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Deconstructing Orthorexia in an Age of Healthism and Social Media

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DECONSTRUCTING ORTHOREXIA IN AN AGE OF HEALTHISM AND SOCIAL MEDIA

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ABSTRACT

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Orthorexia, a pathological fixation with healthy eating, has recently emerged as a construct of interest in the field of clinical psychology. Despite its growing recognition, the origin of this construct remains unclear. This dissertation aims to contribute to the understanding of orthorexia by examining its emergence and contextual factors through a constructivist lens. The study found that the cultural, economic, and moralistic landscape of healthism and social medially have played a role in the development of orthorexia. The dominant clinical perspective of orthorexia was also deconstructed, revealing potential biases that may lead to pathologizing the experiences of those who demonstrate orthorexic behaviors. The study highlights the need for careful consideration of the risks and vulnerabilities associated with the integration of orthorexia into diagnostic and clinical models. However, it also acknowledges the reality of individuals expressing suffering in the form of orthorexic behavior and provides treatment considerations to honor their experiences and desire for relief in a clinical setting. This dissertation is available in open access at AURA (https://aura.antioch.edu) and OhioLINK ETD Center (https://etd.ohiolink.edu).

Keywords: orthorexia, healthism, social media, disordered eating

Dedication

This dissertation is dedicated to anyone who has struggled with feeling not quite so sure about the food they are putting into their bodies and might be frustrated with a system that is supposed to help them navigate their choices. I see you and I honor your experience. I hope that this work brings more clarity to something that is not quite yet understood.

Acknowledgements

If there is anyone to thank for this project coming to fruition, it is my husband, Maverick. You have been a steady, guiding force throughout my educational journey from sitting up with me until midnight crying over a community college art project in 2012 all the way to the completion of my doctoral dissertation in 2023. Your boundless love, constant support, and gentle pushes have been instrumental in helping me recognize and unlock my academic and professional potential. The depths of my gratitude are infinite. Thank you for standing by me and loving me endlessly.

To my committee thank you so much for being the backbone of this project. Dr. Sakuma, thank you for dedicating your time and expertise to help me create something meaningful and for always encouraging me to reflect on my own processes. Dr. Heusler, thank you for always encouraging a little rebellion and managing to make me feel like my work is something truly inspiring to you. Dr. Kaskel, thank you for being the most important role model I have had throughout my doctoral program and agreeing to work with me on my dissertation about 45 minutes into our first lunch together. I look up to the example you have set for balancing it all.

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To everyone in my community, thank you for providing a lifeforce outside of academia that ultimately allowed me to push through until the end. I love you all.

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CHAPTER I: OVERVIEW OF THE STUDY

Background and Overview

This dissertation provides a non-systematic review of the pathological fixation on healthy

eating and wellness, known as orthorexia, in the era of healthism. This exploration acts as a

review of existing literature to examine the clinical, cultural, and systemic factors that contribute

to the emergence, maintenance, and perpetuation of orthorexia and the toxic pursuit of wellness.

Ultimately this undertaking seeks to explore how healthism may have served as a cultural

backdrop for the onset, development, and maintenance of orthorexia and the way in which the

phenomenon is perpetuated through social interactions and communicative processes that take

place on social media in Western culture.

Orthorexia nervosa has received significant attention via popular media even prior to

scientific inquiries about its etiology, development, and implications (Agras & Robinson, 2017;

(Vandereycken, 2011). The emergence of orthorexia seems to have materialized alongside a

burgeoning cultural preoccupation with the pursuit of "ideal health" (Hanganu-Bresch, 2019).

In the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American

Psychiatric Association, 2013), orthorexia was diagnosable in the context of an otherwise

specified feeding and eating disorder (OSFED) or an avoidant restrictive food intake disorder

(ARFID), and does not have its own diagnostic criteria, which remains true for the DSM 5-TR

(American Psychiatric Association, 2013). Residual diagnostic categories, such as OSFED, are

used when the symptomology does not quite meet criteria listed by primary diagnoses of any

given section.

Despite their utility for describing subclinical presentations, these categories can be

problematic because they are frequently diagnosed, accounting for 50% of all eating disorders,

yet tend to be neglected in research and are, therefore, poorly understood (Fairburn & Bohn, 2005; Machado et al., 2013). Further research on orthorexia could serve to better understand its clinical relevance, as well as its prevalence and significance within a broader cultural context.

It seems that part of the difficulty in assessing the validity of orthorexia nervosa relates to its paradoxical nature. Orthorexia nervosa is commonly regarded as a disease described as a virtue (Bratman & Knight, 2000); developing pathology as a result of intending to achieve wellness appears contradictory, however, individuals struggling to eat a balanced diet as a result of an obsession with food quality are at risk for developing significant impairments and may go unnoticed because the intentions of their behavior. Namely, the pursuit of health and wellness are becoming increasingly sought-after in Western culture. A notable aspect of modern culture, and perhaps the one most relevant to this examination, is the online environment. The internet, particularly social media, offers instant access to fact, fiction, opinion, and commentary on any topic imaginable. In a popular media outlet, *Vox*, social media is likened to a mental health "minefield" fraught with information and misinformation about conditions, diagnoses, and identities, as well as places for connection or rejection based on a sense of community related to those diagnoses (Jennings, 2021). Beyond this, Pulman and Taylor (2012) used the term "Munchausen by internet" to describe the potential for deception resulting in inaccurate perception, self-diagnosis, malingering, or even improper professional diagnosing as a result of internet- and social media-driven experiences. Similarly, research describes the benefits and burdens of the mental health discourse on social media (Pavlova & Berkers, 2020). Social media also serves to raise awareness and reduce stigma surrounding mental health conditions; using both interpersonal and mass communication which can ultimately increase connection and health literacy (Kim & Mackert, 2022; Link & Phelan, 2001). Platforms such as TikTok, Instagram, and

Facebook have been examined in the context of mental health disorders including anxiety (Alkis et al., 2017; Shensa et al., 2018; Vannucci et al., 2017), depression (Aalbers et al., 2019; Cunningham et al., 2021; Keles et al., 2019; Shensa et al., 2018), disordered sleep (Alonzo et al., 2021; Keles et al., 2019; Royant-Parola et al., 2018), disordered eating (Aparicio-Martinez et al., 2019; Nutley et al., 2021; Rodgers et al., 2020; Saunders & Eaton, 2018; Sidani et al., 2016; Wilksch et al., 2020) and, of additional relevance to the present study, orthorexia and the toxic pursuit of wellness (Bak et al., in press; Baker, 2022; Cheshire et al., 2020; Cinquegrani & Brown, 2018; Gann, 2019; Marks et al., 2020).

In addition to internet and social-media mediated contributions to the development and experiencing of mental health concerns, we also seek to examine the pursuit of health, wellness, and beauty, as well as their interaction with systemic racial and socioeconomic disparities in current Western/U.S. society. Healthism, and the preoccupation with wellness, represent important aspects of the cultural landscape in which orthorexia developed and requires further examination. Previous research demonstrates that cultural values regarding physical aesthetics are correlated with increased vulnerability to the development of eating disorders (Miller & Pumariega, 2001). Some argue that abnormal eating habits are reactions to contemporary social norms idealizing thin bodies (Kadish, 2012; Orbach, 1978). Mass media, which often promotes unrealistic expectations about beauty standards, has also been considered a likely culprit in the development and maintenance of existing eating disorders (Spettigue & Henderson, 2004).

Consequently, it does not seem to be a coincidence that orthorexia nervosa happened to accompany the explosion of healthism—a neologism ascribing responsibility to individuals for their health which will be discussed in more detail in a subsequent section (Hanganu-Bresch, 2019). This fixation is furthered by bias, stigma, and discrimination within medical settings.

Biases and discrimination based on sex, race and ethnicity, religion, and other factors are considered prohibited, however, discriminatory language, behavior, and aggression (whether intended or not) toward larger bodies is rarely challenged and remains with the realm of socially acceptable (Lee & Pausé, 2016; Puhl & Heuer, 2009). Further, there are clear health disparities for fat individuals (Lee & Pausé, 2016) which result in less access to healthcare, worse treatment outcomes, and poor or insufficient screening procedures. This is perpetuated by the negative attitudes toward larger bodies, as well as a narrow definition of "health" as prescribed by the World Health Organization in the 1940s (Lee & Pausé, 2016) which excludes any person who experiences a mental, physical, social, or functional impairment from being considered "healthy." Health, by that definition, is nearly impossible to achieve given that more than half of the population in the U.S. will experience a mental health concern in their lifetime (Centers for Disease Control and Prevention [CDC], n.d.) and the vast majority of the world population, perhaps as high as 95%, experiencing physical health problems (Herricks et al., 2017). As an additional factor, socioeconomic, racial, and systemic factors in the U.S. contribute to significant disparities in health, as well as healthcare access and coverage, for racial and ethnic minorities (Hill & Holland, 2021).

Purpose of the Study

Situating the toxic pursuit of wellness in its cultural bracket serves to better investigate the etiology, development, course, and maintenance factors that give rise to orthorexia.

Literature, to date, addresses many factors surrounding orthorexia; eating disorders, social media and mental health, cultural impact on body image and wellness, etc., however, there is a gap in literature directly linking these branches of research. The primary purpose of this undertaking is to answer the following research questions:

RQ 1. How has healthism influenced the onset, development, and maintenance of orthorexia?

RQ 2. What are the ways in which social media has interacted with the emergence and perpetuation of orthorexia?

Methodology of the Study

In an effort to explore these questions from a theoretical perspective, we utilized a non-systematic review of relevant books, scholarly publications, and studies on orthorexia, healthism, and social media. Using PubMed via the National Library of Medicine, relevant articles were identified with specific search terms and with filtration for the English language and publication within the past 10 years (2013 to 2023). The purpose of the nonsystematic literature search was to evaluate the scope of research available to date regarding orthorexia to inform this review article. Several seminal articles published prior to 2013 are also cited due to their value as primary publications relevant to the present review. Search terms included "orthorexia AND social media" (which yielded 23 results published between 2015 and 2023), "orthorexia" (which yielded 282 results in the past ten years), "orthorexia AND cultural factors" (which yielded 12 results in the past 10 years), and "development of orthorexia" (which yielded 60 results in the past 10 years). Articles were not reviewed or analyzed in a systematic fashion; rather, specific articles were selected based on relevance to the topic of exploration in an effort to provide a streamlined yet comprehensive review of orthorexia in the context of the current social media culture and climate. The information and conclusions gathered as a result of this dissertation will contribute to a growing body of literature surrounding the environmental and cultural contexts in which orthorexia is developed and maintained.

Statement of Positionality

I was inspired to begin researching this topic because of the intense exposure I have experienced in my own life to the health and wellness industry. At first the health and wellness industry was alluring, but quickly I noticed not only myself but many people around me, inundated with products, services, and standards of living that felt simultaneously inaccessible but necessary to obtain or achieve. Of course, I am viewing this phenomenon through my biased lens. But that was even part of my curiosity—is this happening everywhere to everyone, or limited to privileged women of wealthy cities like Seattle and Los Angeles? Around this same time, I noticed the explosion of information sharing via social media and suddenly discourse about orthorexia was appearing in my social media feeds and platforms. Was this it? Orthorexia was to blame for the recent cultural shift I was observing? I needed to know: what is orthorexia anyway? I was curious about the idea that something so culturally valued like the pursuit of wellness could be toxic, but it seemed to validate what I was seeing happening around me. Since my inquiry into orthorexia, I have consistently battled with answering the question of whether or not this is contextually appropriate behavior and our field is reifying a "disorder" that doesn't really exist or whether this is ego-syntonic behavior that is causing some individuals significant distress that is impairing their functioning. As I immersed myself in the research of orthorexia nervosa and the impact social media was having on the development and maintenance of this phenomenon as a disorder I began to develop a negative bias around the potential for misinformation of mental health issues spread on social media by both psychology professionals and general public/lay people. I come from a highly educated background and my training has instilled in me the importance of consuming reliable and empirically validated sources of information and how it is essential that I view the original research to determine for myself the

quality of study before I accept the results. And then social media is full of clips and extremely simplified information that users are taking at face-value. And yet, social media is changing the landscape of research and accessibility to the general public, ultimately this is a positive shift. Ideally the general public would have access to as much research in as easily digestible format as possible. To mitigate my bias for this manuscript, I used reliable and empirically validated data for the study, methodology, design, and tried to examine various perspectives as I conducted the literature review.

Theoretical Framework

Social constructionism, which is the guiding structure for this undertaking, is a theoretical framework that suggests reality is not objectively given; it is constructed and reconstructed through social interactions and communicative practices (Berger & Luckmann, 1966). Cultural forces like language, media, institutions, and interpersonal relationships all mediate the construction of reality. Therefore, the meanings and understandings of our social phenomena are not inherent or fixed, rather they change over time.

This theoretical framework challenges the traditional view of reality as constructed through scientific inquiry. The traditional view of our world through scientific inquiry decontextualizes phenomena in and thereby leaves an incomplete understanding (Gergen, 1985). The scientific method isolates and studies phenomena in a controlled and simplified environment, separate from its natural context. This traditional lens of reality though the scientific inquiry is essential for the advancement of our society but at times, the result can be a reduction of complexity and a loss of information. Life, however, is complex and nuanced, and in the quest for understanding, we benefit from examining the contextual factors that shape our reality.

Through the framework of social constructionism, the world is best understood through the examination of social artifacts, or production of historically situated interactions among people. This includes both material and non-material culture. Material social artifacts include things like buildings, machines, tools, and anything else physically created by humans that serve as symbols of their shared beliefs, values, norms, and social practices. These shared beliefs, values, norms, and social practices represent the non-material social artifacts of any given time. Both are considered to be crucial in the social construction of reality. Furthermore, social constructionists emphasize the fact that our knowledge and understanding of the construction of our reality are not simply given by the natural world, but are actively created and maintained by people through social interactions and communication. The collective activities of society and the meanings assigned to things are constantly being negotiated and renegotiated through social interaction. As such, social constructionists view the understanding of our world as a result of a collective accomplishment, dependent on the active cooperation of people working together. Finally, because worldviews are constantly shifting, social constructionists argue that it is essential to explore the historical and cultural influences to obtain a complete understanding. By studying the collective experiences, cultural beliefs, and historical context, we can gain insight of how different forms of understanding have evolved leading to a more comprehensive and nuanced view of the world.

Because orthorexia first emerged in a non-academic setting, the social constructionist framework guides this inquiry in examining the cultural forces that influenced its emergence as a social artifact. Specifically, it examines how healthism may have acted as a precursor to the construction of this new phenomenon, and the ways in which social media may have been a key element in facilitating this interaction. Furthermore, healthism may have contributed to the

maintenance of orthorexia by reinforcing the idea that one's self-worth and morality is tied to their diet and physical appearance. Thereby leading to the internalization of cultural ideals about healthy eating and has resulted in individuals with orthorexia feeling guilt, shame, and anxiety when they deviate from their perceived "healthy" diets.

The rise of social media contributed to widespread availability of information about nutrition and diet have contributed to the development and maintenance of orthorexia by providing individuals with a constant stream of information about what foods are "good" or "bad" for them and what constitutes a healthy diet. This has resulted in the creation of a culture of dietary perfectionism and has perpetuated the belief that one's diet is a reflection of their worth and morality. Moreover, the commercialization of the health and wellness industry has also perpetuated the onset, development, and maintenance of orthorexia. Companies that sell health and wellness products often make exaggerated and misleading claims about the health benefits of their products, which can lead individuals to believe that their health and wellbeing depends on adhering to a strict, idealized diet complemented by the consumption of such products.

Terms and Definition

In an effort to further situate the proposed study within its cultural context, the following terms and definitions are included within the premises underlying the study. These terms are intended to support the lens through which we evaluate orthorexia, by acknowledging the temporal, cultural, and diagnostic factors that accompany the proposed study.

Body Positivity

Body positivity is defined as asserting agency over self-image by challenging standards of physical aesthetic values put forth by society (Cwynar-Horta, 2016). Instead, body positivity promotes self-love, acceptance of bodies, and favors inclusivity and representation of all body

types, especially ones that are non-normative.

Eating Disorders

The existing primary eating disorders listed in the DSM-5 are widely varied. For the purposes and feasibility of this study, all classifications of eating disorders (ED) are included and are broadly defined as a persistent disturbance in eating behaviors that interferes with ingesting food and impairs physical and psychological health (American Psychiatric Association [APA], 2013).

Healthism

Healthism is a term defined in 1980 by Robert Crawford to describe the public preoccupation with personal health. The objective with healthism is achieving wellbeing and optimal health through lifestyle modification thereby assigning the majority of responsibility to the individual (Hanganu-Bresch, 2019).

Orthorexia Nervosa (ON)

Orthorexia is a pathological fixation with healthy eating based on the Greek origins of "ortho" meaning straight or correct, "orexi" meaning appetite, and "nervosa" meaning obsession or fixation (Bratman & Knight, 2000). Orthorexia is often associated with substantial dietary restrictions, fatal medical conditions related to malnutrition, mood dysregulation, and social isolation (Moroze et al., 2015).

OSFED/EDNOS

Eating Disorder Otherwise Not Specified (EDNOS) was the label for residual eating disorders in the DSM-IV/DSM-IV-TR, which in addition to removing binge eating disorder, was turned into Otherwise Specified Feeding and Eating Disorders (OSFED) in the DSM-5. These terms are interchangeable. However, both terms will be used throughout the manuscript.

CHAPTER II: HEALTHISM

Healthism is a phenomenon that emerged in the 1970s out of personal health preoccupations. The construct was defined in an effort to call attention to the problematic nature of the health consciousness movement. Robert Crawford (1980) developed the term to describe "the preoccupation with personal health as a primary—often the primary—focus for the definition and achievement of wellbeing; a goal which is to be attained primarily through the modification of lifestyles, with or without therapeutic help" (p. 368). Increasingly, individuals were beginning to assume total responsibility for their health and a growing determination to resist systems in place contributing to poor health. Although this construct appears benign on the surface it has a far more complex nature upon further examination. Specifically, healthism perpetuates the maintenance of the systematic socioeconomic divide and inherently places blame on the individual who failed to improve their health. This places worth, value, or degrees of morality based on an individual's physical health status; in other words, a person perceived as "healthy" is deemed as better than a person perceived as "unhealthy."

Those who subscribe to healthism are part of a system that has become a paradigm for good living. Instead of health being perceived (as it originally was conceptualized) as the absence of disease it becomes an achievement that is comprised of productivity, self-realization, and happiness around an individual's chosen life-path. Hence, these values become less distinctive as they are housed under the ever-increasing umbrella of healthism.

Before exploring how this system is maintained currently, it is important to explore its emergence. Several intersectional and overlapping factors are responsible for the growth of healthism as a cultural phenomenon including increased life expectancy, the rise of consumer culture, influences of the medical field and pharmaceutical industry, the expansion of health

technologies, growing public awareness of health risks, increased globalization of health ideals across cultures, economic changes leading to increased focus on personal health, the impact of media and advertising in shaping cultural norms and beliefs about health, privilege, and mortality.

Emergence of Healthism

The 20th century marked the advancements of health-related technologies, a major decline in mortality rates, and increased life expectancy. As a result, individuals began to develop expectations about their level of health and wellbeing informed by increased health technologies. Simultaneously, the growing middle class in the United States was comprised of people with increased leisure time, disposable income, and tendency toward consumerism. As such, more people began purchasing products and seeking out information related to health enhancement. Stakeholders capitalized, which led to the commercialization of health. These factors, coupled with a trend in self-actualization, contributed to the emergence of preoccupation with personal health and wellbeing, which was defined by Crawford (1980) as healthism.

Advances in Health Technologies

The 20th century is marked by major advances in scientific discovery and advancing technologies. Notably, this time period is characterized by a dramatically reduced mortality rate and an increased life expectancy. In the United States in 1900 the average death rate was around 2,500 per 100,000 people. This number dropped to 875 per 100,000 people by 1999 (National Center for Health Statistics [NCHS], 2020). The decline in mortality is a result of many different forces including systematic research of health services, evaluating cost and effectiveness of medical treatments, and increased adoption of evidence-based practices (Brownson et al., 2009).

Although there have been intermittently documented examples of tracking treatment in history, the beginning of the 20th century is associated with the increasing expectation for documentation of patient-outcomes which came to be known as health services research (Stevens et al., 2003). As medical procedures such as tonsillectomies, appendicectomies, hysterectomies, cholecystectomies, prostatectomies, and cesarean sections became more common, concerns were raised. Specifically, regarding the rates with which these operations were being performed, and in turn, concerns with the efficacy and cost-effectiveness of these treatments. Thus, was born randomized controlled trials (RCT). The adoption of RCT in scientific studies enabled researchers to better evaluate the reliability and validity of emerging treatments. In turn, this allowed more focus on treatments that were effective and discontinuation of treatments that were ineffective.

Health technology advancement was a primary factor in the rise of healthism. The beginning of the 20th century is associated with the increasing expectation for documentation of patient-outcomes which came to be known as health services research (Stevens et al., 2003). In 1972, there was legislation created to assist policymakers in understanding the emerging science and technology as related to the medical field in an effort to evaluate the potential for any adverse environmental, economic, or social impacts they might have had (Sadowski & Pasquale, 2015). By 1995 the official office specifically responsible for conducting these assessments and inquiries was closed, but they left a lasting emphasis on the importance of evaluation of technology used in relationship to the medical field and patient's wellbeing. Current stakeholders maintaining the assessment of health-related technologies include government agencies, patients, providers, and medical technology firms. Their common goal is assessing clinical effectiveness, societal impact, budget impact, ethical concerns, and economic efficiency of health technologies

(O'Donnell, 2009). One prominent tool used to assess the utility of proposed interventions are randomized controlled trials (RCTs). RCTs in scientific research enabled the evaluation of emerging treatment which, in turn, allowed more focus on effective, evidence-based treatments. In addition to randomized controlled trials, cost-effectiveness analyses are another tool that greatly improved medicine in the 20th century. The practice of assessing gains in health relative to its cost helped balance affordability with reliability and validity (Jamison et al., 2006). Thus, cost-effectiveness analysis increases both efficacy and availability of interventions.

The information gained as a result of randomized-controlled trials and cost-effectiveness analysis, consensus of topic-informed experts, respect for patient values, and human diversity translated into the development of evidence-based practices (Biglan & Ogden, 2008). Identifying which treatments work best and of those which were the most economical became the basis for creating clinical practice guidelines. In the field of psychology, this information is gathered via clinical observation, qualitative research, systematic case studies, single case experimental designs, public health and ethnographic research, process-outcome studies, randomized clinical trials, and meta-analysis. Once this information is compiled, experts in the area of study review the selected interventions and make judgments about the most effective options based on their clinical experience of effectiveness and patient preferences (Wieten, 2018). The integration of scientific inquiry, clinical expertise, patient values and characteristics, and culture has contributed to more effective medical intervention and ultimately to the enhancement public health.

The beginning of the 20th century is associated with the increasing expectation for documentation of patient-outcomes which came to be known as health services research (Stevens et al., 2003). The adoption of randomized controlled trials (RCTs) in scientific research enabled

the evaluation of emerging treatment which, in turn, allowed more focus on effective, evidence- based treatments. In addition to randomized controlled trials, cost-effectiveness analysis greatly improved medicine in the 20th century. The practice of assessing gains in health relative to its cost helped balance affordability with reliability and validity (Jamison et al., 2006). Thus, cost-effectiveness analysis increases both efficacy and availability of interventions.

Increased Life Expectancy

Due to the advances in health-related technologies, people are living longer than they ever have before. As a result, people are more likely to be concerned with maintaining their health and wellness into old age. Specifically, the advent of cardiovascular devices such as the intraventricular defibrillator, ventricular assistive devices, pacemakers, cancer-fighting medications, neuroprotective medication for acute stroke, and treatment for diabetes are all significant contributors to the increased anticipated lifespan within the United States (Goldman et al., 2005). This increase in life expectancy continues to benefit from advances in medical technology to the degree that medications targeting the prevention of cancer, HIV/AIDS, and Alzheimer's are at the forefront of research (Goldman et al., 2005). As the possibility of longer life becomes increasingly attainable, people have demonstrated a greater degree of interest and concern in their health, and ways to maintain it. Health literacy and healthcare access are also primary factors in life expectancy (Fan et al., 2021) and research demonstrates a link between social media use and health literacy (Niu et al., 2021).

Growing Public Awareness of Health Risks

The advancements in technology have been a double-edged sword. As outlined above, advances in technology in medicine and healthcare have led to increased life expectancy, improved treatment options, and better disease prevention strategies. However, advancements in

health technologies have had unforeseen risks such as unnecessary usage, increased costs, and increasing rates of chronic diseases, environmental toxins, and lifestyle-related health problems as a result of increased longevity (Tan & Ong, 2002). The media has played a major role in informing the public about health-related risks. The news covers stories about outbreaks of infectious diseases and the dangers of exposure to environmental toxins. Coverage by media has been further supported by growing scientific research about the potential risks that have emerged as a result of health technologies. News stories about outbreaks of infectious diseases, the dangers of exposure to environmental toxins, and the negative health impacts of certain technologies have helped to raise public awareness and prompt calls for action. For example, media covered the 2015 Flint Water Crisis, the Dakota Access Pipeline Protests, and COVID-19 pandemic, all of which brought attention to health risks.

The Flint water crisis began in 2014 when the city of Flint, Michigan switched its water supply from Lake Huron to the Flint River in an effort to cut costs. However, the new water source was not properly treated for corrosion control, which caused lead from aging pipes to leach into the water supply (Nelson, 2016). Lead is a toxic metal that can cause a range of serious health problems, particularly in children, including developmental delays, cognitive impairment, and other neurological effects.

Despite reports of discolored and foul-smelling water, officials initially denied that there was a problem with the water supply, and continued to insist that the water was safe to drink. However, in 2015, independent researchers and medical professionals began to raise concerns about the water quality and its potential health impacts (Flint Water Study Updates, 2015). In response, the city switched back to its original water source, but the damage had already been done, and thousands of people had been exposed to lead-contaminated water.

The Flint water crisis quickly became a national news story, with many people expressing outrage over the government's slow response to the crisis and the impact it had on public health (Nelson, 2016). The crisis led to a number of investigations and legal actions, including the indictment of several officials and the establishment of a $600 million settlement fund for affected residents (Suliman, 2021). The crisis also highlighted broader issues related to infrastructure and environmental justice, particularly in low-income communities and communities of color, which are often disproportionately impacted by environmental hazards and lack access to safe, clean water.

Another example of media coverage of potential environmental toxins affecting health was the reporting on the Dakota Access Pipeline Protests (DAPL). One of the main concerns raised by opponents of the DAPL was the potential risk of oil spills and leaks, which could contaminate the water supply and cause long-term health problems for nearby communities (Plumer, 2016). The Standing Rock Sioux Tribe argued that the pipeline threatened the safety of their drinking water, which was already contaminated by decades of oil and gas extraction in the area (Northcott, 2016).

In addition to concerns about water contamination, there were also concerns about the impact of the pipeline on the environment and public health. Activists argued that the pipeline would contribute to climate change by increasing the use of fossil fuels, which would have negative impacts on public health and well-being (Worland, 2016). They also argued that the construction of the pipeline would have negative impacts on local communities, including increased noise pollution, air pollution, and disruptions to traditional cultural practices.

The Dakota Access Pipeline (DAPL) was a major news story for several months, with coverage peaking in late 2016 and early 2017. The controversy surrounding the pipeline began in

early 2016 when the Standing Rock Sioux Tribe and other activists began protesting the pipeline's construction. The media coverage tapered off in early 2017 when the pipeline was completed and protestors left the area.

Another example of media coverage of a national health crisis has been the ongoing coverage of the COVID-19 pandemic (Mach et al., 2021). As the virus spread rapidly across the globe, news outlets around the world provided near-constant coverage of the pandemic, with updates on case numbers, death tolls, and public health measures (Kellerman et al., 2022). Media coverage of the pandemic has been characterized by a mix of reporting on the latest developments in the science and epidemiology of the virus, as well as analysis of the political and economic implications of the pandemic. The pandemic has also prompted extensive coverage of the impact on individuals and communities, including personal stories of those affected by the virus, as well as coverage of the healthcare workers and other essential personnel on the frontline of the response.

There has also been extensive coverage of the public health measures implemented to control the spread of the virus, such as lockdowns, social distancing measures, and mask mandates (Mach et al., 2021). As the pandemic has progressed, media coverage has also focused on the development and distribution of vaccines, as well as debates over vaccine mandates and vaccine hesitancy.

While we can benefit from increased life expectancy, we also have to navigate the risks associated with things like industrial farming and environmental toxins. Fueled by media, the general public is becoming more informed than they ever have been before about the environmental risks that threaten their health and wellbeing.

The Rise of Consumer Culture

The increased awareness around environmental risks to health and wellbeing combined with the growing influence of consumerism has created an entire industry for health and wellness products and services. As such individuals are increasingly being viewed as consumers of these products in turn expanding the market of goods and services promised to improve health and prevent illness.

According to a report by the Global Wellness Institute, the global wellness industry was valued at $4.5 trillion in 2018, with a projected growth rate of 5–10% per year (Global Wellness Summit, 2019). This industry includes products and services related to fitness, nutrition, personal care, and complementary and alternative medicine. The report also notes that consumers are increasingly willing to pay a premium for products and services that promote wellness and prevent illness.

The popularity of health and wellness products can be attributed to several factors, including an increased awareness of the importance of a healthy lifestyle, an aging population, and the rise of chronic diseases such as obesity, diabetes, and heart disease (Global Wellness Summit, 2019). Many consumers are looking for products and services that can help them manage these conditions and improve their overall health and well-being.

The market for health and wellness products is also driven by advances in technology, which have led to the development of new products and services that can monitor and improve health. It was reported that roughly 87 million people in the United States use health and fitness apps (Entgal, 2022). For example, wearable devices such as fitness trackers and smartwatches can track activity levels, heart rate, and sleep patterns, while telemedicine services allow patients to consult with healthcare providers remotely.

Post-pandemic, the wellness industry is projected to grow even bigger and become more profitable.

Influences of the Medical Field and Pharmaceutical Industry

The medical field and pharmaceutical industry have played vital roles in shaping how health and wellness are perceived and pursued. Medical professionals, as trusted sources of health information, have the responsibility to provide accurate and up-to-date information to their patients. They are also responsible for providing evidence-based recommendations and advice that promote good health practices and prevent or treat diseases.

The pharmaceutical industry's role in promoting health and wellness is primarily through the development and marketing of drugs and medical products. The industry invests heavily in research and development to discover new treatments for various health conditions. These products have improved and saved countless lives, and advancements in medical technology have significantly improved health outcomes.

However, the pharmaceutical industry stands to gain large profits from individuals who are sick (Moynihan, 2002). As such, ethical concerns have been raised about the profitability of medicine. Prioritizing profits over patients has led to increased medicalization, unnecessary labeling, poor treatment decisions, iatrogenic illness, and economic waste. Perhaps most importantly, this system is designed to further entrench us in individualized and privatized solutions for health (Crawford, 1980; Moynihan, 2002). And because the primary focus is on profitability, some ethical concerns have been raised. One of the most significant ethical concerns is the overpricing of drugs. Prices for some life-saving drugs can be so high that they are out of reach for many patients, even in developed countries. This has led to debates about the ethics of charging exorbitant prices for essential drugs and access to healthcare. For example, the

outrage over EpiPen prices reaching $600 for a single dose (Mangan, 2016). Both the general

public and some doctors raised concerns about the fact that there's only about one- dollar worth

of epinephrine in the injector yet, the cost is so high that people cannot afford to buy them.

Another ethical concern is the prioritization of profits over patient health. In some cases,

pharmaceutical companies may be incentivized to prioritize profits over patients' health

outcomes, such as in cases where they market drugs that are not necessarily effective or safe for

certain populations. One significant instance of this has been the encouragement of opioid pain

medication from pharmaceutical companies. As the opioid epidemic in the United States rages

on people are understandably looking for the parties responsible. And while physicians and

pharmacists have been identified as a major part of the problem, many people are looking at

pharmaceutical companies as the source of the problem (Haffajee & Mello, 2020). Since the year

2000, several lawsuits have been filed against opioid manufactures and producers such as Purdue

Pharma on the basis that safety warnings were omitted or withheld and that they were

misrepresented as safer than alternatives (Bonnie et al., 2017; Haffajee & Mello, 2020).

However, recent research has been demonstrating that the alternatives are just as effective and

are not accompanied by the same risks. In fact, a recent randomized controlled clinical trial in the

emergency room demonstrated that at 2 hours there was no significant pain difference between

individuals who had received ibuprofen and acetaminophen or three different opioid and ace

acetaminophen combinations (Chang et al., 2017). While more and more studies are highlighting

the effectiveness of ibuprofen and acetaminophen combined for pain relief, they just are not as

profitable as opioids. These facts lead to speculation about the priorities of pharmaceutical

companies and lead patients to wonder if their best interests are being honored.

Health Expectations

In situating healthism, it is important also to examine the role of patient expectations in healthcare. Given the increased efficacy and availability of medical interventions, as well as the culture that developed around wellness and health consciousness, patient expectations for the care they receive have subsequently shifted. To date, research has explored expectations about improved health outcomes as a result of healthcare treatment including surgery (Flood et al., 1993), interactions with medical providers and clinicians, and the healthcare system as an entity (El-Haddad et al., 2020). Other research has focused on life expectancy as well as subjective expectations related to health trajectory across the lifespan (Rappange et al., 2016) which has been dramatically impacted by objective life expectancies. In the United States, in 1900, the average death rate was around 2,500 per 100,000 people. This number dropped to 875 per 100,000 people by 1999 (NCHS, 2020). The decline in mortality is a result of many different forces including systematic research of health services, evaluating cost and effectiveness of medical treatments, and increased adoption of evidence-based practices (Brownson et al., 2009) and contributes to subjective expectations about both length and quality of life.

Broadly, people are taking an increased interest in their health and wellness; they have expectations about their health based on their health-related behaviors (Rappange et al., 2016) and seek care anticipating improved outcomes based on the interventions and treatment they receive. This also reflects a degree of awareness about health and wellness, as well as a level of individual agency in the pursuit thereof. This aspiration toward health and wellness is a primary aspect of healthism. Those who subscribe to healthism are part of a system that has become a paradigm for good living. Instead of health being perceived as it originally was conceptualized,

as the absence of disease, it became an achievement that is comprised of productivity, self- realization, and happiness.

Increased Globalization of Health Ideals Across Cultures

With the increase in global travel, trade, and communication, the exchange of cultural values, practices, and products between different countries has also increased. Globalization has had a significant impact on societies around the world. As people from different parts of the world converge, they bring with them their unique beliefs, customs, and traditions, resulting in the exchange of cultural values and practices. This exchange has led to the development of new cultural expressions, including music, art, and literature, that celebrate the diversity of cultures.

More specifically, globalization has led to the exchange of health ideals through the dissemination of health information, medical technology, and the adoption of health practices and lifestyles that were previously limited to specific regions (Labonté, 2015). The internet and social media have enabled people to access health information from different parts of the world. As a result, people have been exposed to a broader range of health information and practices, leading to the adoption of new health ideals. Advances in medical technology, such as telemedicine and remote healthcare, have made it possible for healthcare providers to offer services across borders. Patients in remote or underserved areas can now access medical services from healthcare providers in different parts of the world (Mitchell, 2023). This exchange of medical technology has led to the adoption of new health ideals, such as preventive medicine, that were previously limited to specific regions.

Yet anytime there is a major increase of cultural exchange, it is imperative that we consider the ways in which our biases and colonization mindset can lead to cultural appropriation and the loss of traditional practices. We have seen throughout history that privilege is often

invisible to people of majority identity and that there have been repeated failings to acknowledge the ways in which their race lends itself to advantages in life. As such, there is a pattern of taking cultural practices and ideals without honoring the cultural context in which the practices originated, acknowledging the way in which many cultures have been oppressed or marginalized, and can unintentionally perpetuate harmful stereotypes.

In the health and wellness industry there has been a recent emphasis placed on the adoption of eastern health philosophies such as Traditional Chinese Medicine (TCM) and Ayurvedic practices (Leonti & Casu, 2013). Many Western companies have started to incorporate TCM and Ayurvedic ingredients into their products, such as dietary supplements, skin care products, and teas. For example, turmeric, a common Ayurvedic ingredient, has been marketed as a "superfood" in the West and is now commonly found in health food stores and supplement aisles (Mishra et al., 2020). In addition to incorporating TCM and Ayurvedic ingredients into existing products, many Western companies have also created entirely new products based on these practices. For example, online wellness publications are highlighting several new wellness brands rooted in Chinese Medicine with products like the "Strange Bird Inner Balance Serum" designed to create harmony within the physical and emotional body (Sloan, 2022). Additionally, there have been an emergence of Ayurvedic-inspired yoga mats and clothes from companies like Manduka, and even more explicitly, "ayuray, a wellness and lifestyle brand that creates products based on conscious choices, sustainable practices, and Fairtrade." The increased popularity of TCM and Ayurvedic practices in the West has led to some instances of misuse, particularly when it comes to herbal remedies (Ekor, 2014). In some cases, Western consumers have self-diagnosed and self-treated using TCM or Ayurvedic herbs, without consulting a practitioner or understanding the complexities of these medical systems. As

such there have been issues with adverse reactions and difficulty in monitoring safety effectively.

The adoption of eastern medicine is likely a response to the various issues of healthism that have been discussed previously. Access to this ancient knowledge of wellness has certainly lent itself to a more well-rounded and holistic view of health in Western society. However, it is important to acknowledge how this insight has come at the expense of other communities.

Economic Changes Leading to Increased Focus on Personal Health

Likely as a result of Capitalism and stakeholders looking for every opportunity to increase profit margins. As such, there has been a growing recognition of the economic benefits of a healthy workforce, with healthy employees being more productive and less likely to miss work due to illness. Governments, employers, and insurance companies have increasingly encouraged or even mandated health promotion programs and wellness initiatives, such as fitness programs, health screening, and disease prevention measures (Spoth et al., 2007).

Investing in employee health and wellness has been shown to lead to significant financial savings. For example, a study by the Harvard Business Review found that for every dollar spent on wellness programs, companies saw a return on investment of up to $6 in healthcare cost savings, reduced absenteeism, and increased productivity (Berry et al., 2010). In addition to the financial benefits, wellness programs can also improve employee morale, job satisfaction, and retention rates.

Privilege and Morality Associated with Healthism

Because consumerism and materialism play a role in the propagation of healthism in Western culture, there are inherent barriers dictating who gets to participate in this system. Income and socioeconomic status serve as gatekeepers for engaging in health-related behavior in the United States, and this is accompanied by a set of attitudes, perceptions, and stigmatized

beliefs about consumer choices. Olson et al. (2016) evaluated perceived morality relative to the purchasing of products considered "healthier" or "more ethical." Results from a series of experiments showed that those who have higher income, and subsequently spend more on goods that are perceived to be ethical (i.e., organic foods, environmentally friendly goods/services, etc.) were rated more favorably by participants than those with lower-income individuals who made similar purchasing decisions. The scrutiny, stigma, and judgment for lower-income individuals, and the privilege of socioeconomic advantage, creates an inevitable disparity in participation in healthism. This can be generalized as well to health literacy; those who are in privileged groups (i.e., highly educated, higher income, majority identity, younger adults, etc.) also carry a greater level of health literacy or the ability to understand and navigate health, healthcare, and health- related decisions. Cho et al. (2008) demonstrated that health literacy directly impacts health outcomes and healthcare use, and other research indicates that increasing health literacy would significantly increase accessibility of health services, and subsequently, health equity (Stormacq et al., 2018). This is an important factor when considering healthism, as it may represent a facet of privilege; the presence of sufficient health literacy, socioeconomic advantage, and youth afford some the ability to participate in the pursuit of health and wellness more readily than others. Those who are able to participate in healthism as a culture are also likely perceived as more noble or ethical than those who are less able to engage in the pursuit of health and wellness, such as those who are from underprivileged groups.

In addition to stigma and lowered health literacy among marginalized populations, physical and monetary access to the wellness industry is another barrier to consider. Specifically, low-income and minority communities are more likely to live in food deserts, or areas characterized by poor access to healthy, fresh, and affordable food (Beaulac et al., 2009).

Instead, they are located by fast-food chains and convenience marts offering food with poorer

nutritional quality than is typically found at a grocery store. What's more, the markets that do

exist within food deserts have been found to carry expensive, wilted, and overripe produce

(Hilmers et al., 2012). The lack of access to healthy and affordable food has been identified as a

contributing factor to diet-related health-outcomes like increased rates of cardiovascular disease

and obesity (Beaulac et al., 2009). So, while one group, benefiting from privilege, is

experiencing benefits and the potential for disordered behavior as a result of their pursuit of

health, a disadvantaged group of people are limited in their ability to even access the pursuit of

their health and relegated to do the best with what they have got.

Privilege is an important aspect in the development of healthism, but morality plays an

important role as well (Hamann et al., 2015). There is an emphasis on individual responsibility

for health as it pertains to body size and shape as well as health-related behavior. Foundational to

the notion of healthism is that being healthy is a moral imperative, and those who are unhealthy

are often viewed as lazy or lacking in self-discipline. As such, this moral imperative implies that

health is something entirely within an individual's control, which is problematic given the way in

which privilege, as noted above, moderates one's ability to pursue their health.

This idea has been long present in history; notably, Saint Catherine of Sienna is infamous

for "holy anorexia," or her practice of self-denial for the sake of others (Mahon, 2015).

Essentially, giving into hunger was regarded as a sin and fasting demonstrated devotion to God.

St. Catherine, and many like her, donated food as they felt a responsibility to experience hunger

with the poor. By her own admission, however, Saint Catherine's fasting was based on her own

aesthetic preferences, and she knew her practice of fasting was causing her to be ill.

This is echoed in present Western culture, particularly relative to emergence of eating disorders. The idea of health and nobility as being synonymous further contributes to the healthism culture which has emerged in recent years. Even recent literature is perpetuating the notion that restricting food is good as it is linked to increased longevity. The study was part of a multi-center trial called CALERIE (Comprehensive Assessment of Long-term Effects of Reducing Intake of Energy), sponsored by the US National Institutes of Health. The trial tested the effects of 2 years of caloric restriction on metabolism in more than 200 healthy, non-obese adults. Participants reduced the number of calories they consumed per day and the results found evidence that such restrictions are correlated with slowed metabolisms. The results of the study suggest that low-calorie lifestyles or treatments that mimic the biological effects of restricted eating could prolong health in old age and even extend life.

Despite the promising result of the CALERIE study, food insecurity, or a lack of access to adequate food due to limited money or resources, is a major issue in the United States, with almost 50 million Americans being affected in 2013 (Gundersen & Ziliak, 2015). This can have negative health consequences, and recent research has examined the association between food insecurity and health. In a review of the literature, it was found that the majority of food insecurity research is conducted in association with children and is associated with increased risks of birth defects, anemia, lower nutrient intake, cognitive problems, and aggression and anxiety. It is also associated with higher risks of hospitalization, poor general health, asthma, behavioral problems, depression, suicide ideation and worse oral health. Further examination is needed of how food insecurity affects adults and geriatric populations as the current data is limited.

The topic of food restriction as it relates to health is an important aspect of reflecting on how privilege and morality mediate the greater conversation of the pursuit of health. It feels as though the pendulum can swing far in either direction when trying to constitute what behaviors and choices will ultimately lead to a greater, healthier life. It also seems that even trying to determine what constitutes health is a difficult task that is significantly affected by the context in which "health" is being viewed. Perhaps, the different ends of the spectrum regarding food restriction point to the notion that typically moderation in all things is best. In the field of psychology, the presence of a disorder is often determined when behavior begins to have significant adverse effects on the individual's psychological and physical wellbeing. As such, further examination is needed on the implications of the pursuit of health and wellbeing relative to mental health.

CHAPTER III: EATING DISORDERS

Eating disorders have existed for hundreds of years (Agras & Robinson, 2017). As

mentioned previously, Saint Catherine of Sienna is infamous for "holy anorexia," or her practice

of self-denial for the sake of others (Mahon, 2015). However, St. Catherine admitted she knew

her practice of fasting was causing her to be deathly ill and that it was based on her own aesthetic

preferences.

The first description of anorexic symptoms were described in 1689 by English physician

Richard Morton (Keers, 1982). Morton discovered an 18-year-old patient of his had completely

stopped menstruating and developed flaccid, loose, and pale skin as a result of starvation

(Gowers & Palmer, 2004). He could not relate her presentation to any established medical

condition at the time and labeled her symptoms as "wasting disease" as his patient had died two

years after he became aware of her symptoms. However, the term "anorexia nervosa" was first

established by Sir William Gull in England (Gull, 1997). He described a clinical presentation of

emaciated girls often between 16 and 23 years of age also suffering from diminished appetite,

amenorrhea, constipation, and fatigue.

Dr. Samuel Johnson first introduced the term "bulimy, an enormous appetite, attended

with fainting, and coldness of the extremities" (1775). Later, in the early 1900s, anecdotal reports

of symptoms that resemble the modern conceptualization of bulimia were noted in medical

documentation (Pope et al., 1985). However, the first clinical description of bulimia is associated

with a paper by Gerald Russell published in 1979. It was around the early 1970s that clinicians

first documented the phenomenon of uncontrolled binge eating followed by vomiting as a means

of maintaining a normal weight (Palmer, 1998).

Despite a long history of symptoms resembling modern conceptualizations of eating disorders, it was not until the DSM-III was published in 1980 that an eating disorder section was included. With the addition of clinically recognized eating disorders also came the expansion of counseling services and treatment for disordered eating (Eating Recovery Center, n.d.). Then, the revised DSM-III-R officially listed Bulimia Nervosa (BN) as a distinct and unique disorder, with bingeing as a central feature. In 1994 when the DSM-IV was released, binge eating (without purging or other compensatory measures) was listed under the residual "eating disorder not otherwise specified." However, between the DSM-IV and the DSM-5 many changes were made to the way eating disorders are categorized.

With the newest edition of the DSM, published in 2013 and later revised in 2022, many changes were made with the intention of accurately describing disordered eating and lowering the number of unspecified eating disorders (Lindvall Dahlgren et al., 2017). Previously, there were two primary eating disorder categories (a) Anorexia Nervosa and (b) Bulimia Nervosa. The publication of the DSM-5 included a largely reconstructed chapter for disordered eating; notably, feeding and eating disorders (previously separated) were combined into one chapter making the six primary eating disorders (a) Pica, (b) Rumination Disorder, (c) Avoidant/Restrictive Food Intake Disorder, (d) Anorexia Nervosa, (e) Bulimia Nervosa, and (f) Binge Eating Disorder (American Psychiatric Association, 2013).

Development of Eating Disorders

Eating disorders are affected by cultural, genetic, neurobiological, and psychological factors which makes understanding their etiology difficult (Cavan & Connan, 2010). Part of the complication in understanding eating disorder etiology is due to the spectrum of symptom manifestation that occurs in the context of disordered or disturbed eating behavior. Furthermore,

changes in the way eating disorders have been classified between DSM-IV and DSM-5 suggest that these disturbances are considered far more variable and varied than they were previously thought (Fairburn & Cooper, 2011). Specifically, anorexia nervosa and bulimia nervosa are only two among many eating disorders, some of which have not yet been clinically identified. However, the common thread among all currently recognized eating disorders is persistent disturbance in eating behaviors that interferes with ingesting food and impairs physical and psychological health (American Psychiatric Association, 2013).

Cultural Factors

Cultural context is essential to consider when addressing the development of eating disorders. Specifically, values regarding physical aesthetics are correlated with increased vulnerability to EDs (Miller & Pumariega, 2001). Experts in the field have suggested that abnormal eating habits are reactions to contemporary social norms that idealize thin bodies (Kadish, 2012; Orbach, 1978). Mass media, which often promotes unrealistic expectations about beauty standards has been considered a likely culprit in the development and maintenance of eating disorders (Spettigue & Henderson, 2004). Furthermore, because of the expansion in Western influence, eating disorders are becoming increasingly prevalent within non-Western cultural groups globally (Miller & Pumariega, 2001). The remainder of this section will address the relevant cultural factors that influence the development of eating disorders in the U.S. and globally, in more depth.

Influence of Early Childhood Learning

One theory of eating disorder development suggests that early childhood learning influences the association between food and traumatic experiences (Bale et al., 2010). Two common sources of food related trauma occur through (a) cognitive conditioning that eating

results in undesired weight gain or poor health and/or (b) vicarious learning by observing others who have unhealthy relationships with food. Subsequently, these food related fears often result in high levels of rigidity and cognitive control (Schmidt & Treasure, 2006). The resulting manifestation is perfectionism, conscientiousness, excessive attention to detail, and the use of avoidance strategies to regulate emotion (Aldao et al., 2010; Bardone-Cone et al., 2007; Roberts et al., 2007; Treasure et al., 2012).

Influence of Western "Diet Culture"

Western culture has seen a recent, growing preoccupation with health consciousness labeled "healthism" (Crawford, 1980). The phenomenon is characterized by the belief that the responsibility to maintain health and wellness primarily falls on the individual (Hanganu-Bresch, 2019). Subsequently, the pursuit of wellbeing has become an obsession based on the desire to gain control over one's health and avoid blame for illness (McCartney, 2016). Despite the external origin of many health problems, solutions typically target individual behaviors which encourage the belief that self-help is the optimal intervention. This belief is then reified through the abundance of health products and information which are designed to profit off of public preoccupation. Notably, healthism sounds like a relatively harmless and potentially helpful set of behaviors, after all, individuals are asserting agency over their health and wellbeing. However, it becomes problematic in the way in which it can distort public health priorities and heighten health-based anxiety (Greenhalgh & Wessely, 2004).

The recent phenomenon of healthism is largely seen among the Western, middle-class because it relies heavily on disposable income (Crawford, 1980). A major component associated with healthism and dependent on consumerism is the abundance of highly profitable diets. Furthermore, individuals with disturbed perceptions of how their bodies should look are

particularly vulnerable to fad diets. American advertising is laser focused on the marketing of diets and intentionally exploits the culture's shared values regarding physical aesthetics. Therefore, healthism is observed primarily in Western culture as opposed to Eastern culture. However, as western influence permeates the globe, other countries are becoming modernized (Makino et al., 2004). Naturally, as modernization takes place cultural values shift, specifically from collectivism to individual gain.

Influence of Western Global Expansion

Aided by mass media, global audiences are subject to the growing influence of Western industrialized countries and capitalistic forces (Kraidy, 2002). A subtle negative impact of Western expansion is the way American psychopathology manifests domestically and spreads outward around the globe as if it were a virus (Watters, 2011). Subsequently, as more countries are molded to the image of Western culture, there is less differentiation among the expression and manifestation of mental disorders. In essence, the way in which the world develops mental illness is being homogenized.

Although it is tempting to attribute the rise of eating disorder incidence in other countries to the adoption of values in physical aesthetics, research suggests it is due to something else entirely (Makino et al., 2004). One theory of psychological illness is that when someone experiences an emotional trauma they unconsciously express their suffering in a set of symptoms which are culturally acknowledged and accepted (Shorter, 1994). Therefore, it is not the values of the feminine ideal that have influenced the rise in cross-cultural eating disorders, but the awareness of American perceptions of what signals suffering (Watters, 2011).

Influence of Social Media

Perhaps unintentionally, social media has become a platform for cultural change dictated

by its users. One particularly relevant example is the body positivity movement (BPM) which challenges established values associated with physical aesthetics and instead favors inclusivity of all body types (Cwynar-Horta, 2016). The momentum associated with the BPM and newfound preference and acceptance of all body types represents a drastic shift in cultural values driven primarily by social media users. Major media outlets and retailers have responded to BMP by making changes such as utilizing untouched photo campaigns, representing more size and ethnically diverse models, and expanding sizes in clothing lines. Subsequently, social media audiences (including corporations) recognized the potential to capitalize on the BPM and turned it into a commodity. Now the BPM has become another facet of healthism wherein individuals were motivated to take control of their health, in this case mental health and self-love, and the change in values was preyed upon by consumerism. It is likely that orthorexia developed in a similar fashion.

Healthism has had a cascading effect resulting in the explosion of the "wellness industry" (Hanganu-Bresch, 2019). Suddenly there is an abundance of professional and amateur health and fitness coaches, web-based health magazines, companies, and blogs, and social media content creators curating inspiration for a wellness-based lifestyle. Now, instead of consulting a health care professional, there is an abundance of health content available instantaneously on the internet to guide individuals in their quest for absolute health.

Genetic Factors

In addition to the various cultural and environmental factors that influence eating disorders, there are several physiological and biological factors potentially influencing their development as well. Some research suggests that heritability is responsible for 59–92% of all eating disorder (Klump et al., 2009). This section will cover the genetic factors which have been

found to play a significant role through twin studies (Easter, 2012; Klump et al., 2009). Among other physiological influences, research points to genetics as a result of family history, genetic variations, and the interaction of genetic and environmental factors to be significantly correlated with the development of eating disorders.

The first genetic influence associated with the development of eating disorders is family history. This was demonstrated through twin and studies and the results suggested that family history was a significant predictor of eating disorder symptoms (Klump et al., 2009). Specifically, this analysis found that individuals with a family history of eating disorders were at increased risk for developing eating disorders themselves. Individuals with a first-degree relative (such as a parent, sibling, or child) with an eating disorder are at increased risk for developing an eating disorder themselves. For example, one study found that women with a family history of anorexia nervosa were more likely to develop anorexia nervosa themselves, while another study found that women with a family history of bulimia nervosa were at increased risk for developing bulimia nervosa (Keel & Klump, 2003). However, it is important to note that while family history is cited as a predictor for eating disorders, it is not identified as the primary cause of eating disorders (Le Grange et al., 2009). Therefore, it is important to look at other physiological influences of eating disorders.

Genetic variations are another underlying factor that appear to be associated with the development of eating disorders. In relation to eating disorders, several candidate genes have been identified (Easter, 2012). This type of research approach in genetics is typically hypothesis driven and by focusing on specific genes of interest, reduces the need for large-scale genotyping or sequencing. The candidate genes identified as relating to the development of eating disorders include genes that are involved in the regulation of hunger and satiety, mood and stress, and the

serotonergic and dopaminergic systems. Specifically, research has found correlations between eating disorders and (a) genes related to neurotransmitters, including serotonin, norepinephrine, and glutamate, (b) genes related to hunger regulatory systems including leptin, agouti-related peptide (AGRP), melanocyte-stimulating hormone
(a-MSH), the melanocortin-4 receptor (MC4R), neuropeptide Y (NPY), and ghrelin, (c) genes related to feeding motivation and reward systems (opioids, cannabinoids, and dopamine), (d), genes related to systems regulating energy metabolism, (e) genes related to the endocrine system, and (f) genes related to the immune system and inflammatory response (Rask-Andersen et al., 2010). The results of this research suggest that there are at least 43 genes associated with the risk of developing an eating disorder. However, they also highlight the importance of continuing to explore the molecular causes of eating disorders.

One study suggests that the difficulty in identifying the specific genes that are responsible for the onset of eating disorders is that specific genes combined with specific environmental factors can create the "perfect storm" for disordered eating (Culbert et al., 2015). In other words, when certain environmental contexts or experiences interact with a specific genotype risk may be predicted. Studies examining the genetic and environment paradigm have explored several candidate genes (like the ones mentioned previously) with environmental factors including abuse history, parental factors, dieting, and development (Culbert et al., 2015). The findings of these studies suggest that individuals who are biologically vulnerable increase their risk when exposed to certain environmental factors like parenting styles or childhood abuse. However, the limitations of these studies are centered around the fact that they are exploring the genetic and environmental interplay through candidate-gene studies as opposed to genome-wide association studies.

Neurobiological Factors

Another factor that must be explored to understand the development of eating disorders is neurobiology. Neuroimaging studies have identified a number of structural and functional abnormalities in the brains of individuals with eating disorders (Frank, 2019). For example, studies have found that individuals with anorexia nervosa have reduced gray matter volume in certain brain regions involved in self-regulation, emotion processing, and cognitive control (Frank, 2019). Research has also suggested that there may be abnormalities in neurotransmitter systems in the brains of individuals with eating disorders (Bulik et al., 2019). For example, studies have found that individuals with anorexia nervosa have altered levels of the neurotransmitters serotonin, dopamine, and norepinephrine, which are involved in mood regulation, reward processing, and appetite control (Friederich et al., 2013). Importantly, these findings are consistent with the findings in the candidate gene studies which suggest vulnerabilities in the neurotransmitter systems.

Imbalances in neurotransmitters such as serotonin, dopamine, and norepinephrine have been shown to play a significant role in the development of eating disorders. These chemicals in the brain help modulate mood, appetite, and reward processing (Kaye et al., 2009). Research suggests that imbalances in neurotransmitters may play a role in the development and maintenance of eating disorders (Wang et al., 2011). Specifically, studies have found that individuals with anorexia nervosa have low levels of serotonin, which is associated with decreased appetite and an increase in anxiety and depression (Frank, 2019: Kaye et al., 2009). Similarly, individuals with bulimia nervosa may have an imbalance in dopamine levels, which could contribute to impulsive behavior and binge eating (Brewerton et al., 1995). Research also suggests that an imbalance in the neurotransmitter norepinephrine may contribute to the

development of binge eating disorder (Hudson et al., 2010). However, the exact role of neurotransmitter imbalances in eating disorders is still being studied and further research is needed to fully understand their impact on these disorders.

The hypothalamus is a key brain region involved in the regulation of hunger and satiety, and research has suggested that dysregulation of this region may contribute to the development of eating disorders (Bulik et al., 2019). Studies have found that individuals with anorexia nervosa have reduced hypothalamic activity in response to food cues, which may contribute to their restrictive eating behaviors (Bulik et al., 2019).

Advancements in technology and methodology are allowing researchers to gain a more nuanced understanding of the neurobiology of eating disorders, and to develop more targeted and effective treatments for these conditions. For example, researchers are currently investigating the use of non-invasive brain stimulation techniques such as transcranial magnetic stimulation (TMS) and transcranial direct current stimulation (tDCS) as a potential treatment for anorexia nervosa (Bulik et al., 2019).

Internal Regulatory Systems

One theory suggests the disturbance in eating behavior is maintained through several brain networks and interactions between homeostatic, motivational, and self-regulatory processes (Treasure et al., 2012). The homeostatic system is associated with maintaining a stable internal environment by integrating metabolic markers with outputs from the gastrointestinal system. Essentially, the homeostatic system looks at things like insulin, leptin, peptides, etc. to determine if the body is still hungry, digesting food, or has been satiated. The motivational system creates the desire to eat and registers reward associated with ingesting food. This system exists to make people feel good for eating so that we are motivated to eat again in the future. However,

increased activity in this system is associated with greater likelihood to indulge in overeating (Lopez et al., 2017). Therefore, the self-regulatory system serves to compile information from the homeostatic and motivational systems to ensure we are eating an appropriate amount of food. In order to effectively self-regulate, this system assesses our homeostatic status and controls our desire to eat so that the correct amount of food is ingested. These three systems determine eating behaviors and therefore interference at any level influences the risk, development, and maintenance of disordered eating (Treasure et al., 2012).

Alterations in the HPA Axis Function

The hypothalamic-pituitary-adrenal (HPA) axis is a complex interplay between the hypothalamus, the pituitary gland, and the adrenal glands, which are involved in the stress response and regulation of various physiological processes in the body. Research has shown that dysregulation of the HPA axis is implicated in the pathophysiology of eating disorders.

One study found that individuals with anorexia nervosa showed evidence of HPA axis dysregulation, including elevated cortisol levels and reduced cortisol suppression in response to dexamethasone, a synthetic glucocorticoid hormone that normally suppresses cortisol production. These abnormalities were more pronounced in individuals with more severe anorexia nervosa symptoms (Bou Khalil et al., 2017). Another study found that individuals with bulimia nervosa showed a blunted cortisol response to stress compared to healthy controls, suggesting HPA axis dysfunction (Bou Khalil et al., 2017). Furthermore, this dysregulation appeared to persist even after recovery from bulimia nervosa (Bou Khalil et al., 2017).

Research has also suggested that HPA axis dysregulation may play a role in the development of binge eating disorder. One study found that individuals with binge eating disorder had higher cortisol levels in response to a stressor compared to healthy controls, and that

these cortisol levels were positively correlated with binge eating severity (Gluck, 2006).

However, the exact nature of the relationship between eating disorders and the HPA axis remains unclear. Some studies have suggested that HPA axis dysregulation may be a consequence of malnutrition and weight loss associated with eating disorders, rather than a causal factor (Cavan & Connan, 2010).

Amygdala, Prefrontal Cortex, and Executive Dysfunction in ED

Research has suggested that the amygdala, a region of the brain that plays a key role in emotional processing, may be involved in the development and maintenance of eating disorders. Studies have shown that individuals with anorexia nervosa have reduced amygdala volume and increased amygdala activity in response to images of food (Kaye et al.; 2009; Zhang et al., 2018). Additionally, research has found that individuals with bulimia nervosa may have increased amygdala activity in response to negative emotional stimuli (Wagner et al., 2010).

One theory is that these changes in the amygdala may contribute to the emotional dysregulation seen in individuals with eating disorders. For example, individuals with anorexia nervosa may experience increased anxiety and fear in response to food cues, which could contribute to their restrictive eating behaviors (Harrison et al., 2010). Similarly, individuals with bulimia nervosa may use binge eating as a way to cope with negative emotions, which could be related to increased amygdala activity in response to negative emotional stimuli (Wagner et al., 2010).

However, the exact role of the amygdala in eating disorders is still being studied, and further research is needed to fully understand its impact on these disorders. Additionally, other regions of the brain, such as the prefrontal cortex and insula, are also thought to play a role in eating disorders and should be further investigated (Lavagnino et al., 2016).

The prefrontal cortex, which is involved in decision-making and self-control, may also play a role in the development and maintenance of eating disorders. Studies have found that individuals with anorexia nervosa have reduced gray matter volume in the prefrontal cortex (Lavagnino et al., 2016) and impaired cognitive flexibility, which is mediated by the prefrontal cortex (Harrison et al., 2010). Additionally, individuals with bulimia nervosa have been found to have decreased prefrontal activation in response to food cues compared to controls (Bohon & Stice, 2012).

One theory is that these changes in the prefrontal cortex may contribute to the difficulties with decision-making and self-control seen in individuals with eating disorders. For example, individuals with anorexia nervosa may have difficulty making choices about food and may engage in rigid, restrictive behaviors due to impaired cognitive flexibility (Harrison et al., 2010). Similarly, individuals with bulimia nervosa may have difficulty regulating their food intake and may engage in impulsive binge eating due to decreased prefrontal activation in response to food cues (Bohon & Stice, 2012).

However, the exact role of the prefrontal cortex in eating disorders is still being studied, and further research is needed to fully understand its impact on these disorders. Additionally, other regions of the brain, such as the amygdala and insula, are also thought to play a role in eating disorders and should be further investigated (Lavagnino et al., 2016).

Relatedly, executive dysfunction refers to the inability to plan, initiate, and maintain goal-directed behaviors, which is a common characteristic of eating disorders. A meta-analysis of neuroimaging studies suggests that executive dysfunction is related to abnormal brain activity in several regions of the brain, including the prefrontal cortex, anterior cingulate cortex, and insula (Wagner et al., 2010).

Additionally, a hallmark feature of eating disorders is executive dysfunction, which refers to the impaired ability to plan, initiate, and maintain goal-directed behaviors. According to a meta-analysis of neuroimaging studies, executive dysfunction in eating disorders is linked to abnormal brain activity in multiple regions, including the prefrontal cortex, anterior cingulate cortex, and insula (Wagner et al., 2010). Further research has demonstrated that individuals with anorexia nervosa exhibit difficulties with set shifting, while those with bulimia nervosa have impaired decision-making abilities, and those with binge eating disorder have a reduced capacity to delay gratification. These cognitive deficits were associated with reduced activation in the prefrontal cortex (Ehrlich et al., 2015; Francis et al., 1999; Geisler et al., 2017).

Overall, the evidence suggests that executive dysfunction is a core aspect of eating disorders, and its association with abnormal prefrontal cortex activity may contribute to the development and maintenance of these disorders.

Inflammation

Research has suggested that inflammation could contribute to the development and persistence of eating disorders. In a study, individuals with anorexia nervosa displayed higher levels of inflammatory markers such as C-reactive protein and interleukin-6 compared to healthy controls. These markers were associated with decreased brain volume in regions responsible for reward processing, including the insula and striatum (Miskowiak et al., 2019). Similarly, patients with bulimia nervosa showed elevated levels of cytokines, which are signaling molecules involved in inflammation, and these were linked to increased anxiety and depression symptoms (Monteleone et al., 2021). Moreover, studies have found that inflammation may also play a role in the co-occurrence of eating disorders with other medical conditions such as type 2 diabetes and cardiovascular disease. For example, in one study, individuals with anorexia nervosa had

higher levels of inflammatory markers and insulin resistance compared to healthy controls (Monteleone et al., 2021). Overall, these findings suggest that inflammation could be a crucial factor in the development and maintenance of eating disorders, as well as their comorbidity with other medical conditions.

CHAPTER IV: ORTHOREXIA

Orthorexia nervosa was defined initially by Bratman as a pathological fixation with healthy eating based on the Greek origins of "ortho" meaning straight or correct, "orexi" meaning appetite, and "nervosa" meaning obsession or fixation (Bratman & Knight, 2000). It was later termed a "lifestyle syndrome" (Hamann et al., 2015) and defined as an obsession with achieving health. Orthorexia nervosa, also referred to as orthorexia, is associated with substantial dietary restrictions, fatal medical conditions related to malnutrition, mood dysregulation, and social isolation (Moroze et al., 2015). Individuals with orthorexia are preoccupied with elaborate meal planning and preparation in an effort to achieve supreme health. As a result, any deviations from adherence to a meticulous diet or movement routine can result in guilt and shame (Bratman & Knight, 2000), feelings of failure, negative self-perception, and anxiety (Hamann et al., 2015). A conscious decision to make healthier choices is followed by rigid dietary and exercise habits which eventually lead to avoidance of entire categories of food and drastic lifestyle changes. Strict dietary modifications hold the potential to interfere with obtaining essential nutrients from food, social and personal relationships, and psychological state (Donini et al., 2004).

Symptoms and Features

While it is not currently included as a diagnostic category in the DSM-5, orthorexia has several hallmark features; (a) obsessional or pathological preoccupation with "healthy" nutrition, (b) distress or anxiety resulting from non-adherence to self-imposed nutritional rules, (c) psychosocial impairments in relevant areas of life, and (d) the potential for malnutrition and secondary weight loss (Cena et al., 2018). There is a significant relationship between anxiety, low self-esteem, and orthorexia (Yilmaz et al., 2022). According to research, orthorexia comes with physical (weight loss, malnutrition), emotional (anxiety, emotional instability), and social

(social isolation, poor quality of life) impairments (Yilmaz et al., 2022). Obsessive-compulsive, mood, eating, and anxiety disorders are common comorbidities, given the overlap in clinical presentation and symptoms. Individuals with orthorexic features fixate on food preparation and quality, and composition of the food is relevant because genetic modifications or excessive amounts of fats, sugar, or salt can have a perceived negative impact on health. Further, because chemicals in the tools used to prepare or store food have the potential to compromise the quality of food, individuals with orthorexia might refuse to consume food not stored in glass containers to reduce contamination from plastics (Biles et al., 1997). To accommodate these concerns, individuals with orthorexia nervosa must set aside a great deal of time for food planning and preparation.

One common thread across disordered eating is perfectionism, and this feature is particularly salient in the case of orthorexia. In this case, perfectionism is a primary factor in the relationship with regard to both food and movement obsessions, and in some research, it is suggested that perfectionism is the strongest predictor of orthorexia (Pratt et al., 2021). Beyond perfectionism, ego, virtue, and morality each play a role in the maintenance of orthorexia (Koven & Abry, 2015; Novara et al., 2021; Pratt et al., 2021) and it is noteworthy that while individuals with other types of eating disorders tend to hide their disorder-related behavior, those with orthorexia display it as a badge of honor or virtue (Koven & Abry, 2015; Scarff, 2017).

The obsessive thought pattern and associated behavioral dietary restrictions are also present relative to physical movement. Excessive exercise is another key feature of orthorexia, and while it is less well-examined than restrictive eating behaviors (Hamann et al., 2015), research demonstrates correlation between excessive exercise and orthorexia symptomatology (Mavrandrea & Gonidakis, 2023; Rudolph, 2018). Despite the fact that physical appearance is

not a primary factor motivating an individual toward orthorexic tendencies, exercise is another way in which an individual may rid their bodies of "toxins."

Current Assessment Tools

As mentioned above, orthorexia nervosa is a relatively new and controversial construct and although it is not currently recognized in any diagnostic categories of the DSM-5 or the ICD- 11, it has been garnering attention as a potentially new manifestation of disordered eating. As such, it is essential that there are reliable and valid assessment measures available to identify at- risk individuals as the potential cases of orthorexia continue to emerge. Currently, there are several measures that currently exist to aid in the process of assessing orthorexia nervosa. These measures include, the Bratman Orthorexia Test (BOT), Dusseldorf Orthorexia Scale (DOS), the Eating Habits Questionnaire (EHQ), the ORTO-15, and the Teruel Orthorexia Scale (TOS). The purpose of these measures is to capture the various facets of orthorexia, including the degree of obsession with healthy eating, the impact on quality of life, and the presence of disordered eating behaviors.

Notably, there is still much debate regarding the reliability and validity of these measures and debate about the construct of orthorexia in general (Donini et al., 2022). This lack of agreement on diagnostic criteria and assessment measure hinders research efforts to better understand the construct. Without standardized and validated measures, it becomes difficult to compare findings across studies, which leads to inconsistent results and an unclear understanding of the set of behaviors (Varga et al., 2013). Establishing a clear consensus on diagnostic criteria and assessment measures is essential for the accurate identification and treatment of individuals with orthorexic tendencies. Therefore, it is important for the field to continue working on the

development of assessment measures for orthorexia. The sub-sections that follow will briefly introduce each of the existing measures for orthorexia assessment.

Bratman Orthorexia Test (BOT)

The Bratman Orthorexia Test is a self-report questionnaire developed by the man who coined orthorexia, Steven Bratman. It is a 10-item questionnaire that screens for an individual's preoccupation with healthy eating and the impact that preoccupation has in their daily life as opposed to labeling the behaviors as pathological. The questions are scored on a 4-point Likert scale ranging from 0 ("never") to 3 ("always") resulting in a score ranging from 0–30 points. Higher scores suggest a greater likelihood that orthorexic tendencies are present.

Dusseldorf Orthorexia Scale (DOS)

The Dusseldorf Orthorexia Scale is a self-report questionnaire designed to assess orthorexic tendencies and address the lack of consensus on diagnostic criteria and assessment measures for the construct. It consists of 10 questions that assess an individual's preoccupation with healthy eating, feelings of anxiety or guilt when consuming "unhealthy" foods, and overall quality of life. Each question is scored on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Total scores on the DOS can range from 10 to 40 with higher scores indicating a higher likelihood of the presence of orthorexic tendencies.

Eating Habits Questionnaire (EHQ)

The Eating Habits Questionnaire (EHQ) is a measure developed to assess pathological fixation with healthy eating. It is a 21-item self-report measure with three subscales that address (a) problems associated with healthy eating, (b) knowledge of healthy eating, and (c) feeling positively about healthy eating. The authors suggest that the EHQ demonstrates the reliability and

validity needed to use the measure as a way of identifying problematic preoccupations with healthy eating.

ORTO-15

The Test for the Diagnosis of Orthorexia (ORTO-15) is a validated measure used for the diagnosis of orthorexia nervosa. This self-report questionnaire is comprised of 15 items rated on a Likert-like scale ranging from "Always" to "Never" relative to the frequency of orthorexia symptoms. The ORTO-15 demonstrates high identification efficacy and is considered reliable and valid for diagnostic use in detecting orthorexia nervosa (Donini et al., 2004).

Teruel Orthorexia Scale (TOS)

To determine a difference between appropriately healthy eating and pathologically healthy eating the Teruel Orthorexia Scale (TOS) was created (Barthels et al., 2019). A study using the TOS determined a significant difference between healthy eating and pathologically healthy eating. The study identified a major difference between these groups related to dieting motivation. The group of healthy eating was motivated by improving health while the pathological group was motivated by controlling their weight. The authors suggest this finding may be reflective of the idea that desires to control weight may be related to health because excessive weight is correlated with diet-related chronic disease like obesity and diabetes (U.S. Department of Health and Human Services and U.S. Department of Agriculture, 2015). However, the finding is indicative that a pathological obsession with healthy eating may be more similar to the construct of anorexia nervosa than is currently recognized.

Impact of Orthorexic Behaviors

The behavioral aspects of orthorexia can result in significant impairment in physical and mental health, social functioning, and overall functioning. Individuals suffering from orthorexia

nervosa are at an increased risk for malnutrition (Moroze et al., 2015). Strict dietary restrictions can lead to the omission of major food groups leading to inadequate acquisition of essential nutrients. Similar to medical complications associated with anorexia nervosa, orthorexic patients suffering from secondary malnutrition have also been seen to suffer from hyponatremia, metabolic acidosis, subcutaneous emphysema, mediastinal emphysema, pneumothorax, and pancytopenia (Park et al., 2011). AN has been cited as having the highest rate of mortality of any mental illness because of the secondary medical issues that arise from severe food intake restriction (Moskowitz & Weiselberg, 2017).

Although orthorexia nervosa may share similarities with established disorders like anorexia and bulimia, the major difference lies in the underlying motivation of the disorder (Moroze et al., 2015). While anorexia and bulimia are typically motivated by a need to modify or control body size/shape, orthorexia is motivated by pursuing peak health/wellness. Those with orthorexia, however, seem to be fixated on the quality of the food being ingested as opposed to the quantity of the food or their physical appearance as a result of dietary choices.

To accommodate their strict adherence to diet and movement rules, those with orthorexia will set aside significant amounts of time for food preparation, planning, and excessive exercise, which is accompanied by distress, guilt, and shame in the event of any "slip ups" (Scarff, 2017). Relatedly, research shows that orthorexia is correlated with poor identification and regulation of emotions (Vuillier et al., 2020), executive dysfunction (Vuillier et al., 2020), has comorbidities with anxiety, depression, low self-esteem (Koven & Abry, 2015; Vuillier et al., 2020; Yilmaz & Dundar, 2022), and a high degree of symptom overlap with anxiety, depression, and obsessive-compulsive disorders (APA, 2013; APA, 2022).

Cultural Relevance of the Emergence of Orthorexia Nervosa

One view of mental illness asserts that it can manifest as a result of cultural forces as opposed to unconscious or disease entities. Suggesting, the emergence of new psychopathology any time major cultural shift takes place as we have seen with the rise of healthism (Hanganu- Bresch, 2019). If media and society are largely responsible for the onset and maintenance of other eating disorders, it is not unreasonable to suggest they played a part in the newly discovered phenomenon of obsessive fixation with healthy eating. And orthorexia may be just that, a response to messaging that individuals have the power alone to restore themselves to perfect health. However, because orthorexia lacks appropriate diagnostic and clinical application, it is difficult to say with any certainty how significant the condition may be. Without that knowledge, there is no basis for developing successful, tailored treatments when individual symptom presentation differs from the primary eating disorders currently found within the DSM. Therefore, it is essential that scholarly research continue to explore this emerging construct and develop appropriate clinical representation.

Healthy versus Disordered Eating

Orthorexia nervosa suggests there is a point at which healthy eating becomes disordered. Because this concept seems paradoxical in nature it may be worthwhile to explore the boundary of health and pathology. Notably, this task is complicated by the wide range of opinions on what constitutes a healthy diet. However, the Dietary Guidelines for Americans (DGA) will be used in this study as a baseline (U.S. Department of Health and Human Services and U.S. Department of Agriculture, 2015). Every five years a committee of nutrition experts synthesize current scientific research based on health and nutrition literature to develop dietary recommendations and promote wellness put forth in the DGAs (Tangney et al., 2017). Despite previous trends of

advocating for diets that emphasize a particularly healthful food or condemn a low-quality food item, recent messaging from the DGA support the adoption of dietary patterns that are healthy in a holistic manner. As an example, one study found six common dietary patterns among Americans and determined that among them the lowest body mass indexes and highest nutrient absorption was found among individuals with evenly distributed food sources (Wirfält & Jeffery, 1997). The results suggest dietary patterns favoring balance contribute to positive health outcomes. Further, high-quality diet patterns favoring evenly distributed energy sources have been correlated with reduced risk for diet-related chronic diseases such as cancer, cardiovascular disease, type 2 diabetes, and neurodegenerative diseases (Schwingshackl & Hoffmann, 2015). Recent data suggests roughly 117 million American adults have developed one or more diet-related chronic diseases (U.S. Department of Health and Human Services and U.S. Department of Agriculture, 2015). Therefore, the quest to improve health through dietary habits is grounded in realistic concern.

The line between healthy eating to improve wellbeing and pathology is complicated given that dieting has been implicated in both reducing risk for chronic disease and increasing risk for eating disorders (Ambwani et al., 2019). In his book *Health Food Junkies*, Bratman emphasizes the idea that a desire to eat healthy is not pathological, rather when dieting becomes an obsessive pursuit it begins to resemble other eating disorders (Bratman & Knight, 2000).

Others have conceptualized the distinction between healthy and disordered eating may occur when the "solution becomes part of the problem" (Staudacher & Harer, 2018). Pathological obsession with healthy eating is characterized by major deviations from dietary restrictions resulting in feelings of guilt, fear of becoming ill, or enforcing even more restrictive rules as a compensatory strategy (Depa et al., 2019). Furthermore, social isolation,

distinguishable impairment of quality of life, development of malnutrition, and extreme

unintentional weight loss all constitute intimations that pursuits of healthy eating have become

pathological.

Clinical Classification of Orthorexia

Given that orthorexia shares features with other disorders beyond those related to feeding

and eating, it is important to consider where an orthorexia classification may fit in the diagnostic

manual. A study by Levin et al. (2023) evaluated orthorexia relative to eating disorders,

obsessive-compulsive disorder, obsessive compulsive personality disorder, and health anxiety.

Orthorexia was assessed via Eating Habits Questionnaire which evaluates knowledge, behavior,

and problems related to eating. Eating disorder symptomatology was assessed via the Eating

Disorder Examination Questionnaire which evaluates a range of behavior and attitudes related to

disordered eating. Obsessive-compulsive disorder was assessed via the Obsessive-Compulsive

Inventory Revised which evaluates symptoms of OCD such as hoarding, washing, order,

checking, and obsessing. Obsessive-compulsive personality disorder was assessed via the Five

Factor Obsessive-Compulsive Inventory-Short Form which evaluates factors of pathology

associated with personality disorders. Health anxiety was assessed via the Short Health Anxiety

Inventory which measures symptoms of health anxiety independent of health status. Results

showed that orthorexia symptoms were most highly correlated with eating disorders, though

there was some degree of overlap between the Problems subscale on the EHQ with OCD, OCPD,

and health anxiety (Levin et al., 2023). This corroborates findings from prior research which

indicate higher levels of orthorexia behavior among those with eating disorders than those with

OCD, GAD, or panic disorder (Levin et al., 2023; Strahler & Stark, 2020). Some research also

indicates little to no relationship between orthorexia and OCD, as the correlation disappeared when eating disorder symptoms were controlled for statistically (Levin et al., 2023).

According to Levin et al. (2023), there are potentially three subtypes of orthorexia; first, the ON/ED combined (orthorexia nervosa/eating disorder) subtype which is distinguished by higher scores across ED and ON measures; second, the ON/ED combined without weight/shape concerns subtype which is distinguished by higher OCD and OCPD scores but average health anxiety scores; and third, the ON only subtype which was distinguished by elevations only on measures of orthorexia but not eating disorder measures. The way these subtypes are described may also function as a specifier that can be attached to any existing diagnosis, or as a distinct disorder of its own. A current example of this is the panic attack specifier and panic disorder in the DSM-5 (i.e., diagnosing generalized anxiety disorder with panic attacks versus panic disorder) depending on symptomatology and clinical presentation. Future research should further explore the diagnostic mechanism that may be most effective for capturing orthorexia.

Evolution of Orthorexia Relative to Social Media

Levin et al. (2023) posit that orthorexia symptoms may be an evolution of extant eating disorders which further warrants investigation relative to the cultural and temporal factors driving this evolution or shift. Bhattacharya et al. (2022) state that eating disorders and the attributions made about them vary dependent on social norms. They suggest that orthorexia ought to be understood as a new presentation of anorexia nervosa, driven by diet culture, healthism, and morality related to wellness and consumption (Bhattacharya et al., 2022; Crawford, 1980), which was preceded by the idea that orthorexia is a societal sickness of sorts, rather than an individual disorder (Cheshire et al., 2020). Given that research also demonstrates a positive correlation between orthorexia symptoms and social media use (Tarsitano et al., 2022;

Yucel & Yucel, 2022), it is important to consider the impact of social media and the internet culture on the evolution of disordered eating.

Further supporting the connection between orthorexia and social media culture, it is important to note that current research is beginning to utilize social media as a modality for studying orthorexia. Twitter, Instagram, Facebook, Google Surveys, and other social media/internet sites are being used to conduct research about orthorexia, its emergence and prevalence, and its association with body image issues among social media users and non-users (Donini et al., 2022; Santarossa et al., 2019; Turner & Lefevre, 2017; Valente, Cesuroglu, et al., 2022; Valente, Renckens, et al., 2022; Yucel & Yucel, 2022). The incorporation of social media and internet modalities in research on disordered eating points to the integrated relationship between them, which provides the basis for the following review of orthorexia, social media, and the toxic pursuit of wellness, which are further detailed in the subsequent sections of this manuscript as a primary point of focus.

Social Media

Choukas-Bradley et al. (2022) argued that media, magazines, and television promoted the "perfect storm of catchable body image standards" among women beginning in the 1970s, which was then widely propagated with the advent of the internet and, subsequently, social media. Social media platforms including Facebook, Instagram, and TikTok have exponentially increased the reach of advertisers and the promotion of messages, images, and ideals. Concurrently, social media allows instant access for users to connect to communities of people with shared interests, share posts about their lives, and seek out information about any conceivable topic or subculture. Social media, now, is the pulse of culture surrounding fitness, diet, and the pursuit of a healthy lifestyle. It is crucial to note that social media now represents a primary cultural factor in the

discussion of orthorexia that did not exist at the time orthorexia was conceptualized. Social media has allowed for the infinite propagation of ideals about body size or shape, health and wellness, beauty standards, diets and exercise routines, and provides structure for people to share publicly about their successes and failures relative to their health goals. As noted previously, at surface level, encouragement of health and wellness are not inherently toxic; the toxicity comes when unrealistic ideals, messages, and images are widely spread and impact consumer's behavior to the degree that it jeopardizes their actual health and wellness, both mentally and physically.

As an example of the social media culture surrounding fitness, Norton (2017) described the amalgamation "fitspiration" which combines "fitness" and "inspiration" and serves to "inspire" people to achieve their goals related to physical health. This subgenre of social media content is filled with hashtags for easy access to images about body goals and ideals, beauty standards, lifestyle "hacks" for workouts and diets, as well as vaguely shaming messages about diet and exercise (Norton, 2017). Content creators develop guides for consumers of how to achieve the "perfect body," how to restrict calories in the most effective manner, and how to exercise to produce an ideal physique (Norton, 2017). This is accompanied by pressure, shame, guilt, disappointment, eating disorders, and negative body image for consumers who are unable to attain the ideal physical form dictated by social media (Ambwani et al., 2019; Norton, 2017). Instagram, in particular, is implicated in the prevalence of orthorexia (Turner & Lefevre, 2017). Given that, at the time of publication, Instagram had over 500 million users, this is a significant proportion of the population who are at risk for being affected (Turner & Lefevre, 2017). Hashtags for fitness, food, beauty, and motivation are all in the top 50 most popular or highly searched terms for Instagram (Top Hashtags, n.d.), and lifestyle, healthy, fit, inspiration, and

workout are in the top 100 most searched, all of which have hundreds of millions of views to date. This does not begin to address advertisements for fitness products, diet supplements or guides, or applications/services to "keep you on track" with your fitness goals. To hone on some of the toxicity present in this community, a few examples are provided. As noted previously, there are applications aimed at helping individuals to restrict their eating behavior (West-Knights, 2020) which are widely advertised on Instagram and Tik Tok, as well as dangerous, pro-anorexic content and "pro-ana" hashtags that help users find ways to be "better" at restricting food, exercising excessively, and sharing their "progress" with other users (Norton, 2017; West-Knights, 2020). A further examination of fitspiration media reveals perpetuation of fatphobia, sexual objectification of women, and providing motivational content only for the sake of physical appearance, rather than health or wellness (Norton, 2017). The pervasive ideal of overly thin bodies prevails on social media, with constant encouragement, particularly for women, to be smaller, skinnier, and striving for a "toned" physique. It is estimated that upward of 90% of women and 80% of men report body dissatisfaction (Aziz, 2017). Likely attributable to the tendency for social comparison, this dissatisfaction can result in low self-esteem, body monitoring, disordered eating, and excessive exercise (Aziz, 2017). These concerns are largely reminiscent of what is observed in orthorexia. Given that an approximate 85% of teens have smartphone access (Aziz, 2017) and that social media access is a known contributor to the development of body dysmorphia and other body-image concerns in the adolescent population (Singla et al., 2020), this has a salient impact for individuals even before reaching adulthood.

Revisiting healthism, social media has had a significant impact on its generation as well, which has resulted in the emergence and surge of the wellness industry (Hanganu-Bresch, 2020). Regardless of credentialing or legitimacy, you can find an abundance of fitness coaches,

"experts" on diet and exercise, health bloggers, content creators, fitness models, and "lifestyle gurus" via social media who have capitalized on this toxic pursuit of wellness. Instead of consulting healthcare professionals, therapists, dietitians, or certified personal trainers, people can access "health and wellness" information instantly from their phones. It is no surprise, then, that orthorexia has had a similar spike in prevalence in recent years in the U.S. It is important to note that this manuscript focuses primarily on Western, U.S. society at present. However, it is important to also recognize the impact of orthorexia and the toxic pursuit of wellness worldwide, particularly given the role of social media in spreading information internationally in the click of a button.

Aided by mass media, global audiences are subject to the growing influence of Western countries and capitalistic forces (Kraidy, 2002). Western, especially American, psychopathology is demonstrated to have a global influence (Watters, 2011). The expression of mental disorders (i.e., depression, anxiety, disordered eating, etc.) have demonstrated less differentiation across cultures in recent years; in essence, the way in which the world develops mental illness is trending toward homogeneity (Watters, 2011). Relatedly, while it is tempting to attribute the rise of eating disorders worldwide to the adoption of Western beauty ideals, research suggests it may be due to something else entirely (Makino et al., 2004). When someone experiences an emotional trauma, they express their symptoms in a culturally acknowledged and accepted manner (Shorter, 1994) so it is possible that the American signals of suffering (i.e., increased eating disorder behaviors) are promoting the manifestation of these symptoms across the globe.

The Toxic Pursuit of Wellness

As noted previously, Western culture has seen a recent, growing preoccupation with health consciousness labeled "healthism" (Crawford, 1980). This phenomenon is characterized

by the belief that the responsibility to maintain health and wellness primarily falls on the individual (Hanganu-Bresch, 2019). Subsequently, the pursuit of wellbeing has become an obsession based on the desire to gain control over one's health and avoid blame for illness (McCartney, 2016). Despite the external origin of many health problems, solutions typically target individual behaviors which encourage the belief that self-help is the optimal intervention. This belief is then reified through the abundance of health products and information which are designed to profit off of public preoccupation. Notably, healthism sounds like a relatively harmless and potentially helpful set of behaviors, after all, individuals are asserting agency over their health and wellbeing. However, it becomes problematic in the way in which it can distort public health priorities and heighten health-based anxiety (Greenhalgh & Wessely, 2004).

The recent emergence of healthism is largely seen among the Western, middle-class because it relies heavily on disposable income (Crawford, 1980). A major component associated with healthism and dependent on consumerism is the abundance of highly profitable diet programs. Furthermore, individuals with disturbed perceptions of how their bodies should look are particularly vulnerable to fad diets. American advertising is laser focused in the marketing of diets and intentionally exploits the culture's shared values regarding physical aesthetics.

Therefore, healthism is observed primarily in Western culture as opposed to Eastern culture, though there is a permeation of Western influence which is observed globally, shifting cultural values toward individuality (Makino et al., 2004). Moreover, there is a great deal of research examining how body image concerns are influenced by contextual and cultural factors (Lamarche et al., 2018), as well as the relation to body dissatisfaction, self-objectification, and development of eating disorder symptoms. Interestingly, the tone and source of messaging about body ideals significantly impacts the way it is received; for example, fitness-oriented media

results in body dissatisfaction, while beauty-oriented media results in eating disorder symptoms (Lamarche et al., 2018; Moradi & Huang, 2008). Research also shows maladaptive coping strategies to deal with body image concerns including comparison to others, bad internal feelings/poor view of self, using substances, social isolation, and attempts to alter appearance through use of supplements, diets, or excessive exercise (Lamarche et al., 2018).

Diet Culture

Because this concept seems paradoxical in nature it may be worthwhile to explore the boundary of health and pathology. Notably, this task is complicated by the wide range of opinions on what constitutes a healthy diet or lifestyle. However, the Dietary Guidelines for Americans (DGA) will be used in this study as a baseline (U.S. Department of Health and Human Services and U.S. Department of Agriculture, 2015). Every five years a committee of nutrition experts synthesize current scientific research based on health and nutrition literature to develop dietary recommendations and promote wellness put forth in the DGAs (Tangney et al., 2017). Despite previous trends of advocating for diets that emphasize a particularly healthful food or condemn a low-quality food item, recent messaging from the DGA support the adoption of dietary patterns that are healthy in a holistic manner. As an example, one study found six common dietary patterns among Americans and determined that among them the lowest body mass indexes and highest nutrient absorption was found among individuals with evenly distributed food sources (Wirfält & Jeffery, 1997). The results suggest dietary patterns favoring balance contribute to positive health outcomes. Further, high-quality diet patterns favoring evenly distributed energy sources have been correlated with reduced risk for diet-related chronic diseases such as cancer, cardiovascular disease, type 2 diabetes, and neurodegenerative diseases (Schwingshackl & Hoffmann, 2015). Recent data suggests roughly 117 million American adults

have developed one or more diet-related chronic diseases (U.S. Department of Health and Human Services and U.S. Department of Agriculture, 2015). Therefore, the quest to improve health through dietary habits is grounded in realistic concern.

The line between healthy eating to improve wellbeing and pathology is complicated given that dieting has been implicated in both reducing risk for chronic disease and increasing risk for eating disorders (Ambwani et al., 2019). In his book *Health Food Junkies*, Bratman emphasizes the idea that a desire to eat healthy is not pathological, rather when dieting becomes an obsessive pursuit it begins to resemble other eating disorders (Bratman & Knight, 2000).

Others have conceptualized the distinction between healthy and disordered eating may occur when the "solution becomes part of the problem" (Staudacher & Harer, 2018). Pathological obsession with healthy eating is characterized by major deviations from dietary restrictions resulting in feelings of guilt, fear of becoming ill, or enforcing even more restrictive rules as a compensatory strategy (Depa et al., 2019). Furthermore, social isolation, distinguishable impairment of quality of life, development of malnutrition, and extreme unintentional weight loss all constitute intimations that pursuits of healthy eating have become pathological.

At present, there are several diet trends that are commonly touted as the key to achieving health, fitness, and the ideal body. While intermittent fasting, known as caloric restriction or time-restricted feeding, shows promise in animal trials for reducing some health risks, it has not been sufficiently investigated in humans (Mattson & Wan, 2005; Stockman et al., 2018), but is flooding advertisements, media, and social media as a safe, healthy way to achieve your weight goals. There are mobile phone applications, social media sites, forums, and communities aimed to "help you stop eating" (West-Knights, 2020). The keto diet, which aims to put the body into a

fat-burning ketosis state, comes with risks of increased cholesterol, kidney problems, and cardiovascular problems, and is not recommended for long-term use (Agusala, 2022). Yet, the "keto-friendly" label can be found across media, and at the grocery store on anything ranging from snack foods to fast food items, to beverages, with the intent of making this diet accessible and increasing adherence. Similarly, plans like the paleo diet and Whole30 are highly restrictive, touting a "body reset" that will help you achieve your wellness goals; however, these diets deprive the body of essential nutrients by cutting out entire groups of food (Agusala, 2022). While not in the realm of a fad diet, adherence to a vegan diet is increasingly popular and, interestingly, associated with increased orthorexic behaviors when compared to non-vegans (Barthels et al., 2019). Of particular relevance for orthorexia is the accompaniment of moral and ethical factors in the selection of a vegan diet, as well as the rigidity surrounding strict adherence to the as these are further associated with obsessive orthorexic patterns (McComb & Mills, 2019).

Workout Culture

Dietary behavior in orthorexia is accompanied by an obsession with exercise (Hanganu- Bresch, 2019). Distinguishing "thin" from "healthy" within Western culture is a nuance deeply rooted in healthism and orthorexia and may, in fact, be indiscernible (Hanganu-Bresch, 2019). Mass media, popular culture, and social media have further perpetuated narratives around ideal body size, shape, and what constitutes a "healthy" body. The fashion and entertainment industries are linked to the development of eating disorders due to the use of excessively thin actors and models, messages such as "healthy is the new thin," and the conflation of body size/thinness and health (Hanganu-Bresch, 2019). Physical fitness and a "perfect" body are equated with success and health (Corazza et al., 2019), particularly in modern

Western culture. The development of narratives and phrases as "Train. Eat. Sleep. Repeat." and "no pain, no gain" are shared as goals or inspirations for which to strive. This culture of promoting physical fitness, working out, and chasing an ideal body give rise to a variety of issues such as obsessive thought patterns, body dysmorphia, poor self-esteem, malnutrition or poor diet, substance use or abuse, eating disorders, and exercise addiction (Corazza et al., 2019). All of these are, arguably, not in the service of overall wellness or health, which is the foundational issue driving the focus on physical fitness. This paradox amounts to "too much of a good thing" resulting in, in fact, poorer health.

Literature on fitness and "workout culture" reveals the sinister nature of what appears, at a surface level, to be a supportive culture aimed to improve wellness (Norton, 2017). Compulsive exercise was described as early as the 1970s and is characterized by a "craving" for physical training and excessive exercise behavior with harmful consequences including injury and impaired social functioning (Lichtenstein et al., 2017). Compulsive exercise behavior is associated with perfectionism, disordered eating behavior, neuroticism, narcissism, and obsessive-compulsive features, as well as depression and low social interaction (Lichtenstein et al., 2017). The expansive fitness culture has contributed to the emergence of obsessive and excessive exercise, as well as a toxic mindset that, behaviorally, appears much like an addiction (Corazza et al., 2019; Lichtenstein et al., 2017). Fitness and exercise behaviors exist on a continuum, as most behaviors do, ranging from healthy to pathological, but the promotion of toxic workout culture has perpetuated narratives that drive the pathological pursuit of a "perfect" physical body (Corazza et al., 2017; Norton, 2017; Lichtenstein et al., 2017).

Orthorexia and the Toxic Pursuit of Wellness

When well-intentioned behaviors become excessive to the point of impairment, obsessive, or harmful, they land squarely in the realm of a mental health condition. In this case, orthorexia is the result of striving too hard for health, at the expense of actual mental, physical, and emotional wellbeing. This is unique when compared to other mental health conditions; for example, with anorexia and bulimia, health and wellness are often not the primary precedents to behavior, and in obsessive-compulsive disorder, compulsive behaviors are sometimes driven by irrational thought processes (APA, 2013). Orthorexia is accompanied by rigidity, guilt, shame, and anxiety that further drive behavior, and are additionally moderated by a sense of morality, virtue, or pride which provide reward and reinforcement for adherence to orthorexia behaviors. The emergence of diet culture, workout culture, "fitspiration," narratives such as "rise and grind" or "no days off," and one-size-fits-all approaches to diet and exercise have advanced the development of orthorexia in recent years. This is particularly true due to the important cultural factor of social media, which gave rise to increased and instant access to messages, images, communities, information and misinformation, and promotion and spread of ideals that serve the toxic pursuit of wellness and, ultimately, orthorexia.

CHAPTER V: DIAGNOSTIC CLASSIFICATION

Classifications of mental disorder serve to capture a summary of knowledge the field of Psychology holds on a particular mental disorder (Sartorius, 2015). Yet, the classification system does not serve as a simple catalogue designed to avoid disorganization. *The Diagnostic and Statistical Manual* exists as a tool to assist clinicians in communicating about all variables of their discipline in an efficient, standardized manner (Gordon et al., 2017). *The Oxford Handbook of Eating Disorders* describes the classification system within the DSM as synonymous with "Mendeleev's periodic table of elements for the field of chemistry: theoretically driven, parsimonious, and instrumental for scientific growth." The psychological classification system, however, is not without its limitations. The role of diagnosis in the mental health field continues to be a point of debate. We first examine a brief history of diagnosis in psychology and psychiatry, and then present discussion of the benefits and drawbacks of the construct of diagnosing.

Classification of mental health symptoms dates back to the 1840s when the Brigham System was developed based on observation of mental and physical behavior with the goal of identifying the underlying cause of an illness (Ghaemi, 2009). Brigham believed that mental illness was rooted in physical or environmental, rather than moral as was previously thought, and advocated for fair, scientific approaches to treatment for those with mental illness (Ghaemi, 2009). Shortly after, in the 1880s, Kraeplin published the Compendium der Psychiatrie which conceptualized schizophrenia for the first time and helped to establish the framework for the future of diagnostic classification of mental illnesses (Micale, 1997). Kraeplin, too, advocated for science as the basis of diagnosing, rather than judgments regarding perceived moral failures, aiming to identify biological underpinnings of mental health symptoms (Micale, 1997). By the

1950s, the American Psychiatric Association published the first iteration of the DSM, which is now in its fifth edition and was revised in 2022 (APA, 1952; APA, 1968; APA, 1980; APA, 1994; APA 2013; APA, 2022).

The DSM is the most commonly used diagnostic manual among mental health providers (APA, 2013; Kupfer, 2013; Ruscio, 2019). Research shows that the DSM has good interrater reliability (Gunderson et al., 2011) and predictive validity (APA, 2013), allows for the standardization of diagnostic criteria to facilitate comparison in empirical studies, and provides a useful clinical framework that facilitates communication, decision-making, and shared understanding across clinical settings and mental health professionals to better serve their patients.

Clinical Utility of the Classification System

Valid categories of pathology are essential because the classification system defining disorders typically influences the development and efficacy of treatment (Wonderlich et al., 2007). Clinicians are disadvantaged if they are serving a large number of clients who do not fit within clearly defined diagnostic categories but are nonetheless suffering. Specifically, their disadvantage relates to poor clinical utility associated with unspecified diagnoses due to scarce research and limited understanding. Conversely, the process of continually organizing and cataloging the growing knowledge base contributes to increased understanding and predictability. Therefore, as the number of diagnoses in other and unspecified categories increases, so does the need to collect research and data relating to those pathologies. The process of continually organizing knowledge contributes to increased understanding and predictability. Historically, as the evidence-base and knowledge of the origin, nature, and course of a disorder accumulates, revisions have been made to reflect necessary changes as evidenced by the

continually evolving DSM (Sartorius, 2015). In some cases, changes are made to reflect updated information about diagnoses and symptoms, or to move from categorizing to capturing behavior on a spectrum (i.e., autism spectrum disorder in the DSM-5).

Concerns with the Diagnostic Classification System

Despite its boasts, research also documents criticisms of the DSM and its utility. Criticisms of the DSM include an overemphasis on biological factors rather than social and behavioral (Kraemer, 2015), heavy reliance on categorical diagnoses which may oversimplify mental health disorders (Cuthbert & Insel, 2013; Kotov et al., 2017), poor categorization of personality disorders (Krueger & Eaton, 2010), and influence from pharmaceutical companies (Cosgrove & Krimsky, 2012; Greenberg, 2013).

Psychology was born in the modern era wherein "reason triumphed beliefs" (Lane, 2013). A primary objective of psychology was to create a platform that the "reasonable" could classify others as "unreasonable" and confine them to asylums. Foucault (1975) described this socially constructed power differential as "the great confinement" in which those with power involuntarily confined the abnormal and in effect stripped them of their basic liberties. His conceptualization of the modern classification system presents a powerful consideration.

Although diagnostic criteria are currently considered a tool to enhance communication between clinicians and capture what is known about a particular construct, on a basic level they are used to classify and contain people. Furthermore, the classifications of psychological disorders are based on subjective symptoms, manifestations, and behaviors (Venigalla et al., 2017). What this means is the presence of biomarkers to confirm the presence of psychological disorders are largely absent. Oftentimes individuals can be under- or over-diagnosed because there are not sufficient biological tests available to aid the diagnostic process. The DSM then,

serves as a consensus of expert opinions based on research as opposed to scientific proof supported by biological evidence (Lane, 2013). Despite best efforts to practice without bias, it is difficult to subjectively define what is "normal" because human behavior is mediated by context, culture, and society (Lane, 2013). What is "abnormal" in one setting might be completely reasonable in another. Therefore, clinical focus often shifts to assessing presence of symptoms and functionality (Üstün & Kennedy, 2009). When considering a disorder, clinicians often try to determine if a behavior is causing excessive distress to the individual or those close to them. However, this line of inquiry presents a similar problem since the answer is highly dependent on a subjective level of tolerability.

Beyond the DSM itself, the process and construct of diagnosis remains debated in Western culture. What follows is information about the benefits and drawbacks of having a diagnostic construct and its impact for patients and providers. Diagnosis provides a shared language for clinicians and researchers to communicate about symptoms and treatments (Widiger & Clark, 2000) and diagnostic criteria can help to facilitate early detection and intervention for those with mental health conditions (Regier et al., 2013). By accurately describing sets of symptoms or behaviors, mental health providers can better understand, investigate, and treat the problems that are causing impairment in their patients which ultimately aligns with the goal of improved mental health. This also facilitates effective coordination of care across medical and mental health settings, which leads to increased efficacy of treatment planning and better patient outcomes (Jeste et al., 2005). Relatedly, having a diagnostic system is assistive in screening for and identifying comorbid conditions which promotes comprehensive treatment (Clark et al., 2017). Diagnostic criteria also reduce the potential for bias by having an objective framework for assessing symptoms (Bayer & Spitzer, 1985). Categorization of mental

health disorders, such as the framework found in the current iteration of the DSM, allows for research on treatments, interventions, and increased understanding of mental health disorders, particularly because it provides a set of common language with which to describe constellations of symptoms (APA, 2013; APA, 2022).

For patients, having a diagnosed condition can increase access to treatment, resources, and accommodations to support their symptoms and improve their quality of life (Rashid, 2015). Additionally, diagnoses can help families and loved ones of a patient understand their condition to provide support, and also facilitates the option for insurance coverage of mental health treatment which increases accessibility for treatment for those who may not otherwise be able to afford it (Blanco et al., 2013). Another benefit to diagnosing is increased self-awareness and self- advocacy for patients; when individuals better understand their needs, they are able to better communicate them to others including healthcare providers (Jeste et al., 2020). Research shows that diagnosing can empower patients to take control of their mental health and to seek out the necessary support (Rashid, 2015). Research also states that diagnosis can help to reduce stigma associated with mental illness by providing a medical explanation for symptoms and behavior (Salkovskis & Bass, 1997), however, this remains a centralized debate in the field.

Thomas Szasz' *The Myth of Mental Illness*, (1961) is a controversial book that challenges the construct of diagnosis and even of mental illness. Szasz argues that mental health problems are not medical conditions, but a set of metaphorical labels applied to individuals who engage in behavior that is deemed undesirable or unacceptable by societal standards. He further states that psychiatry, and the diagnosis and treatment of mental illness, are used primarily as a form of social control rather than medical care. This perspective is rooted in the idea that mental health concerns are constructed concepts that are not true illnesses and therefore cannot be objectively

defined or diagnosed, likening it to the labeling of witches in medieval Europe. Szasz also argues that mental illness is a product of societal medicalization and subsequently the pathologizing of normal human behavior. Similar to the concepts outlined previously about Healthism, Szasz suggests that medicalization is a means of distracting from systemic problems and instead blaming individuals for their symptoms. If symptoms were to be viewed as a fault of the individual society is alleviated of its responsibility to address issues like poverty, inequality, and social injustice. His critiques of the current system of psychological diagnostics and medicalization highlights an important inquiry about the validity of our labeling approach; perhaps the manifestations of mental illnesses are products of social and cultural factors.

Viewing this through a social constructionist lens, it may be that all manifestations of mental distress suggest something much deeper is misaligned. It is also helpful to highlight Ellenberger's (1970) book *The Discovery of the Unconscious*, in the discussion of the construct of diagnosis. Ellenberger posited that the unconscious is shaped by the cultural context from which it emerges. Specifically, cultural factors shape the experience and understanding of mental health and mental illness (Ellenberger, 1970). This further demonstrates the need to approach clinical practice from a culturally informed and competent space; to examine symptoms outside the context in which they are housed is insufficient and cannot truly support the patient as effectively.

Diagnostics and Orthorexia

Maintaining in mind the benefits and drawbacks to diagnosing and returning to the specific discussion at hand with orthorexia and disordered eating, diagnosing eating disorders can have both positive and negative impacts. Research suggests that diagnosing eating disorders can have both positive and negative consequences. One of the benefits of diagnosing eating

disorders is that it can help individuals receive proper treatment and support, leading to improved outcomes (Wade et al., 2017). Early diagnosis and intervention can prevent further complications and improve the chances of recovery (Jenkins et al., 2015). Furthermore, diagnosis can also increase awareness of eating disorders and reduce stigma, leading to more public funding and research (Favaro et al., 2018). However, there are also potential negative consequences associated with diagnosing eating disorders. For example, diagnosis can result in individuals being stigmatized and discriminated against (Favaro et al., 2018). In addition, some individuals may be hesitant to seek treatment or disclose their symptoms due to the fear of being labeled with a mental health disorder (Schaumberg et al., 2017). Furthermore, the diagnostic criteria for eating disorders have been criticized for being too narrow and potentially excluding individuals who do not meet the specific criteria (Hay et al., 2008). It is also important to consider the potential misdiagnosis of eating disorders. Research has shown that eating disorders can often co-occur with other mental health disorders such as depression and anxiety, which can lead to incorrect diagnoses and ineffective treatment (Mehler & Brown, 2015). Additionally, eating disorders can present differently among different populations, such as men or individuals from diverse cultural backgrounds, which can lead to underdiagnosis or misdiagnosis (Udo & Grilo, 2018). While diagnosing eating disorders has positively impacted early intervention and increased awareness, it also presents the opportunity for stigma and misdiagnosis.

The field of psychology is relatively young, and it is still worthwhile to continue research inquiries about improving the diagnostic process. Although the current diagnostic classification system is considered, by some, to be problematic in nature, it does benefit people. By having an organized classification system, clinicians are better able to facilitate communication, implement effective interventions, and predict outcomes (Evans et al., 2013). Therefore, as the diagnostic

classification system continues to evolve over time, the focus should remain on clinical utility of the model currently in use, and how clinicians can use the existing model to benefit people and make positive changes.

CHAPTER VI: SOCIAL MEDIA

The term "social media" was used originally in 1994 in reference to a Tokyo media platform called Matisse (Aichner et al., 2021). Since that time, social media platforms and their utilization has rapidly expanded (Aichner et al., 2021). Socializing with friends and family, dating and relationship-seeking, professional networking, interacting with brands, companies, and businesses, and retail commerce are primary uses for social media (Aichner et al., 2021) as well as engagement with health information (Niu et al., 2021). The rapid growth of social media parallels the timeline of the emergence of healthism (1970s onward; Crawford, 1980), health technologies (1990s onward; Stevens et al., 2003) and orthorexia as a construct (1990s onward; Bratman, 1997). Interestingly, weight stigma and fat phobia has dramatically increased along this same timeline (1990s onward; Clark et al., 2017), as well as body image dissatisfaction and other mental health issues related to weight, body, and health. Similarly, prevalence of eating disorders has also steadily increased since the 1990s (Galmiche et al., 2019). These factors represent an important intersection relative to orthorexia.

Social media represents an important dichotomy with relation to healthism and orthorexia. Given that social media utilization can support increased health literacy, health access, and belongingness, as well as decrease stigma and barriers to healthcare, it represents a significant positive force relative to mental and physical health. Conversely, there is ample evidence across literature of the negative implications of social media usage on body image, self-esteem, self-efficacy, and mental health including increased risks of depression, anxiety, disordered eating, and trauma.

Yilmazel et al. (2022) found a significant positive correlation between social media use and orthorexic tendencies, and Perloff (2014) found that social media creates a competitive,

comparative culture that promotes disordered eating and negative body image that can be particularly impactful for those with orthorexic tendencies. Research specifically on Instagram, a primarily visual medium, shows that the idealization of diet and exercise behavior, food, and bodies contributes to the development of orthorexia (Turner & Lefevre, 2017). The comparative nature of engagement on social media also has a negative impact on mood (Fardouly et al., 2015). Perfectionism, restrictive eating behaviors, self-objectification, negative self-evaluation, and excessive exercise are all behaviors associated with social media use due to comparative and idealistic content (Perloff, 2014; Tiggemann et al., 2014; Turner & Lefevre, 2017). These findings suggest that social media usage poses a risk to mental health and wellbeing. Revisiting healthism and its tenets, it could be argued that social media engagement is harmful, to some degree, which is directly in opposition to the ideals of "health" prescribed by the culture of healthism. This is an insidious process; in an effort to learn, engage, or build community via social media, consumers place themselves at an additional risk for the development or perpetuation of orthorexia and related mental and physical health concerns. Therein lies the toxicity of the pursuit of wellness. Ostic et al. (2021), however, suggest that the overall impact of social media on psychological well-being is positive, despite the negative risks. It is important, then, to examine the mechanisms by which engagement with social media becomes harmful rather than helpful, specifically with regard to disordered eating.

Social media has also emerged as a research landscape. A study by Valente et al. (2022) utilized Twitter and Instagram hashtags to explore orthorexia and found that those who spent more time scrolling through their feed and interacting with posts were more likely to experience anxiety, depression, and negative body image. The study also found that users who followed more fitness and health-related accounts tended to have more positive body image and mental

health outcomes. Other research in this area has investigated the impact of social media on social comparison, self-esteem, and social support. Studies have found that social media can lead to negative social comparison and decreased self-esteem but can also provide social support and a sense of community for certain individuals. Overall, psychological research using social media has provided insight into the complex relationship between online platforms and mental health outcomes. It suggests that while social media can have both positive and negative effects, it is important to use these platforms in a mindful and intentional way to promote well-being.

Similarly, social media, for patients and providers alike, boasts a variety of benefits; it is even argued that it can help facilitate clinical excellence (Batt-Rawden et al., 2014). From a clinician perspective, social media can promote knowledge-acquisition, skill-building, and exposure to examples of patient care (Walsh et al., 2021). Social media is increasingly present in medical education (Cheston et al., 2013; Hollinderbäumer et al., 2013; Walsh et al., 2021) as well as promoting connectivity between medical providers, and widely sharing access to valuable resources (Walsh et al., 2021).

Historical Context of Social Media

In an effort to provide a comprehensive investigation of the impact of social media on the emergence and maintenance of orthorexia, it is important to examine the history of social media and its broader cultural relevance. In the 1980s, shortly following the development of the internet as a communication tool, the U.S. saw the emergence of several systems that shaped what we now know as social media (boyd & Ellison, 2007; Goggin, 2017; Jones, 2010; Marwick & boyd, 2014). America Online (AOL) launched a mainstream social media platform in 1985; this included email, chat rooms, and message boards that became popularized during the 1990s and early 2000s (boyd & Ellison, 2007; Goggin, 2017; Jones, 2010: Marwick & boyd, 2014).

Friendster, MySpace, Facebook, and Twitter followed close behind as they emerged in the early 2000s, each boasting unique features for sharing content including videos, photos, and music, networking, and information (Jones, 2010; Goggin, 2017; boyd & Ellison, 2007; Marwick & boyd, 2014). More recently, in 2010, Instagram emerged and quickly rose to significant popularity as a social media platform based primarily on sharing visual content via photos, and shortly after, in 2016, TikTok was founded to allow users to share brief video content (Goggin, 2017). These platforms are best known for social networking and sharing content with friends, family, and followers, but also hold much broader sociocultural context at present.

Informal Dissemination of Medical Information & Self Diagnosis

The development of social media has impacted society on a monumental scale in terms of increasing accessibility, connection, and social interactions, but these benefits also brought about several concerns that are notable and worth discussion. Among the most relevant for the present discussion on orthorexia are the negative impact to mental health and the spread of misinformation facilitated by social media. Social media platforms have seen criticism for the structure they provide for self-diagnosis among consumers (Hampton et al., 2011). It is estimated that up to 35% of social media users are utilizing these platforms to seek out information about and self-diagnose medical and mental health conditions, and an almost half of users report accessing social media to confirm a diagnosis they received from a healthcare provider (Nur –A Yazdani et al., 2022). The idea of "getting a second opinion" is commonplace in medical communities, and usually consists of seeking out another qualified practitioner to appropriately assess, diagnose, and treat a condition; however, social media has provided a structure for patients to seek this out via influencers, forums, promoted ad content, and a group of peers who are, arguably, likely not equipped to appropriately provide a confirmatory diagnosis. This

presents a major problem for clinicians and patients. Patients who use social media to learn about, self-diagnose, or confirm/rule-out a diagnosis are at risk of acting based on misinformation which could inadvertently cause harm. Smailhodzic et al. (2016) found that nearly 60% of health-related posts on Twitter contained inaccurate or scientifically unsupported information. This means that, more likely than not, patients using Twitter and similar platforms to seek out medical information are receiving false information about their health. One primary problem this creates is delayed treatment for medical concerns. Friedman et al. (2015) noted that those who utilized the internet to seek out health information were more likely to delay seeking medical attention regardless of symptom severity. Among the possible outcomes for this scenario are worsened health outcomes and missed opportunities for early intervention of treatable conditions (Thomas et al., 2016). In addition to the potential harm of self-diagnosis, using social media to seek out health-related information is associated with increased anxiety, particularly among those who already experience existing mental health conditions (Yue et al., 2023). This anxiety can perpetuate medical avoidance and result, too, in poorer health outcomes even when treatment is available. Another problem resulting from use of social media and other online platforms is the potential for overdiagnosis and overtreatment, in which individuals are unnecessarily treated for conditions they have diagnosed based on information from social media (Semigran et al., 2015). This has been an increasingly relevant problem with regard to mental health and neurodevelopmental conditions. This is an important point in situating orthorexia within the current cultural context and is considered further below.

The Rise of Self-Diagnosis

Per the APA, conditions that have received media attention have been increasingly self-diagnosed in recent years (APA, 2021). Both attention-deficit/hyperactivity disorder

(ADHD) and autism spectrum disorder (ASD) are commonly being self-diagnosed based on information shared via social media (APA, 2021). Social media, specifically TikTok due to its structure of short, engaging video content, provides scaffolding for individuals to share about their symptoms, experiences, connect with others who have similar experiences, and find validation or belonging with a group based on shared lived experience (Clemow & Walker, 2014) which is, in some ways, similar to a digital support group and at surface level sounds innocuous at worst and helpful at best. In reality, however, because of the aforementioned propensity toward the sharing of misinformation (Smailhodzic et al., 2020), social media is more likely to perpetuate myths, falsified or incorrect data, and inaccurate information about the symptoms of a given disorder (APA, 2021). Per the APA, self-diagnosis of neurodevelopmental conditions such as ADHD and ASD can be inaccurate and, at times, harmful or dangerous (APA, 2021). This is particularly true with regard to seeking out treatments or interventions, as inaccurate self-diagnosis can lead to inaccurate or unsafe self-intervention and delayed treatment seeking from a legitimate source.

The APA urges social media users who suspect they have a mental health condition to follow up with an appropriately credentialed professional in order to properly evaluate and treat whatever condition may be present (APA, 2021). With autism specifically, self-diagnosis is problematic and potentially harmful because of misinformation, improper treatment or delayed treatment, and the potential for increased stigmatization of individuals who actually experience the disorder (Bakombo et al., 2023). It is also important to note, however, that those who seek interpersonal connection via social media based on a set of symptoms or shared experiences may benefit from a sense of community or validation, but that does not negate the need for proper diagnosis through legitimate channels. Chandler and Shapiro (2016) describe the impact of social

media on self-diagnosis as "complex and multifaceted" and state that more research is needed to determine the magnitude and type of impact that social media will continue to have on mental health.

From a clinical perspective, self-diagnosis can be harmful in a variety of ways. Norcross and Karpiak (2012) note that self-diagnosis can lead to inaccurate diagnosis and treatment given that patients may lack the understanding and training to appropriately assess their symptoms and are potentially getting information from unreliable sources. Further, self-diagnosis can also contribute to poor rapport between clinicians and their patients, as well as resistance to treatments suggested by healthcare professionals (Hilton et al. 2013). Some research suggests that clinicians may feel hesitant to challenge a patient's self-diagnosis due to concerns about damaging a therapeutic relationship or invalidating the client, which can delay appropriate treatment or intervention and ultimately risks harm to the patient (Norcross & Karpiak, 2012). On a practical level, self-diagnosis can lead to additional burden to clinicians as they need to spend time providing proper psychoeducation, resources, and dispelling myths or false information (Norcross & Karpiak, 2012). Finally, in a diagnostic system that aims to provide accurate, non-compounding diagnoses, self-diagnosis leads to overdiagnosis in the vast majority of cases, around 85 percent (Semigran et al., 2015). Beyond this, self-diagnosis leads to overtreatment in approximately one-third of cases (Semigran et al., 2015). This represents poor utilization of resources, overmedicalization of patients, additional burden to clinicians, and inaccurate estimates of the prevalence or incidence rates of given disorders due to overinflated data from patients who self-diagnose.

Life Online vs IRL

Boyd and Ellison (2007) used the term "networked publics" to refer to social media platforms. Social network sites are distinct from face-to-face public life in four ways; persistence, searchability, replicability, and invisible audiences (boyd, 2007). Boyd argues that these factors, which are generally not present in typical public life, are properties that fundamentally change social dynamics. Firstly, with regard to persistence, boyd notes that communications via social media are recorded in some manner which allows for asynchronous communication and extends the life of verbal acts. Secondly, these ideas recorded for posterity also become searchable; social media allows people to easily and intentionally seek out those that are like-minded, which is possible but less accessible in real-time, in-vivo interactions (boyd, 2007).

Replicability is the third property that sets social media apart from other types of interaction; it removes much of the potential for hearsay, misinterpretation, erosion from memory, and confusion between an original statement or a copy (boyd, 2007) which, at times, leads to increased accountability for expressions that are recorded in the networked public. Finally, while in typical in-person interactions we can visually, or by other means, determine privacy or if someone is observing a verbal act (i.e., conversation), social media presents the idea that it is possible for an unintended audience to virtually access any recorded expression online and consume it at a different time and place than it was originally expressed (boyd & Ellison, 2007). These qualitative differences between social media interactions and those that occur online provide important structural considerations as we evaluate social media in the context of orthorexia.

Perpetuation of Western Body Ideals

Social media is known to promote unrealistic, unattainable, and unhealthy body ideals (Fardouly et al., 2015). This can lead to a variety of concerns relevant to our exploration of orthorexia; negative body image, disordered eating behaviors, social comparison, conformity, and perfectionism are all noted as highly prevalent due to the ideals boasted by social media (Fardouly et al., 2015). Further, social media primarily promotes Westernized beauty standards including thin bodies, fair skin, and Eurocentric features, and little representation of diverse racial/ethnic, body size, or features that differ from the "ideal" as defined by Western culture (Lee & Lee, 2021). This is additionally harmful to people whose features, traits, background, and appearance are not aligned with this narrow scope of beauty. Further, there seems to be a kind of pressure to curate an ideal online self, a practice comprised of posting certain types of content, conforming to societal expectations (particularly with regard to thinness), and seeking out ways to further tailor themselves and their content to fit the aesthetic expectations seen on social media (Perloff, 2014). This can also lead to disordered eating or body-focused behaviors in an effort to achieve this "ideal self" and mimic the content we see idolized and praised on social media (Perloff, 2014). Social media has also been known to promote disordered eating behavior through peer networks where individuals consume content that normalizes, idealizes, or romanticizes disordered eating or the physical effects thereof for example, thinness, low body weight, certain body shapes, etc., (Tiggemann et al., 2014). This normalization is especially harmful given the lack of diversity and representation of other types of bodies on social media. Beyond normalization, some social media content is specifically pro-eating disorder (i.e., pro-anorexia or "pro-ana" content, pro-bulimia content, "fitspiration" or "thinspiration" etc.), where users can encourage each other to maintain their disordered eating behaviors on forums,

share tips for how to engage in disordered eating, and how to strive for their "goals" of weight loss, food restriction, or otherwise (Perloff, 2014). One study found that Instagram use and orthorexia are associated, and additionally, that those who follow health and fitness accounts were at an increased risk of developing orthorexic tendencies (Turner & Lefevre, 2017).

These online communities represent an insidious subsection of social media; the function of social networks was originally for communication and sharing content with friends, family, and followers, but in some cases, this becomes a catalyst for broadcasting harmful content with a wide audience. Research shows that social media use, exposure to imagery of thin or "perfect" bodies and "healthy" foods all perpetuate comparative behaviors, obsessive thought patterns related to fitness, eating, or appearance, or even disordered eating behaviors such as bingeing, purging, restricting caloric intake, or over-exercising as a means of maintaining a caloric deficit (Brytek-Matera et al., 2018; Dunn et al., 2017; Tiggemann et al., 2014). Research also shows that social media exposure is associated with a significantly increased risk of engaging in orthorexic behavior (Brytek-Matera et al., 2018). Among girls and women, exposure to images of thin and idealized bodies facilitates a desire to lose weight, as well as increased body dissatisfaction, which also shares a positive correlation with time spent on social media (Fardouley et al., 2015). Essentially, social media promotes the development and maintenance of orthorexia-related behaviors at a greater rate than when social media is not a factor.

Electronic Health Records

The development of electronic health records (EHRs) revolutionized healthcare for patients and care providers. Research shows that patients who have access to their EHRs are more likely to engage in preventative healthcare, actively participate in health management, and have a higher degree of trust in their providers (Nazi et al., 2013). Online access to accurate

health data also allows patients to increase communication frequency and accuracy with their providers; secure messaging and personalized resources/educational materials allow patients to have their questions answered by the appropriate provider in a timely and efficient manner (Ralston et al., 2009). As a result, patients are better able to make decisions about their health and wellness in an informed manner. Evaluating this in contrast to the misinformation and delayed or inaccurate treatment that results from engagement with social media related to health matters is striking.

Research and Social Media

At an increasing rate, social media is being used as a modality for scientific research (Munar, 2012). Social media offers a unique set of real-time data in mass quantities, and grants access to a large and immediate pool of prospective participants (Jones, 2010; Munar, 2012). Social media platforms provide a great deal of information about attitudes, behavior, and opinions which makes them valuable for researchers (Munar, 2012). Conducting research utilizing social media also makes data collection fast, easy, and cost effective (Kapp et al., 2018). One area where social media has been particularly useful for research is in the study of public health issues (Chew & Eysenbach, 2010). Social media platforms such as Twitter and Facebook provide a wealth of data on people's health-related behaviors and attitudes, making it possible to track the spread of diseases and monitor public health trends (Chew & Eysenbach, 2010). In addition to its potential as a data source, social media can also be used as a tool for recruitment and participant engagement in research studies (Widmer et al., 2014). Researchers can use social media to reach out to potential study participants, recruit participants for studies, and engage with participants throughout the study process (Kapp et al., 2018).

Despite its many advantages, using social media for research also poses some challenges. One of the main challenges is ensuring the ethical and responsible use of social media data (Munar, 2012). Researchers must ensure that they are protecting the privacy and confidentiality of social media users, and that they are using data in a way that is consistent with ethical guidelines and regulations. Another challenge is the potential for bias in social media data (Hampton et al., 2011). Social media users are not necessarily representative of the population as a whole, and their behaviors and attitudes may be influenced by a variety of factors that can bias research findings. Researchers must be aware of these potential biases and take steps to minimize their impact on their research. In addition, social media data can be difficult to interpret, as it often lacks the context that is provided by traditional research methods (Munar, 2012). Researchers must be careful to properly interpret social media data and ensure that their findings are valid and reliable. Despite these challenges, the use of social media in scientific research is likely to continue to grow in the coming years. As social media platforms continue to evolve and become more sophisticated, they will provide researchers with even more opportunities to collect and analyze data on a wide range of topics (Kapp et al., 2018).

CHAPTER VII: DISCUSSION

This non-systematic literature review sought to explore the emerging construct of orthorexia by examining the existing literature. We addressed the clinical, cultural, and systemic factors that contribute to the emergence, maintenance, and perpetuation of orthorexia and the toxic pursuit of wellness. We considered how Healthism may have served as the cultural backdrop for this construct to develop. We provided a background of our current diagnostic system and how orthorexia may or may not fit within its boundaries. Finally, we highlighted the parallel emergence of social media and how its existence has been a major influence in relation to orthorexia.

Despite the fact that the scientific community has not yet reached a consensus about whether or not orthorexia represents a clinically valid disorder, the results of this study suggest that it may be prudent to focus on treatment of symptoms rather than reification. The detailing of healthism, a construct that calls attention to the preoccupation with the health consciousness movement, has provided a roadmap for how orthorexic symptoms may have emerged in the first place. In a system where some individuals begin to assume total responsibility for their health as a result of poor standards of care and capitalistic forces, it makes sense that a portion of those people may feel compelled to take their pursuits too far and suffer as a result. Perhaps with changes of our current health system and food sourcing we might see orthorexic symptoms disappear entirely. And yet, because this would take a great deal of systematic change, we may never know if this would be the case. However, it is important for treatment providers to consider the ways in which our societal forces can shape behavior and in extreme situations, result in distress.

The critical look at the Diagnostic and Statistical Manual taken in this analysis suggests that OSFED might in fact be the best placement for orthorexia. Diagnosis provides a shared language for clinicians and researchers to communicate about symptoms and treatments (Widiger & Clark, 2000) and diagnostic criteria can help to facilitate early detection and intervention for those with mental health conditions (Regier et al., 2013). As such, it would seem an important task to validate orthorexia and find a placement for it within the DSM. However, criticisms of the DSM include an overemphasis on biological factors rather than social and behavioral (Kraemer, 2015), heavy reliance on categorical diagnoses which may oversimplify mental health disorders (Cuthbert & Insel, 2013; Kotov et al., 2017), poor categorization of personality disorders (Krueger & Eaton, 2010), and influence from pharmaceutical companies (Cosgrove & Krimsky, 2012; Greenberg, 2013). Some critics of the DSM suggest that mental illness labeling is a product of societal medicalization and pathologizing of normal human behavior. While orthorexia might not necessarily be normal behavior, it may be an understandable response to a broken system. As such, the further reification of orthorexia may serve to further solidify the problems that be.

An additional element considered in this analysis is the way that social media maintains orthorexia. Whether the scientific community decides to validate and classify orthorexia or not, social media has taken hold of the construct. Social media is known to promote unrealistic, unattainable, and unhealthy body ideals (Fardouly et al., 2015). It is the pulse of culture surrounding fitness, diet, and the pursuit of a healthy lifestyle. It also provides instant access for users to connect to communities of people with shared interests, share posts about their lives, and seek out information about health and wellness. Social media represents both a blessing and a curse to the maintenance of orthorexia. While individuals suffering with orthorexic behavior can

connect with others going through a similar experience, they also run the risk of being exposed to an abundance of unregulated information that may worsen their symptoms.

Ultimately, orthorexia is best understood within its cultural bracket and should be protected from further pathologizing or medicalization. It is suggested that researchers continue to study this construct so that psychological providers can really understand this emergence of behavior. However, in the meantime, it is recommended that providers continue to diagnose under OSFED when they encounter a clinical presentation matching the description of orthorexia.

There is still a great deal of research to be completed on this topic. Despite the fact that this study has been a comprehensive review of the construct, it remains to be decided by the scientific community whether orthorexia should be added to the DSM as it has not yet been officially validated. However, there does exist a population of people who feel that they suffer from a set of symptoms matching the description of orthorexia. This presents an important dilemma for clinical providers. What follows are treatment considerations relevant for any clinical provider who wishes to honor the state of their clients suffering, validated by the DSM or not.

Treatment Considerations

While orthorexia is not currently classified in the DSM-5-TR or the ICD-11, and therefore cannot be diagnosed, it is often described and discussed in research and clinical settings as a pathology (Bratman & Knight, 2000; Dunn et al., 2017; McComb & Mills, 2019). A 2019 study showed that 80% of dietitians reported encountering patients with orthorexia, which suggests the significance of its presence in clinical settings (McComb & Mills, 2019). There are also validated measures for assessing orthorexia (Dunn et al., 2017; Turner & Lefevre, 2017)

which further demonstrates that the field of clinical psychology recognizes orthorexia as a problem to be addressed. As such, orthorexia is treated clinically in a similar fashion to recognized mental health disorders. Treatment considerations and approaches are discussed below.

Treatment Considerations and Approaches

Because there are very few studies evaluating the efficacy of treatment approaches for orthorexia (Koven & Abry, 2015) we present several treatment modalities that are effective for adjacent disorders such as other eating disorders, OCD, and anxiety that could be adapted and applied to orthorexia. Cognitive behavioral therapy, radically open DBT, narrative therapy, mindfulness-based approaches, psychopharmacology, psychoeducation, nutrition coaching, group therapy, and interdisciplinary medical treatment are all viable means of addressing orthorexia symptoms in clinical settings (Koven & Abry, 2015).

Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) is a commonly used treatment approach for a variety of mental health concerns including disordered eating, OCD, and anxiety (APA, 2022; Koven & Abry, 2015). In the case of orthorexia, restructuring cognitive distortions such as catastrophizing, dichotomous thinking, and overgeneralization can be helpful in reducing symptoms associated with disordered eating patterns (Koven & Abry, 2015). Behavioral interventions such as exposure and response prevention, as well as introducing alternative behaviors with food and fitness, can also be particularly useful in addressing symptoms of orthorexia (Koven & Abry, 2015).

Narrative Therapy

While CBT is a gold-standard treatment for eating disorders, some criticize it for

perpetuating the very behavior that it is trying to treat. Narrative therapy has been proposed as an alternative treatment modality. Narrative therapy focuses on the externalization symptoms and can help facilitate shifts in lifestyle and values that lead to more psychological flexibility and less control of eating behaviors (Scott et al., 2013). Proponents of this theory suggest that by viewing disordered eating as an entity separate from the patient, the patient can then focus on deconstructing their dominant narrative and replace it with a richer alternative story based around values that have been pushed aside because their eating disorder took precedence.

RO-DBT

Another treatment modality that has great potential for treating orthorexia is radically open dialectical behavior therapy (RO-DBT). This treatment views all disorders along a spectrum of emotional overcontrol or emotional undercontrol. Since orthorexia has many tenants of disorders of emotional overcontrol which is characterized by inflexible behavior, emotional suppression, elevated distress tolerance, and perfectionism, RO-DBT may lend itself to successful treatment outcomes (Baudinet et al., 2020). This treatment modality aims to help individuals struggling with restrictive eating identify urges to adhere to strict, rule-governed behavior and utilize mindfulness and physical relaxation techniques to manage their urges (Lynch, et al., 2015). Once this rigidity begins to be interrupted, practitioners of RO-DBT can then help their patients identify alternative behaviors that will lead to more openness, flexibility, and social connectedness.

Mindfulness Based Therapy

Expanding on the goals of RO-DBT for openness and flexibility, research shows that mindfulness-based and relaxation-oriented training can assist with health anxiety, as well as mindful eating and socialization during eating (Koven & Abry, 2015). While a great deal of

research focuses on mindfulness interventions for binge eating disorders, the cognitive rigidity, restrictive food intake, and perfectionism seen in orthorexic patients would benefit greatly from a mindful approach.

Additional Treatment Notes

In addition to the psychotherapy-based treatments recommended above, it is important that patients suffering with orthorexic symptoms engage in wrap-around care. Individuals with orthorexia should consider establishing a care team including their psychotherapist, a psychiatrist, and a dietician. By doing this, licensed professionals can serve to support orthorexic patients by re-orienting themselves to a more balanced relationship with food and wellness. Psychoeducation about nutrition, diet science, and physiology can be useful in disabusing individuals with orthorexia of their false beliefs about food, health, and body (Koven & Abry, 2015), specifically with the goal of challenging a deeply held, values-based impairment due to orthorexia. It is also worth mentioning that psychotropic medications, such as SSRIs, may be effective in orthorexia given their efficacy in anxiety, OCD, and anorexia (APA, 2022; Koven & Abry, 2015).

At present, because orthorexia is not categorized in our current diagnostic system, there is less information available about evidence-based treatments and interventions. Because of the evolution of the social media climate, continued investigation of orthorexia should be a priority in psychological science given the increasing presentation of orthorexia in clinical settings. Detailed below are several implications for future research, based on extant research and several areas where expansions would be useful for both clinical and empirical outcomes.

Implications for Future Research

Orthorexia, as we have examined thus far, is the toxic pursuit of health and wellness

characterized by compulsive eating and exercise behavior, obsessive thought patterns related to food and physical fitness, and emotional impacts such as guilt, shame, and anxiety in the wake of self-perceived failures in achieving pinnacle health. Orthorexia is maintained by cognitive rigidity, social comparison, social media and cultural factors, and the drive to achieve health and wellness. The impact of social media on the development, maintenance, and perpetuation of orthorexia warrants additional focus in research.

A primary area for future exploration is the degree to which social media and online culture contribute to a clinically significant presentation of orthorexia. This subsequently calls for the instatement of orthorexia as a formal diagnostic classification in some manner. Future research could focus on the placement of orthorexia as an eating or related disorder, or, given the overlap with obsessive-compulsive and anxiety disorders, as a potential subtype within another diagnostic category. This gives to the additional line of research aimed at developing specialized clinical interventions for orthorexia, as well as assessment measures to further clarify diagnoses. Further, research should aim to address mechanisms by which social media use can be detrimental, and perhaps, explore ways to reduce inadvertent harm from engaging in social media.

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