This technique accelerated my processes exponentially, allowing me to work on the character's overall visual gesture and ensuring that the pose or task clearly articulated the character's overall personality and action.

I divided my character into sections, starting with the head, torso, and appendages. This way, I could easily enlarge or shrink items, minimally affecting the work I had already accomplished. Next, I would put the clothes on the figures in the same manner, add additional lines, and cast shadows on the characters, ensuring that everything was clearly articulated in the overall aesthetic of the design.

As far as the coloring process was concerned, I sporadically did it throughout the design process. Sometimes, I accomplished the coloring piece by piece as I created elements; other times, I would wait until the whole character was created. It was one of the more organic parts of the process. Each design had minor deviations, but this was the primary method to make all the character illustrations going forward.





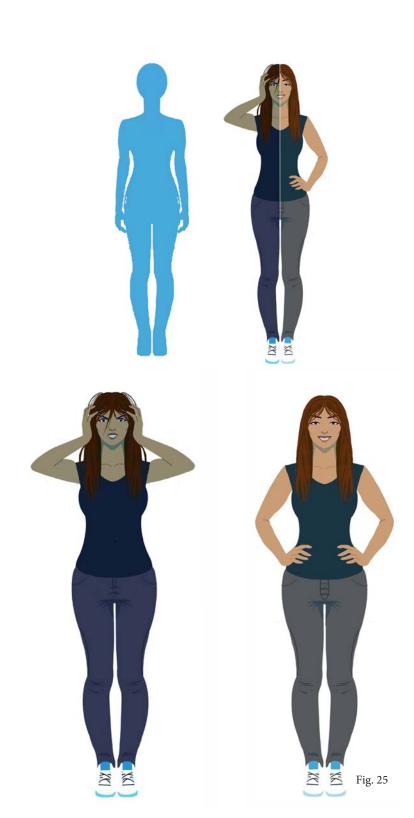


#### **Poster Illustrations**

Figure 25 is the first of my three poster illustrations. The idea for this illustration came from one of my unused social media post designs. I wanted to showcase how people thought fasting would be versus what actually happens when fasting.

The character I created was originally supposed to be split in half, with the negative attributes aligned with the left half of the body and the positive qualities of fasting listed on the right side of the character. After the first rendition and looking at the overall composition of the page, I decided to make two separate characters because the overall graphic was unbalanced.

I recreated the character by separating it into two separate figures, duplicating each half, and flipping the newly created halves horizontally, creating two separate characters.



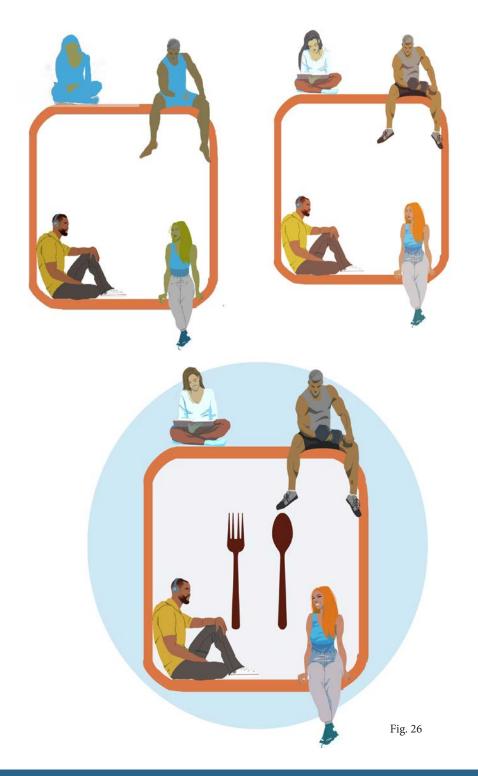


Figure 26 is one of the most aestheticaly pleasing pieces in the whole project. Ensuring all the characters worked together to create a cohesive design was challenging. I had to ensure that drawing styles and color palettes were harmonious while still trying to ensure that every character was developed as an individual.

Designing the women's faces presented a few challenges. As an illustrator. I find it easier to create men's characters due to the fewer nuances involved. However, I embraced this challenge, and as you can see, I have made just as many women as men throughout the project. The most blatant example is in Figure 26, where the women's faces were completed in the second illustration, but in the final version, they changed completely. This also happened in Figure 24.



Fig. 27

Figure 27, the third poster illustration, is based on a photo of my mother and father. In this last poster, I wanted to illustrate an older couple. This is because it's great to improve your health, but millennials are also concerned with caring for their family and friends. The educational campaign's goal is not to start and end with millennials but to spread what information they have learned to other generations. I took this illustration further than the others by adding a light source to enhance the illustrations. There were not a lot of elements to this poster, particularly, so adding this one element of a light source enhances the design by helping further separate the fore and background.





Figure 28 is the last and final design for my four-part poster series. At this stage, I had already refined my illustration process, making it more straightforward. The man and woman in the illustration represent a millennial couple. I purposely illustrated them walking, intentionally leaving their actions and destination open to interpretation. I did this because the only restriction during fasting is consuming calories.

The color palette and character designs are consistent with the other pieces. Initially, this piece was strictly for the fourth poster illustration. However, I ended up incorporating the two characters from the drawing into the front cover design and making them part of the website mockup.

### **Unusued Social Media Post**

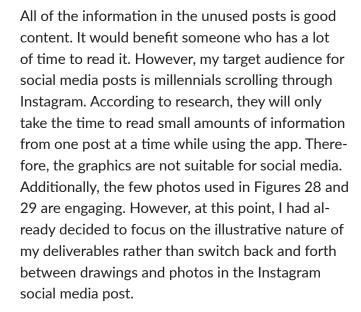
Figures 28 and 29 display all of the draft social media posts that were not complimentary to the brand. I deviated from some of the basics of trying to make a social media post that is engaging with millennials.

My first mistake with the posts was that they were too text-heavy. Millennials shy away from reading things that have too much text, which is one reason why Instagram is the most popular social media site overall with millennials.

Figure 28 lacks an interesting photo or illustration, which is the central idea behind the Instagram post. Both Figures 28 and 29 are also too busy. Research suggests that most adults, not just millennials, prefer minimalist design with little text regarding social media.



In just 16 hours of fasting, the body initiates the detoxification process, triggering autophagy and commencing the healing process. Fig. 29



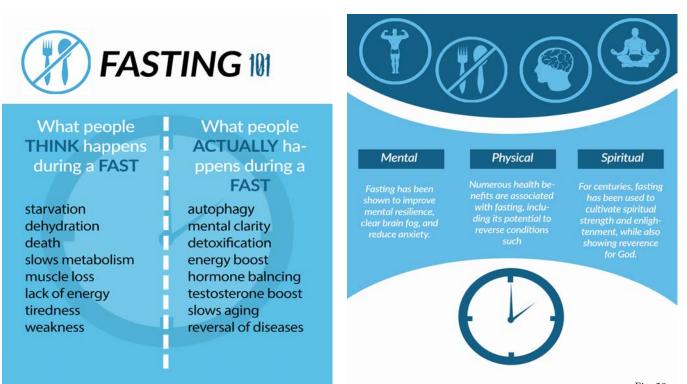


Fasting effectively restores *insulin* to normal levels, aids *weight loss*, reverses high *blood pressure*, *type 2 diabetes*, and *cholesterol*, eliminates *cancer*, and significantly improves *depression* and *anxiety* while enhancing *mental fortitude*.





I still utilized the information from Figure 30's top left example in one of my social media posts. I divided it into four parts and paired it with some illustrations. Digesting this information is less overwhelming when separated into individual social media posts. The rest of the content from the other post was similarly utilized in my posters for my final round of deliverables. Because of its size and location, a poster can still grab people's attention and engage viewers with more information. I also paired the content illustrations to maintain the continuity of the style.



# LOGO DESIGNS











I had to create multiple variations of the fasting logo to be used throughout the deliverables before I got it right. The main reason for this is that I was so caught up in trying to actually get to work on the deliverables that I didn't focus on the design elements that make a good logo until later in my design iterations.

The first round of designs had futuristic text that I eliminated because it was distracting and did not add value to my target audience. Also, the spoon and fork symbols encroached on the text and didn't give it enough room to breathe. In the second round of designs, I overcorrected and moved the symbol too far apart from the rest of the text.



As I continued to develop the design, I experimented with letter outlines to make the symbol stand out on darker-colored backgrounds. However, I was advised that the outlines and the multiple colors made it look less professional, so I stopped working in that direction.

In the last iteration of the design, I refined the fork and knife logo because it was too angular compared to my previous designs and illustrations, and it had one too many points. I also made the design one color, and dropped the text outline. All this led to the design's final version, located at the bottom right corner of Figure 31. The original logo was a bit plain, so I was given feedback to add another element related to fasting. Since fasting is based upon time-restricted eating windows, I decided to add a clock, which is a common theme throughout all of my work. Version two of the design was more interesting but cluttered, and my clock was poorly designed overall. It was too busy, with the text overlapping the clock hands, and I was still experimenting with the font.

The final version of the design goes a lot better with my minimalist design theme. I removed the title from the center of the design and moved it to the top of the page. I also reduced the size of the clock and designed it better while making it more of a focal point for the design. The last thing I did was to update the text with the final font I chose for my project.

PHYSICAL

Millennials and Fasting: A Healthy Alternative

MENTAL

SPIRITUAL

### Millennials and Fasting: A Healthy Alternative



## **PHOTOGRAGHY**

Photographs and illustrations have been shown to create visual interest, which helps millennials retain information. Photography was not a huge part of the designs but was mainly used in the website and app mockups.

All the photos present were taken by myself for the project. Dozens of photos were taken, but they were overwhelmingly not used as part of the project. Once the final photos were taken, they were edited slightly in Lightroom to adjust the lighting and color.













# **CHAPTER 4** VISUAL SOLUTION



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### **VISUAL DELIVERABLES**

Studies have shown that Millennials are hesitant to embrace fasting as a viable method for enhancing their mental, physical, and spiritual well-being due to a lack of education. This has led many of them to miss out on opportunities to improve their health as they age. To address this educational gap, I have developed deliverables that research indicates will effectively market and disseminate educational information to Millennials.

Social media, company websites, and interactive technologies effectively empower millennials to be more active in promoting and advancing products, brands, and information that potentially influence many consumers (Smith). Because of this, I created a mockup website, designed Instagram posts that feature health tips and educational information, and created an app design that provides a fasting tracker, fasting information, and a community forum. Although most millennials are on social media, posters were also designed because research shows that although there has been a significant decline in the use and production of educational posters, they are a highly effective way to convey and retain information in and outside the classroom (Hubenthal).

### **STYLE GUIDE**

#### **Color Palette**

CMYK: 66, 17, 3, 0 RGB:71, 169, 218

CMYK: 93, 60, 28, 9 RGB: 20, 95, 134

CMYK: 0, 0, 0, 0 RGB: 255, 255, 255

CMYK: 75, 68, 67, 90 RGB: 0, 0, 0

#### Typograghy

Header 1 **Roboto | 20, Bold** Header 2 **Roboto | 17, Bold** Header 3 Lato | Semibold, 13

#### **Body Text**

Lato | Regular, 11

Lorem ipsum dolor sit amet, consectetaur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

#### **Brand Logo**



The primary brand logo displayed in all deliverables should feature the main text in Roboto Bold in all caps, followed by Roboto Regular with the first letter of every additional word capitalized. The logo should be one color to present a clean, professional, and minimalist image. Additionally, the text is formatted to ensure even spacing on all sides.



The secondary logo is a shortened version of the primary logo and is a defining feature of the brand. It features a fork and

knife surrounded by a stop symbol and is designed to be displayed as an app icon on a phone screen.

#### Icons

Normal	<	≡	Q
Hover	$\triangleleft$		Q
Activate	∢	Ξ	Q

#### Imagery



The illustrations feature 2D flat imagery created in a vector style. They portray joyful depictions of people performing everyday tasks. The line work should be minimal, and the color palette should be based on the project's base colors.

#### Mock-up App

Millennials have lived through rapid technological changes and now have the power to access information across multiple platforms at their convenience. Whether it is a web page, mobile device, or app, users always have easy access to the information they need. Research has shown that millennials are incredibly comfortable using mobile apps, which in part prompted the creation of my fasting app (Smith).

With the app design, I stuck with the same color palette and branding style that has been present throughout all of my deliverables. A few things were essential when creating the app design for the millennial generation. The first was the simplicity of design. Making the buttons clear and concise, along with the text and overall layout readable, makes it easy for the audience to find what they want. Everything from the login screen to the back buttons was designed with an easy-functioning user experience in mind. The illustrations accompanying the text enhance the user's recognition of what the information will take them to. Also, a flow chart was created to show how easily the app functions and how a user can effortlessly navigate it.

The fasting app is designed to be comprehensive, with benefits broken down into three main sections that link users to articles and other fasting research. These sections address the physical, mental, and spiritual benefits of fasting, serving as its three main pillars. The hamburger menu at the top of the page opens the app to its main menu, which acts as a central hub for most of its features. The fasting menu is divided into easily





understandable sections, providing users access to articles, blogs, diet recommendations, exercises, a fasting tracker, and a place for testimonials. The blog is necessary for the app because research shows that millennials are motivated to write online reviews on things, especially when they affect them (Smith).

The diet and exercise information provides resources on enhancing fasting for maximum health benefits. Fasting works on its own, but a healthy lifestyle enhances it. The testimonials portion of the app provides individuals with firsthand accounts of others' fasting experiences. It promotes connection and engagement, allowing users to explore and learn from others' fasting experiences. It has been discussed at length previously how millennials typically do not want excessive amounts of text on small screens and prefer a quick breakdown of the action, impact, and results-based experiences highlighting the most relevant information.

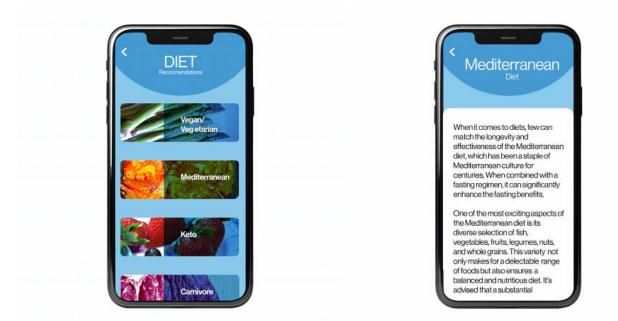
Millennials are digital natives and are more likely to search for educational material on their mobile devices (Montiel). On average, they spend about 8 hours a day on the Internet. Research has shown that educational apps enhance opportunities for improving education since they offer new ways of interacting with students (Montiel). My fasting app is not just a tool for health but also a source of knowledge. Technology-based education seamlessly integrates with millennials' lifestyles, adapting to their needs and preferences. This is because they were born into the first generation to be raised on such advancements in technology.

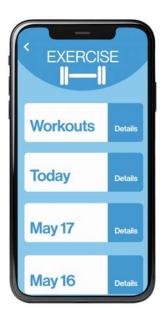












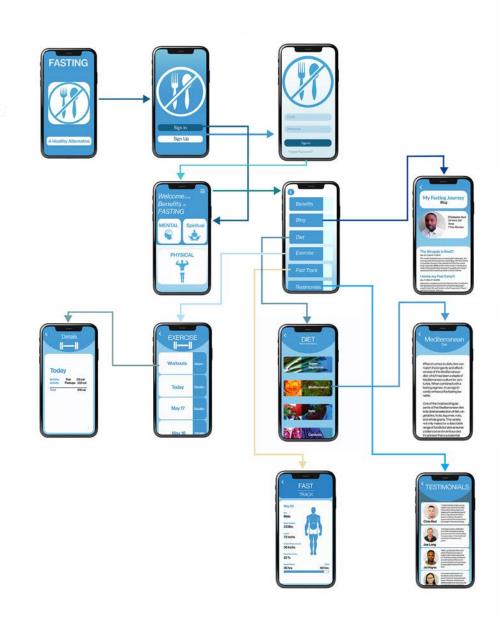






### Legend

Sign In Sign Up Benefits of Fasting Menu My Fasting Journal Diet Mediterranian Diet Exercise Details Fast Track Testimonials



#### Mock-up Website

Since not only millennials but every generation finds the majority of their educational information on the Internet, it was essential to have a website to help present the information. My website was based on examples of other medical and health information-based websites while also being sure to incorporate design elements that specifically target and are marketed toward millennials.

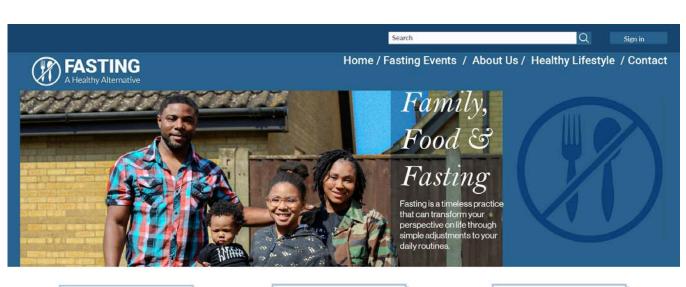
The main deviation from the rest of the deliverables is the use of photos as part of the website's visual solution. This is because when engaging millennials with websites specifically, using graphics such as photos and other designs is the most effective strategy when targeting millennials (Smith). Millennials prefer brighter, decluttered, professional-looking websites with a touch of personalization (Smith). Following the examples from other successful websites, I used a picture of my family to give it that personal touch. This family photo not only adds a personal and relatable element to the website but also helps to give fasting the appeal of an enjoyable and potentially socially healthy practice.

The rest of the photos used were edited in Lightroom to ensure consistent lighting, contrast, hue, and shadow in each one. My goal was to continue the theme of normalizing fasting and evoke people's emotions with everyday items, linking the text with the associated photo

Since text is more impactful when accompanied by a photo, it only made sense to ensure they synchronized successfully on the website. The graphic illustrations, text selection, color palettes, and logos are the same ones used across all of the other deliverables, ensuring consistency of the design. I strove to have the same functions and stylings not only on the webpage but also on all delivery formats. This was to help further promote the brand identity and the continuation of design, which I need to be recognizable when users come across the website and its associated fasting products.

The additional website page examples exhibit some fasting information accessed from links on the home page. Unlike the other deliverables, websites are not limited to presenting text information in an almost bullet-point format. The articles can be as long as necessary to convey their message, as long as they are structured and easily understandable. Like the app, the website is continuously updated with new and up-to-date information.

Although research shows that most millennials prefer books and printed material as their preferred educational resources, they use the Internet and websites as their primary sources of information, just like every other generation (Soyra and Ameen). Understanding millennial preferences is the reasoning behind the website's design, ensuring that it meets their educational and aesthetic preferences.











#### FASTING 2024 Fasting Research

Check out the latest research on fasting, its role in healing the body, reversing disease, and various fasting protocols.

Learn More



#### FOOD Enhance the Impacts of Fasting with Food

Particular dietary protocols improve fasting effectiveness and overall health and wellness.

Learn More

#### EXERCISE Exercising during a Fast

What is the best exercise routine to perform while fasting, and is it safe to exercise while fasting?

Learn More

#### SOCIAL PRESSURE Influences on Fasting Success

Navigating social pressures to eat during a fast can be challenging. Learn tips and tricks to resist others' eating desires.

Learn More

# Eat Healthy Fast Regularly

Improving one's health is closely linked with transforming one's entire life. As we age, we gradually lose control over age-related health factors, which can be concerning. However, fasting can significantly enhance the overall wellness of adults, offering a promising future of better health. It can help delay age-related health issues and prevent the early onset due to overconsumption of food.

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Fig. 41

#### FASTING A Healthy Alternative

Heal

Search Q Sign in Home/ Fasting Events / About Us/ Healthy Lifestyle / Contact

FASTING A Healthy Alternative

#### About US Fasting: A Healthy Alternative

Our organization aims to provide a global audience with accurate, peer-reviewed health information on the benefits of safe fasting. We create content based on scientific and historical evidence and present it in an easy-to-understand format. We aim to empower millennials and other generations to take charge of their health and improve their quality of life as they age.

Millennials are experiencing more chronic health issues than any previous generation, with higher rates of disease across all primary conditions that affect previous age groups. Many of these problems stem from a culture of overconsumption that became more prevalent during the millennial generation and is expected to worsen. These habits often start at a young age, as children are encouraged to finish everything on their plate, eat even when not hungry, and have at least three meals per day, all essential for a healthy lifestyle. Unfortunately, these habits can carry over into adulthood, leading to a gradual decline in health.

Given the health challenges faced by millennials, it's crucial to consider fasting as a viable option to improve their mental, physical, and spiritual health. Our main focus is to provide millennials with educational resources that emphasize the numerous benefits of fasting. By doing so, they can seize opportunities to enhance their well-being as they age.



Fasting: A healthy Alternative

Our social media campaign is launched across various platforms such as Instagram and YouTube. Its goal to inspire individuals to enhance not only their health but also their overall quality of life through fasting.

Our website offers the latest research, current fasting trends, and articles. It also simplifies the concept of fasting, providing information broken down into simple categories of physical, mental, and spiritual aspects.

Additionally, we release a monthly newsletter to keep our members updated on the most recent local and global fasting events.

Finally, we offer a database containing peer-reviewed research and personal testimonials on everyday people's fasting experiences."



FASTING A Healthy Alternative



#### **Physical Effects of Fasting**

#### Disease and Aging



Dr. Michael Anson conducted a study on how intermittent fasting affects glucose metabolism and neuronal resistance to injury in relation to calorie intake. The National Academy of Science in the United States published the study. According to the article, restricting calorie intake below voluntary consumption by fasting is the only environmental factor that has significantly impacted aging rates across various species. This restriction can produce benefits such as a reduced aging rate, increased average and maximum lifespan, reduced cancer formation and kidney disease, and the improved resistance of neurons to dysfunction and degeneration in experimental models that involved Alzheimer's and Parkinson's diseases and stroke formation (Anson). Dietary restriction paradigms have been proven effective in increasing lifespan and disease resistance in rats and mice. However, Dr. Anson's study did not include findings from any actual human trials.

Dr. Yoshinori Ohsumi received a Nobel Prize in 2016 for his research on the relationship between fasting and physical health. His studies on autophagy, which is a process that involves the degradation and recycling of cells in the body, demonstrate that prolonged fasting can activate this process, which can help eliminate disease causing cells, including cancerous cells (Kolata). It is worth noting that the term "autophagy" is a Greek word that means "self-eat." Additionally, thousands of researchers have conducted animal and human trials Continue reading.





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Q

Home/ Fasting Events / About Us/ Healthy Lifestyle / Contact

#### Mental Effects of Fasting

#### Mental Health Results Produced by Fasting

Fasting has produced promising results in clinical trials regarding specific mental health issues. These disorders are becoming increasingly prevalent, and social media can play a significant role in their rise. Several researchers have established a correlation between social media usage and increased levels of anxiety and depression in millennials who regularly use it (Layer). Most healthcare professionals recommend medication and therapy as treatments for mental health disorders; however, fasting has a proven track record as a viable alternative to help counter the growing mental health crisis worldwide.

The National Center for Biotechnology Information published Dr. Elisa Berthelot's article "Fasting Interventions for Stress, Anxiety, and Depressive Symptoms: A Systematic Review and Meta-Analysis," which explores the relationship between disorders. The article reports that fasting has been found to have positive effects on stress, anxiety, and depressive symptoms. The study involved 11 research projects that comprised 1,436 participants, and the results were consistent. Most participants experienced improved mental clarity and overall mood and documented increased hormone balance after fasting; fasting periods varied Continue reading



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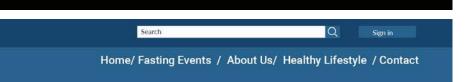
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FASTING

FASTING



#### Spiritual Effects of Fasting

#### **Christian Fasting**



Dr. Brandon Walker is a member of the Department of Theology and Religious Studies at the University of Nottingham. In his study, Dr. Walker discusses the efficacy of fasting as a ritual that started as part of early Christian practices. According to Walker, fasting should not be seen as a magical tool to gain favor with God but rather as a religious practice mandated in early Israelite culture. Dr. Walker's perspective on fasting is not about a supernatural enhancement of spiritual well-being but about a practice that cultivates spiritual strength. This practice, he argues, is a journey that tests the body's endurance and fosters mental resilience.

Dr. Kathleen Dugan,\*- the author of "Fasting for Life: The Place of Fasting in the Christian Tradition," which was published in the Journal of the American Academy of Religion, has a perspective on Christian fasting that aligns with Dr. Walker's. Dr. Dugan describes fasting from the perspective of a Catholic Christian woman. She believes that fasting is a means of sanctifying a day in memory of Christ's death and should usually be practiced communally. She also points out that Catholic Christians implement fasting more often than Christians who belong to other denominations and that fasting is described in the Bible as one of the natural parts of spiritual life. Accurating to early Christian traditions, fasting is part of a transformative and joyful experience. Dr.





#### Social Media Post

The main focus of the visual solutions is the social media campaign. This is because social media is the primary source millennials use for their research when looking for information. When exploring data based on Google surveys, millennials' aesthetic and visual preferences originate from cartoons, films, images, and signs familiar to the audience (Kristina). This is why a combination of illustrations, images, graphics, and universally used symbols are used throughout all the social media posts. I employed the same design elements that made WHO's campaign visuals successful.

Figures 42 through 45 are all part of the Instagram

posts created for the fasting educational campaign. Figures 1 through 3 were referenced when creating them. The minimalist design, utilizing negative space, compounded by the lack of text, all align with the research to build successful social media to engage millennials.

Figure 42 is the start of a series of posts designed to form a cohesive narrative that breaks down the benefits of fasting into five individual parts. I also employed universal symbols and iconography to help enhance the information it referenced. The campaign logo is also on every deliverable, like every example from all three visual analyses.



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For both social media posts in Figure 46, I utilized a more refined illustrative approach within the graphics. I went further than the previous social media post by making full-fledged illustrations in an almost vector image style. The illustrations are easily recognizable characters and objects, and I used bright colors and a simplistic design that millennials are attracted to.

I used LATO font for the body text and ROBOTO for headers, which remained consistent throughout all deliverables. The only exception was in the bottom post of Figure 46, where I employed a more whimsical, light-hearted text to enhance the design direction and bring a significant degree of personalization through the change in font style. Both posts provide straightforward information, delivering substantial health information in the typical eight seconds allocated to social media post while scrolling.

The character designs goal was to add a personal touch desired by millennials. I strived to create believable, stylized characters that were not too stiff or generic-looking. The characters and background designs incorporated negative space as a cohesive part of the designs, enhancing the overall visual appeal to the audience. The color palettes maintained a consistent overall blue hue. I kept contrast to a minimum to prevent the viewer's eyes from fixating on one place within the design for too long. The design was intended to allow the viewer's eyes to travel undisturbed across the plane, ensuring a smooth and comfortable visual experience, similar to how the WHO graphics are designed in Figures 1 through 3.



Fasting, diet, and exercise can help adults achieve peak health by reversing disease, inducing autophagy, and slowing aging.



Figure 47 is a four-part Instagram post breaking down the top three fasting methods worldwide. There are dozens of different fasting methods, and most overlap in some form due to duration and benefits. I decided to highlight the top three most practiced methods discussed during the literature review and not overload the Instagram post with information.

SLike Figure 44, I created another multi-image post but integrated it with more refined illustrations. The slightly more elaborate illustrations draw the viewer in without being overly busy. Because I maintained consistency across all the social media posts, they are easily recognizable as part of the branding package.

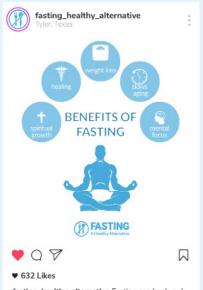
The illustrations were made with a minimal number of lines to form the graphics. They also used simple shapes and focused on the contours to provide a significant amount of visual information about focusing on the edges of the form. This ensures that the viewer can quickly identify the characters at first glance, cutting down on the time needed to process the design information.

The social media post will boost brand recognition through hashtags related to fasting and other health issues such as cancer, diabetes, exercise, and diet. Additional information will be in the accompanying text of the post, but more in-depth information will be found on the website, which is pasted at the bottom of the Instagram post.

The social media posts will also serve as a platform for asking questions and providing additional fasting information. Through the comments section, people can post questions and get answers to questions not covered in the post itself. This way, if millennials prefer to avoid searching through the website and other educational formats for additional information, they can post a quick comment and get answers to their specific question without leaving their comfort zone. This also provides an opportunity for others to engage in the conversation.

With features like instant news and updates, continuous access to older posts, and the potential for engaging with experts, Instagram is an ideal platform for fasting-related information. Users can promote group fasting events, share their fasting goals and experiences, and even engage in live Q&A sessions with other practitioners. This makes the Instagram social media post a multifaceted educational linchpin.





fasting\_healthy\_alternative Fasting can heal you! #health #disease #cancer #diabetes #natrualhealing #cures #weightloss



fasting\_healthy\_alternative Fasting can heal you! #health #disease #cancer #diabetes #natrualhealing #cures #weightloss



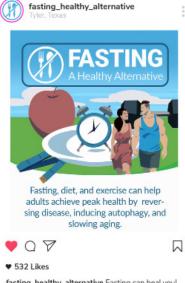
fasting\_healthy\_alternative Fasting can heal you! #health #disease #cancer #diabetes #natrualhealing #cures #weightloss



fasting\_healthy\_alternative Fasting can heal you! #health #disease #cancer #diabetes #natrualhealing #cures #weightloss



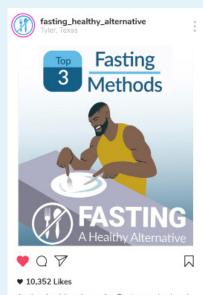




fasting\_healthy\_alternative Fasting can heal you! #health #disease #cancer #diabetes #natrualhealing #cures #weightloss



fasting\_healthy\_alternative Fasting can heal you! #health #disease #cancer #diabetes #natrualhealing #cures #weightloss



fasting\_healthy\_alternative Fasting can heal you! #health #disease #cancer #diabetes #natrualhealing #cures #weightloss



fasting\_healthy\_alternative Fasting can heal you! #health #disease #cancer #diabetes #natrualhealing #cures #weightloss





#### Posters

Figure 50 is the first in the educational poster design series. It contrasts the negative perceived issues of fasting with the actual benefits and reasons for fasting. The characters are used to enhance the information presented. Symbolism is also used by showing an x, a checkmark, and red and green accent colors to further convey incorrect and correct fasting ideals. All of these graphic elements are typically recognizable global symbolism. The website and the fasting logo were added to the post to help direct millennials and other potential fasters to my website, where more in-depth information on fasting can be found.





Fig. 51

Figure 51 is the second poster in the educational poster design series. Its illustrations show millennials performing activities that can help them get through a fast. Although the clock is the centerpiece of the design, it plays the role of a secondary element because of its slightly less saturated color palette and lack of visual emphasis. The placement of each character on all four corners of the clock is intended to guide the viewer's eyes across the poster. Additionally, the text at the bottom of the design blends harmoniously with the color palette so that it doesn't contrast with the rest of the layout and becomes the focal point of the poster illustration.

Figure 52's poster design displays an illustration based on an image of my parents. The millennial generation is family-oriented, and fasting is not supposed to be limited to their generation but should also be shared with others. Since a lot of the diseases and illnesses that fasting can improve and, in some cases, cure are typically considered age-related, the graphic combined with the text called for an illustration of an older couple that could potentially or has benefited from fasting. The poster follows the minimalist design trend of the campaign, being sure to continuously incorporate simple shapes, colors, and the blue color pallet.





Fasting effectively restores *insulin* to normal levels, aids *weight loss*, reverses high *blood pressure*, *type 2 diabetes*, and *cholesterol*, eliminates *cancer*, and significantly improves *depression* and *anxiety* while enhancing *mental fortitude*.

www.ahealthyalternative.com

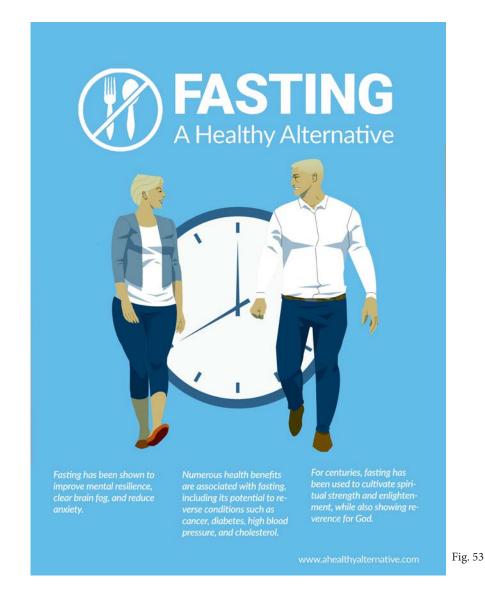
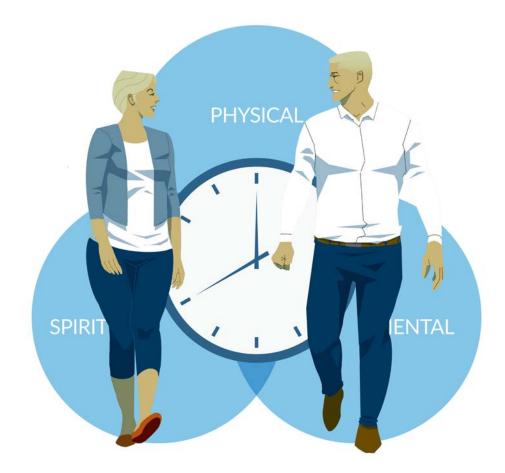


Figure 53 is the last installment of the fasting poster educational series. It provides more in-depth information compared to the other poster designs, making it acceptable for educational purposes. The design maintains a balanced look consistent with the campaign's overall design style. As fasting is based on time-restricted eating, a clock was used again as a symbolic design element. The man and woman in the design are intended to represent people going about their daily lives while fasting, helping to counter the stigma that fasting prevents people from functioning normally throughout the day.





## CHAPTER 5 CONCLUSION



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## **DEFENSE OF WORK**

The thesis research commenced as an inquiry to address why Millennials are reluctant to accept fasting as a viable way to improve their mental, physical, and spiritual health. A plethora of scientific, historical, and religious knowledge on the subject establishes it as a beneficial practice that can improve millennials' lives as they age. The thesis went even further and developed the position into four main categories: the physical, mental, and spiritual benefits of fasting and unique cultural and educational factors that affect millennials' attitudes toward fasting.

The historical context of fasting was examined first, and it addressed how fasting had been a practice that had been used for centuries for healing, purification, and religious reasons. The physical benefits of fasting, the most prominent and observable reasons for fasting, was examined next. It showed that fasting can do things such as reverse aging, decrease body weight, increase the speed of the body's healing process, and cure diseases and illnesses, proving its healing and purifying powers. It is important to note that fasting, while generally a healthy practice for the body, can have some potential adverse effects. These effects may include increased stress levels, disrupted sleep, headaches, lightheadedness, and dehydration. It is also worth noting that there is not much peer-reviewed documented research on the potential adverse effects of fasting.

The thesis research then examined case studies about the effects of fasting on people's minds. It showed that fasting can reduce anxiety, depressive symptoms, and other mental disorders. Some of the mental health benefits from fasting come from the balancing of hormones in the body, and some come from weight loss because obesity can also cause mental health issues. However, it is crucial to remember that even though fasting has been proven to show an overall improvement in mental health disorders, it was determined that people should not try to fix their mental health issues through fasting without being under the direct supervision and care of a mental health physician.

Next, the discussion turned to the close relationship between spiritual fasting and fasting for mental health, emphasizing that the spiritual effects are not observable or measurable from a tangible standpoint. One author believed fasting was not a supernatural instrument to help curry favor with God but a tool to build spiritual strength, while another argued the opposite. The thesis also brought out the possibility that even though people may not be fasting for spiritual reasons, there is a possibility that they are still having the same spiritual benefits as those who are intentionally doing so. Nevertheless, the research shows that those who do it not only recognize but deeply feel the power and effects of spiritual fasting despite the lack of a tangible measuring system for its effectiveness.

The last thing analyzed in the thesis is the various cultural and educational factors influencing millennials' attitudes toward fasting. It examined vital indicators such as millennials' educational backgrounds, access to healthcare, and how their generation compares to others regarding health and other cultural and generational metrics. Additionally, it provided information on alternative approaches doctors recommend for improving millennials' mental, physical, and spiritual wellbeing instead of fasting. It was determined that despite the evidence confirming that fasting can significantly improve millennials' overall health, education and knowledge on the subject, followed by social and cultural norms, is the primary issue keeping millennials from embracing fasting.

The thesis deliverables sought to provide educational information and knowledge on the benefits of fasting while marketing it specifically to millennials. It was necessary to develop multiple deliverables catering to millennials' unique cultural standing as the first generation to be raised on current modern technologies. These deliverables are designed to engage millennials, fostering their educational and informational needs across multiple platforms. The project pieces included an mock up app design, website, social media post, and poster campaign designs.

## **FUTHER DEVELOPMENT**

I plan to develop the project further by initially creating the website and enhancing its design and functionality with additional guidance and direction from my thesis chairs. After that, I will start a social media campaign by posting the Instagram posts and posters on various social media platforms to gauge consumer interaction and feedback. The app will require additional development, including updating the color palette and some of its functions. Also, I intend to leverage my military connections to assist in its construction and develop a simple game to complement it.

With unlimited time, money, and resources, this project is only in its infancy. A team of social media influencers, graphic designers, advertisement agencies, and medical experts would need to be assembled to take this project to the next level. A campaign to continuously create new content and provide up-to-date medical information, photos, and graphics on fasting would be launched. The educational campaign to provide fasting knowledge would also be launched in high school classrooms with the potential to develop university courses on the topic. More national and global fasting events would be launched, similar to how WHO launched theirs during Ramadan. The funding and outreach needed to further this project nationally would be similar to government agencies needing comparable resources to launch campaigns, websites, design and matain apps, posters, and social media.

## **FINAL THOUGHTS**

I am thankful for the opportunity to research and share a practice that has been a part of my life for almost a decade. I typically engage in alternateday fasting for about three or four months a year, losing a significant amount of weight and then taking a break. Navigating this project and figuring out how to share it with others on a larger scale was challenging and refreshing. It was difficult because this was the first time I had conducted research to this extent, and just because I practice fasting does not mean I understand all of its nuances. It was refreshing because, after all the research and obstacles I faced, I gained a wealth of knowledge about fasting and felt I had strengthened my design skills.

When people find out I'm fasting, they often ask the same questions and say they could never do it. However, a few years ago, my wife started fasting with me, and I even persuaded my parents to try it briefly. All of them experienced the same health benefits that I do.

Additionally, I have influenced dozens of military members to try fasting and experience its benefits. I want to help other millennials and people of all ages, not just those within my immediate circle of influence, experience the benefits of fasting. Regarding the thesis process, every step was riddled with anxiety and uncertainty for me. At times, it was scary with the amount of freedom I was given with this project. However, I had a great advisor who provided correction and direction when I missed the mark and offered me words of encouragement and support so that I could see the project through to the end. Sometimes, I wished I had chosen an easier topic and hadn't decided to create multiple visual solutions, but I'm glad I saw it through. Creating my deliverable made me recall all the aspects of art and design I had learned and implemented as a professional artist and designer.

Lastly, I would like to thank God and my family for helping me through this process. I'm married with three kids, am on active duty in the military, and have still taken on freelance illustration and design projects during this experience. Most of my days for the last two years started between four and five in the morning and ended around ten at night. It was nothing but the grace of God and the strength of my mother, father, children, and my fantastic wife that got me this far. I'm thankful for this experience, and I plan to take everything I have learned and apply it to my professional art and design career and share what I have learned with others as an educator in the future.

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