

An Exploration of Memory, Diet, and Personhood

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Uniquely connected to the central nervous system, the location in the human anatomy where the meaningful role of interpreting and translating information through brain function occurs, is the work of building life-long memories. One's memory is a critical function in humans and is essential to encode, store, and then retrieve vital information. The three main types of memory are sensory, short-term, and long-term. I work with an organization called *Children's Windows to Africa (CWTA)*, and as I write, I am thinking about the memories we each are responsible for building with the children. The *CWTA* mission states: "To create enjoyable and enriching opportunities and a safe environment for children to learn, value, and appreciate their cultural heritage to preserve this heritage, encourage artistic expression, and increase each child's possibility of cultural, spiritual, intellectual, and social wealth." With this example, memories connect to the idea of enjoyment, enrichment, opportunities, safety, learning, and appreciation. I believe that when memories are connected to what the organization frames as the "possibility of cultural, spiritual, intellectual, and social wealth", I am now thinking about the power of having memories that come from a person, and the experience that they have with others. What else can be connected to memories? I will attempt to elaborate on this through the lens of nutrition and diet.

Nutrition

A person's diet can affect and contribute to how that person functions physically and psychologically. Diet can enhance what one can do while making the brain sharper in processing key information that must be stored. Eating a balanced diet with the six essential nutrients (carbohydrates, proteins, fats, vitamins, minerals, and water) provides humans with all the

necessary nutrients. Examining what foods and drinks to consume is crucial to optimizing one's health and preparing for life's tasks. Diet and stress are critical factors influencing cognitive function, such as memory, decision-making, and attention.

Humans and animals (diet/stress/memory)

A study was conducted on whether humans and animals experience the same effects related to diet and stress. For my essay, I will focus on people. In November 2022, *University of Texas at Dallas* researchers in the aging and memory research laboratory found that memory can be recovered over a long period after short-term exposure to a high-fat diet. The researchers, in their discussion about *inducing inflammation*, pointed out that what they refer to as “western diets” are fatty diets comprising unhealthy fats, which are “saturated” and that if over consumed can contribute to chronic disease (paragraph 7). Further, an applied cognition and neuroscience doctoral student, Erica Underwood, studied how a high-fat diet affects memory. This study showed that in rats, males became severely diabetic after 3-12 months of eating it, while females didn't. Three months passed, and the high-fat diet led to both physiological and behavioral impairments in the rats. These changes were the product of reducing the primary output neurons in the hippocampus. I am momentarily drawing attention to the study involving mice, because they were subjects of the study, and this is pushing my thinking about disease. I am comparing the findings while focusing on what makes memories for humans, and the pathway to having a balanced brain; the location where memories are stored is comparable through study.

In transition, I am observing and connecting that the brain is involved in memory consolidation. Reviewing the study from the University of Texas at Dallas (2022) helped look at memory differently: mice and people—the rats were placed in a box as part of the experiment. The rats who consumed high-fat foods for twelve weeks appeared confused, presenting

difficulties remembering the location of an object in a box. Twelve months later, physiological impairments in the hippocampus worsened. The hippocampus is critical to name because of its role in remembering and emotional activity. What is important here is the observation that behavioral impairments such as learning and memory vanish and can vanish based on the one variable noted with this particular study, which involves consuming a fatty diet. What I am arguing here, when it comes to humans, is that one's body, especially the brain, and more specifically its hippocampus, can be strengthened, toned, and supportive of how memories are stored in life.

Diets That Support Memory

According to the National Library of Medicine, in an article found, also written in 2022, while attempting to argue for the importance of having healthy fatty sources in a balanced diet, and its role in building the capacity to have memories as part of the human experience, I note the following. Proper nutrition plays a crucial role in maintaining memory. Nutrients that support memory include the antioxidants in berries, dark chocolate, and leafy greens, which protect the brain from oxidative stress, to name a few. According to the Cleveland Clinic (<https://my.clevelandclinic.org/health/articles/oxidative-stress>), oxidative stress is an imbalance of free radicals and antioxidants in your body, leading to cell damage. It plays a role in many conditions, including cancer, Alzheimer's disease, and heart disease. Toxins such as pollution and cigarette smoke can cause oxidative stress; whole foods rich in antioxidants can help reduce it.

On the other hand, diets rich in processed foods, sugar, and unhealthy fats lead to cognitive decline, which, for this essay, can impact the quality of the brain and memory function. According to an article entitled, *Sugar and the Brain*, located in (<https://hms.harvard.edu/news->

[events/publications-archive/brain/sugar-brain](#)), the article clarified that excessive sugar consumption contributes to insulin resistance in the brain, affecting memory and learning processes. In humans and animals, high-fat diets are linked to hippocampal dysfunction and lowered synaptic plasticity, impairing memory retention. It is my observation and understanding of the effects that saturated fats, sugar, and highly salted foods can have on the neurological health of humans that those additives to food should or could be significantly reduced or, for a disciplined person, obliterated, to improve memory function. Having cousins with a primarily vegan diet, it is my observation that it is not impossible to incorporate changes that can preserve memory function as a lifestyle, but it does require exploration of food options, shopping in places that sell wholesome foods, and being willing to get in the kitchen and try new things! With this example, my cousins are eight and twelve. Lastly, the human experience has an expiration date, whenever that time comes for a person. Aging is unavoidable, and the aging process affects not only one's physical appearance, energy state, motivation, and brain function. Memories are energy sources because good memories in particular invoke positive feelings and emotions, which contribute to a healthy life.

How stress impacts memory

According to the National Library of Medicine, National Center of Biotechnology Information, in an article named, *Memory Impairments Associated with Stress and Aging*, I looked for a connection between memory loss and aging, as someone who lives with my grandparents and mother. I made the connection that stress significantly plays a role in memory impairment in aging persons. Chapter 12, *Memory Impairments Associated with Stress and Aging*, identified chronic stress triggers that release cortisol, a hormone that can damage the hippocampus (the brain's memory center) when used excessively. Here we note the importance

of protecting, preserving, and recognizing the place where learning and memories are created and stored. The article shows that prolonged exposure to stress disrupts the ability to retrieve and form memories. For example, a high-stress environment can lead to difficulty learning new information or recalling previously learned material. Recalling the study from the University of Texas at Dallas (2022), animals, in this case~rats exposed to stress showed similar symptoms, such as confusion and a lack of ability to navigate previously familiar environments, as seen in the study mentioned earlier involving rats, also attributable to fatty food source intake and consumption.

Stress can cause both short-term and long-term memory problems in people (National Library of Medicine, National Center of Biotechnology Information). Small amounts of stress can temporarily result in “brain fog,” a state in which mental clarity declines and thoughts become hazy. Chronic stress raises the likelihood of developing Alzheimer’s and other memory-related disorders and can also worsen cognitive impairment over time. The effects of stress on memory can be lessened by using mindfulness practices, calming techniques, and physical activity. Food and stress each impact memory; however, when combined, they can have a boosted adverse effect. Heavy consumption of fat or sugar can increase stress and create an ongoing cycle (<https://www.ncbi.nlm.nih.gov/books/NBK3914/>). I have focused on health-specific articles as someone who does not have a background, of course. Still, an interest in the subject because I am an athlete, work to reduce stress in my life, and consume a primarily balanced diet, especially when it is most often prepared by my grandmother, for which I am grateful.

Stress-reduction Strategies

A nutrient-rich diet will improve cognitive function over time and with persistence, dedication, self-determination, and support. Physically, foods rich in antioxidants, omega-3 fatty acids, and polyphenols fight oxidative stress.

(<https://my.clevelandclinic.org/health/articles/oxidative-stress>) and give the brain vital nutrients.

Memory, then, is often not thought of until one forgets a thought or other piece of important information; Alzheimer's disease is an example of "how essential memory is for performing simple everyday activities, synthesizing and analyzing new information, and applying that information to new situations " (Robertson 30). Without memory, the effects of someone with Alzheimer's disease, for example, are shown as being unable to function correctly as a human. According to "*Webster's New World College Dictionary*," memory is described as what's retained and learned through unconscious associative mechanisms. There are different types of memory, however, that are separated by different brain regions. An article published by (<https://www.verywellmind.com/implicit-and-explicit-memory-2795346>) cites two general types of memory: explicit and implicit. Explicit memory refers to a conscious recollection of one's own previous experiences. Implicit memories, on the other hand, are past experiences that influence current behavior but are not consciously recalled. Explicit memories can be divided into events you experienced and memories of things that took place. Implicit memories include fine motor skills such as doing simple tasks like reading or writing (Fatima 20).

Personhood

People make up the population of the planet Earth across countries, states, cities, neighborhoods, and communities. I conclude this essay by offering what resonated most with me as a person who has decided to make my health, energy, and vitality three of the most critical

aspects of how I care for myself, as an athlete. That said, I know that I am part of a family that begins with my mother and father, secondarily my parents' parents, and beyond. What does this mean to me, and how does it tie into memory? First, I am thinking about what I am predisposed to. According to a definition that brings this paper together, located in (<https://www.vocabulary.com/dictionary/predisposition#:~:text=Definitions%20of%20predisposition,orientation%2C%20predilection%2C%20preference>), a predisposition is individual and a term I learned from a mentor, which is familial. A predisposition “is a tendency to do something” (paragraph 1). My family’s health-focused habits and routine are predisposed, unfortunately, to pretty serious chronic diseases such as high blood pressure, strokes, and even breast cancer. When thinking about the title of the senior seminar paper, *An Exploration of Memory, Diet, and Personhood*, what is clear to me is that exploration and learning are connected. As I think about not only genetic predispositions in my family line, I can, will, and need to make decisions about my health that give me longevity and may even serve as a source of inspiration for my family. Long-lasting memories in this way remind me of the idea of mortality, a new word I am thinking about. Even though this is not a word I use in my life, I did search its meaning and discovered its definition according to (<https://www.merriam-webster.com/dictionary/mortality>) describes being human with a birth date, and an expiration date. Memories are a part of life, and as I reflect on my life, this mental model can help me to perhaps reframe what my role is in and even with: creating, being a part of, and using memories to be fully human or what Merriam Webster Dictionary refers to as the quality or state of being mortal. As a senior, I am attempting to use this essay for guidance on a subject that can be taken for granted if not appreciated. For this reason, I tried to bring together the ideas of memory, diet, and personhood.

Diet

In my last year of high school, I ate school lunches fewer than five times. Was it because I was interested in the saturated fatty content of the food? Probably not. Was it because I knew there was a connection between healthy fats and my memory? Not. Did memory have anything to do with my choices concerning diet? Yes. I am incredibly fortunate to have a grandmother, whom I call “Mama”, one of the best cooks whose food I have ever eaten. Is she a chef? No, but she could be. Her standard of preparing balanced meals for me has created an appetite for proteins, legumes, carbohydrates, dairy, nuts, and essential fatty acids. The way she prepares food is what some may refer to as a “love language,” a true gift. The specific memory that combines the themes of memory, diet, and personhood is connected to the source of my energy, athleticism, and perhaps mortality. I stated earlier that “proper nutrition plays a crucial role in maintaining memory” (p. 4). Something so simple that can be easily taken for granted when it is easier, quicker, and more convenient to consume foods that are prepared in five minutes or less, when thinking about most foods that can be microwaved. Do I sometimes fall short with my choices of eating, while paying little to no attention to the impact it can have on me, or my grandparents? Yes. Can we do better? Of course.

Recommendations

I am going to challenge myself and my loved ones to explore the long-term impact and health benefits of consuming healthy fatty foods, and to try somehow to make sense, as a family, as to how, as we age, memories can be protected and preserved in the hypothalamus by this straightforward practice. I discovered a book on Amazon, upon doing a quick search on healthy fats entitled "Fats That Heal: Fats that Kill" (<https://www.amazon.com/Fats-That-Heal-Kill-Cholesterol/dp/0920470386>), and it is written by a health expert by the name of Uro Erasmus. His

book was not referenced by the scholars whose work I referenced. Still, it is a book that may be worth reading, especially for families with members who suffer from hypertension, diabetes, and even loss of memory. As a member of the African American and Black community where I work and spend time, I did an intentional observation to guide my concluding thoughts and recommendations because I have observed more convenience stores, bars, fast-food eateries, people consuming various substances, and eating snacks in bags than I saw the options offered in stores like Whole Foods or the East End Food Co-op where my uncle shops. Memory and memories do have much to do with diet and personhood. I mentioned prior that I work with an organization where it is my role and work to lead games, fitness, and team collaboration. The boys in particular tend to be most attracted to what I lead. Will I pay more attention to what foods they eat at the free summer lunch program? Most likely, but will I judge and have opinions that make me feel better than them or their families? No.

Conclusion

I submit this paper after contemplating the people in my life; my own life, our stress responses, stress and nutrition, and the work it takes to build memories. While I applied a study connected to rats as subjects, I centered my writing and analysis on what my mentor calls “personhood”. Though often taken for granted, a balanced diet, in addition to stress management, is a specific and useful strategy that enhances brain health and memory retention. To maximize brain health in today’s quickly changing society, future research should continue to examine the complex link between cognitive function, nutrition, and stress.

This senior seminar concludes with my exploration of a subject related to mental and physical health, emphasizing memory. I began using studies from scholars I will probably never meet and ended by thinking about my family, community, and health. For that purpose, this essay is a

reminder to live healthy, eat healthy, and build lasting memories while being grateful. This essay is dedicated to my grandmother, Rosetta “Mama” Eybers.

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