CONSIDERATION OF NUTRITIONAL INTAKE IN
HOLISTIC MENTAL HEALTH SERVICE DELIVERY

A Thesis

Presented to the faculty of the Division of Social Work
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and

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by

Emily Faye Spanko

Nathan Lane Stuckey

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Division of Social Work
The study presented in this thesis investigates the extent to which social work clinicians consider nutritional intake when providing holistic mental health services. The study is grounded in a review of professional literature supporting the consideration of nutrition as a component of holistic mental health service delivery. The study’s sample included 34 licensed clinical social workers who provide direct mental health services in the Sacramento, California area. The study sought to measure clinicians’ beliefs and knowledge regarding the relationship between nutritional intake and mental health, and to explore the participants’ clinical practice as it pertains to the consideration of nutritional intake. Study findings revealed that a majority of participating clinicians expressed belief, and had knowledge, that nutritional intake is a contributing factor in the presentation of certain mental health conditions, while a lesser majority reported active consideration of nutritional intake in their mental health practice. In addition, a large majority of participants cited inadequate education and training as a barrier to considering
nutritional intake in their mental health practice. In light of these findings, Master of Social Work student researchers Emily Spanko and Nathan Stuckey encourage further research to support the integration of nutrition into the social work scope of practice.

__________________________________, Committee Chair
Francis Yuen, DSW, Professor

________________________
Date
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Chapter 1

INTRODUCTION

The authors of this thesis both have professional experience supporting youth and families through non-profit organizations that provide intensive behavioral interventions for youth whose behavior jeopardized the stability of their living arrangement. The authors have supported youth experiencing various mental health conditions, including but not limited to attention-deficit hyperactivity disorder (ADHD), mood disorders, and anxiety disorders. What comprised a majority of the services given to the youth were intensive behavioral therapy provided by the non-profit agencies, where appropriate an individual mental health therapist, and a psychiatrist responsible for prescribing and monitoring psychotropic medications. Treatment goals were written for the purpose of reducing high-risk behaviors, and interventions were geared to teach and reinforce socially acceptable behaviors. In the authors’ combined experience, holistic interventions such as those involving the consideration of the youth’s nutritional intake were seldom explored, if at all.

The inspiration for this research began with a conversation between the authors about the inattention given to minor clients’ nutritional intake. To illustrate this point, one author discussed an experience supporting an adolescent diagnosed with ADHD who was being considered for a higher level of care. The author would arrive in at this adolescent’s home in the morning and remain with the adolescent for several hours, up to four days a week. In the observation of the author, the client rarely drank water and instead consumed large quantities of soda or other beverages with high sugar content. If
the client ate anything for breakfast it consisted of pizza, or other high sugar/high sodium
snacks. The author did not witness the adolescent consume a piece of fruit or vegetable
during their seven months together. In addition, the youth spent a majority of daylight
hours inside playing video games or sleeping. Like most other clients, this young man
was prescribed psychotropic medication, put through intensive behavioral therapy, and
taught various coping skills, all without his nutritional intake and physical activity being
addressed. It was during this case that the author began to contemplate the effects of
dietary habits on one’s mental health and overall well-being. How might the adolescent
have responded to a diet rich in nutrients and low in sugars and chemical additives and
preservatives? Would the change in diet be enough to reduce his symptoms to a more
manageable level? Why is it that those providing mental health services do not consider
such a factor before moving to prescribe psychotropic medication to minors?

As social workers we are called to explore all facets of a client’s life and to
critically consider the implications of the information gathered when assigning a mental
health diagnosis and crafting treatment plans. Contemporary research in the fields of
medicine and mental health asserts the existence of a correlation between nutrition and
overall mental health. Given this correlation, the authors of this thesis believe that
knowledge about a client’s dietary habits should be viewed as a meaningful component
of holistic clinical assessment and treatment planning. As mentioned above, it has been
our observation in employment and internship settings, that in practice data gathered
regarding a client’s dietary habits is either incidental or overlooked altogether during the
clinical assessment process. The authors of this thesis, recognizing that their experiences
are limited and anecdotal, crafted the research that follows in an effort to develop a
greater understanding of the role of nutritional intake in holistic mental health practice.

Statement of Collaboration

Master of Social Work students, Emily Spanko and Nathan Stuckey, worked
collaboratively in the development, research, and writing of this work.

Background

Changes in the Western diet over the last half century have seen significant
transformations that have had an impact on human health and well-being. The Western
diet has shifted away from the consumption of whole foods, or foods that have undergone
little to no refinement or processing, to a diet high in calories, chemical additives, and
preservatives, yet low in nutritional value (Jacka & Berk, 2007). There are concerns that
this shift in diet may not be providing the nutrient levels required by the human body to
maintain optimal physical and mental health. In regard to mental health specifically,
evidence that will be discussed in greater detail in Chapter 2 highlights that nutritional
intake plays a role in the symptomology of various mental health conditions (including
depression, ADHD, schizophrenia, and Alzheimer’s disease) and that certain adjustments
in nutritional intake can be used to prevent the onset of the condition or to ameliorate
symptoms.

In addition, the issue of food insecurity, defined by Nord, Andrews, and Carlson
(2006) as the inability to secure an adequate food supply or the uncertainty of having an
adequate food supply to meet basic needs resulting from insufficient resources (as cited
in Heflin & Ziliak, 2008, p. 707), has been correlated with increased risk for health
problems due to lack of essential nutrients in one’s diet (Dixon, Radimer, & Winkleby, 2001, as cited in Heflin, Siefert, & Williams, 2005). For instance, Heseker, Kubler, Pudel and Westenhoffer (1992) found that a decrease in nutrients lead to an increase in various cognitive and mental health symptoms, many of which were eradicated once nutrients were restored to previous levels (as cited in Heflin & Ziliak, 2008, p. 708).

Over the last twenty years the fields of mental health and social welfare have begun to shift away from the traditional modality of treating and suppressing the symptoms of mental illness, instead focusing on the promotion of mental health and well-being, with goals geared toward improving the client’s quality of life (Murphy & Murphy, 2006). Many of the practice paradigms that have emerged in the wake of this transition embrace a holistic perspective, encouraging multifaceted mental health assessment and treatment. Despite this, Burks and Keeley (1989) concluded that a majority of mental health professionals lacked sufficient knowledge regarding the relationship between nutrition and mental health, and that treatment of clients’ conditions rarely included a nutritional component, despite the belief that many conditions were responsive to nutritional interventions. Awareness of this lack of attention to clients’ nutritional intake is particularly relevant in the field of social work, which encourages clinicians to consider all elements that may be impacting a client’s condition.

In light of this evidence, the authors of this study find it prudent to determine the extent to which social work clinicians regularly assess nutritional intake with their clients or incorporate a nutritional component in their treatment plans. By exploring the extent to which social work clinicians consider nutritional intake in their delivery of mental
health services, as well as considering the factors that may hinder social workers from doing so, further study can be organized with the intention of exploring these hindrances in greater depth.

**Statement of the Research Problem**

Despite the emphasis on holistic mental health practice in the field of social work, the extent to which social work clinicians consider nutritional intake in their daily practice is unknown. Furthermore, the factors that influence a social work clinician’s practice of considering nutritional intake during the course of mental health service delivery are speculative, requiring further investigation.

**Research Questions**

- To what extent do social work clinicians understand or believe that nutritional intake is a contributing factor to their clients’ mental health?
- Within the context of a holistic framework, to what extent do social work clinicians consider their clients’ nutritional intake in the delivery of mental health services?

**Purpose of the Study**

This study represents an effort to explore the field of social work’s knowledge and understanding of the relationship between nutritional intake and mental health. The primary purpose of this study is to provide quantitative data on the extent to which Sacramento area social work clinicians consider nutritional intake when conducting holistic mental health assessments and formulating holistic treatment plans. Additionally,
the study will gather and consider data regarding the factors that encourage or hinder the study’s participating clinicians from doing so.

**Theoretical Framework**

The research study outlined in this thesis has been informed and guided by theories of human psychology, together with complimentary practice perspectives common in the field of social work. The psychological theories of greatest influence in the formulation of the study were Maslow’s hierarchy of needs theory and general systems theory. Guiding philosophy also included the broad, but influential, holistic perspective and the resulting biopsychosocial practice paradigm. Together these concepts make up the theoretical framework upon which this study of the consideration of nutritional intake as a component of mental health care is grounded. Cursory information about these theories and perspectives, as well as their influence on the study presented in this thesis, is provided below.

Maslow’s concept of humans’ hierarchy of needs, initially presented in 1943, offers the view that until and unless a human’s basic needs, also known as deficiency needs, are met that he or she will not aspire to fulfill higher level needs and work toward self-actualization (Tribe, 1982). Maslow holds that an individual’s physiological needs, those necessary for survival, take precedence over all else and will guide human decision making and action until the needs are adequately met (DeCarvalho, 1991). Items commonly included in this category are food, water, and shelter. Beyond these physical needs, it is assumed that humans instinctively turn their focus to ensuring personal safety and security. After safety is established, Maslow argues that humans strive to fill their
innate need for a sense of belonging and acceptance, followed closely by the associated need for esteem and positive regard. The hierarchy of needs further theorizes that the needs outlined above build upon one another, each serving as a foundation for the next. In other words, it is only after an individual has mastery over lower level deficiency needs that he or she may begin working toward self-actualization, wellness, or the fulfillment of his or her ultimate potential (Tribe, 1982). Maslow’s theory had particular influence in the development of the study outlined in Chapter 3 as the study assumes that consideration for a client’s access to, and intake of, food and nutrients (a fundamental deficiency need) should be viewed as an important component of all mental health service delivery.

Secondly, the study was informed in part by general systems theory. This theory is centered on the notion of circular causality, proposing that every element in a system is simultaneously influenced by and influences other elements (Walsh, 2010). General systems theory defines a *system* as any “complex of elements in interaction [with one another]” (Bertalanffy, 1981, p. 109). While systems theory provides an interdisciplinary tool for examining the mechanics of human interaction, Bertalanffy (1981) argues that the theory’s utility is not limited to traditionally defined systems, “but applies to any ‘whole’ consisting of interacting ‘components’ ” (p. 109). In this way, the theory is useful both in assessing relationships between individuals and their environments (social or physical), and when exploring the interplay between external stimuli and the physical and mental well-being of human beings. Our study makes meaning of this theory by viewing the human mind, body, and soul as interconnected components of each human
system. It follows that any impact (beneficial or detrimental) caused by external stimuli (e.g. physical activity, substance use, and nutritional intake) may influence the health and well-being of individual components of the human body and eventually lead to change in the system as a whole.

Finally, the study of Sacramento area social work clinicians was significantly influenced by the holistic perspective integral to social work philosophy. In micro level practice, specifically mental health care, a holistic perspective is generally understood to endorse the thoughtful consideration of all domains of a client’s life including biological, psychological, social, spiritual, and environmental (Roberts, 2009). The holistic perspective encourages individualized care, crafted in a manner that recognizes a client’s strengths and addresses his or her unique multifaceted needs (Myers & Sweeney, 2008). This practice, often referred to as treating the whole person, provides a contrasting view to that of the traditional medical model of mental health care which looks primarily to the realms of biology and genetics for explanations of, and solutions to, individuals’ presenting challenges. Introduced in the late 1970s, the biopsychosocial practice paradigm provided a tool for applying holistic ideology in mental health service delivery. Contrary to the traditional medical model, the biopsychosocial approach was designed specifically to give recognition to psychological and social factors in addition to an individual’s biology as they relate to overall well-being (Boyle, 2006). The model recognizes that a human’s physiology impacts his or her psychology, and that environmental, social, spiritual, and cultural factors possess the ability to promote (or deteriorate) overall health and well-being. Given the biological importance of nutrition
to the human body, it is the belief of the authors of this thesis that social work clinicians who embrace the holistic perspective - and who make use of the biopsychosocial model as a way to implement that perspective - should consider a client’s nutritional intake as a component of their mental health service delivery. Until the status of this fundamental need has been assessed and adequately met it is unlikely that a client would be able to turn his or her attention to the difficult process of mental health recovery.

**Definition of Terms**

The key words and phrases outlined in this section have been identified as holding particular importance in this study. The operational definitions presented below were compiled by the authors following a review of current professional literature for the purpose of executing the study described in Chapter 3. The reader should note that the terms and corresponding definitions have been adopted in the resulting summary of findings.

*Social work clinician:* An individual who has obtained a graduate degree or higher in social work and who has earned licensure as a Licensed Clinical Social Worker (LCSW) through the California Board of Behavioral Sciences.

*Nutritional intake:* The type and quantity of nutrients consumed through food, drink, or supplement by individuals seeking or receiving mental health services from the social work clinicians participating in this study.

*Contributing factor:* A circumstance, condition, or act that influences the overall mental health, or diagnosed mental health condition, of clients seeking or receiving mental health services from the social work clinicians participating in this study.
**Overall mental health**: The state of psychological well-being of the individuals seeking or receiving mental health services from the social work clinicians participating in this study. Specifically, the psychological state in which the individual is able to use his or her cognitive and emotional capabilities to cope with common life stressors, function in society, and meet the ordinary demands of everyday life.

**Mental health condition**: A formally diagnosed mental illness as characterized by the Diagnostic and Statistical Manual of Mental Disorders IV-TR.

**Holistic framework**: A doctrine of assessment, prevention, and treatment that considers all facets of a client’s life; including but not limited to body, mind, emotions, nutrition, spirituality, and environment.

**Consider**: To gather and make use of concrete information regarding a client’s nutritional intake in the evaluation of his or her overall mental health.

### Assumptions

The research described in Chapter 3 was guided by the following assumptions:

1. Social work clinicians using a holistic framework to guide their practice have a desire and interest in assessing all facets in their clients’ lives.

2. Given adequate knowledge and resources, social work clinicians who intend to provide holistic services would consider nutritional intake a component of mental health service delivery.

### Justification

As previously stated, the primary aim of this study is to promote awareness about the attention given to clients’ nutritional intake during the delivery of holistic mental health services.
health services by micro level social work clinicians. A review of current literature in the fields of medicine, mental health, and social welfare reveals evidence to support that a client’s nutritional intake should be considered during the delivery of holistic services, as the presence or absence of specific nutrients in an individual’s diet is known to influence the presentation of mental health disorders.

Social worker competence regarding the relationship between nutritional intake and mental health was irrelevant in the early 19th century when the profession was born as little was known about the influence of nutritional intake on overall well-being. Since that time two notable changes have occurred: Western diets have evolved as a result of globalization and industrialization, and scientific research has emerged that establishes a relationship between the level of specific micronutrients in the human body and overall mental health. Despite these shifts, little research has been done to explore the extent to which mental health care professionals consider a client’s nutritional intake in the delivery of mental health services. This is particularly concerning in the field of social work as the profession prides itself on providing clients competent service guided by a holistic perspective. While the study presented in this thesis is limited in scope, it aims to gather this type of data as it relates to Licensed Clinical Social Workers in the Sacramento area. It is the authors’ hope that the study’s findings will begin to identify strengths and shortcomings related to the knowledge and practice of social work clinicians - ultimately inspiring further study of this topic and promoting increased competency of those in the field. Specifically, by conducting and publishing such
research the authors hope to build evidence for the case that nutritional intake is an essential component of holistic social work practice.

**Limitations**

As with all research, the study presented here contains several notable limitations. First, the restriction of study participation to Licensed Clinical Social Workers (LCSWs) was a deliberate choice by the researchers in order to achieve the objectives of the study. As previously stated, the study aimed to gather data about the knowledge and beliefs of social work clinicians regarding the relationship between nutritional intake and mental health, as well as the clinicians’ practice of incorporating their knowledge and beliefs on this subject into their delivery of holistic mental health services. Consequently the study findings provide insight relevant to the field of social work, however this insight may be difficult to generalize within the larger field of mental health care; a field which includes practitioners with educational backgrounds in medicine, psychology, counseling, theology, etc. The generalization of findings is further limited as the study’s geographic reach was narrow and the final sample size small ($N = 34$). Dictated by modest funding, invitations for study participation were extended only to clinicians in Sacramento, CA and surrounding communities.

Additionally, it should be noted that while the researchers made an earnest attempt to educate themselves about the scientifically documented relationship between nutritional intake and mental health before crafting and conducting the study outlined in Chapter 3, that neither researcher has undergone extensive formal instruction on this topic. Similarly, knowledge about the relationship between nutritional intake and mental
health was not a prerequisite to study participation. For this reason it is conceivable that
the definitions and terms used during the survey process where interpreted differently by
study participants dependent upon each individual’s base level knowledge. Similarly, the
language adopted by the researchers in their culminating data analysis and report of
findings may - or may not - be used interchangeably with the language of other studies on
nutrition. In an attempt to address these challenges, the researchers presented survey
participants with a common definition of the term nutritional intake to be used to guide
their interpretation of survey questions, and have included in this chapter an extensive list
of key terms and study definitions to guide the reader. In both cases the definitions
adopted by the researchers were informed by the review of current professional literature
presented in Chapter 2.

Finally, it was not within the scope of this research study to collect exhaustive
data about the many factors that may influence a social work clinician’s practice of
considering a client’s nutritional intake during the delivery of mental health services. As
will be discussed in Chapter 4, the study gathered only cursory information about
variables that influence a social work clinician’s delivery of mental health services.
Given the study’s findings we feel that further research on this topic, specifically research
intended to identify with greater certainty those factors that commonly deter social work
clinicians from considering a client’s nutritional intake in the delivery of mental health
services would be of value to the field.
Chapter 2

LITERATURE REVIEW

The objective of this literature review is to appraise current professional knowledge regarding holistic social work practice, health and well-being, nutrition, and the areas where these topics intersect. This knowledgebase was then used to inform the study described in this thesis, which explores the knowledge and beliefs of practicing Sacramento area social work clinicians regarding the relationship between nutritional intake and mental health, as well as the extent to which a social work clinician’s knowledge and beliefs on this topic influence their day-to-day practice of considering nutritional intake in the delivery of holistic mental health services. The work that follows will seek to establish an operational definition of the term mental health and explore the elements that comprise a holistic approach to mental health service delivery. After considering literature about holistic service delivery and the integral role of a holistic approach in the field of social work, the latter half of this literature review will examine in greater detail the utility of considering a client’s nutritional intake as a component of holistic mental health assessment and treatment planning. Specifically, the work will give attention to current research regarding the relationship between nutritional intake and well-being, including discussion of food insufficiency, as well as specific micronutrients and their potential influence on overall mental health and the symptom presentation of various mental health conditions.
Mental Health and Well-being

Since its emergence in the early 19th century, the discipline of social work has focused on enhancing the welfare of individuals, families, and communities while paying particular attention to the needs of underserved or historically oppressed populations. Today, social work efforts to improve human well-being range from coordinating macro level campaigns that promote the realization of social justice and equity, to providing one-on-one support or clinical mental health services. The resulting achievement of improved social welfare or individual mental health is commonly viewed or measured in two tiers: subjective well-being and objective well-being. Subjective well-being is generally understood to mean a personalized and intuitive assessment of an individual’s general satisfaction, view of self, and quality of life (Hattie, Myers, & Sweeney, 2004; Wiseman & Brasher, 2008). Furthermore each individual’s subjective view of his or her well-being is shaped by their affective experience and cognitive evaluation of their unique life situation (Ferguson, Conway, Endersby, & MacLeod, 2009). Conversely, assessment of objective well-being places emphasis on the measurement and analysis of “empirically observable material conditions affecting the lives of individuals” (Wiseman & Brasher, 2008, p. 357). Such quantifiable conditions of wellness may include the presence or absence of a diagnosed mental health condition, measures of life expectancy, or an individual’s ability to access adequate financial resources, nutrition, education, employment, and healthcare (Hattie et al., 2004; Murphy & Murphy, 2006; Wiseman & Brasher, 2008). Furthermore, Wiseman and Brasher (2008) draw an important distinction between the concepts of hedonic well-being, or the experience of sensory pleasure, and
eudaimonic well-being, or the fulfillment of one’s potential. While individual social work researchers and practitioners have varying opinions about which measure and type of well-being are of greatest concern to their work, current literature suggests that a healthy picture of an individual’s well-being should balance both subjective and objective measures, and furthermore should recognize the value of both hedonic and eudaimonic well-being (Wiseman & Brasher, 2008).

Increasingly, providers in our modern healthcare and mental health care systems are recognizing the inherent value of promoting patient wellness. Some providers now operate under the assumption that improved client well-being and enhanced quality of life have surpassed the eradication of symptoms as the primary goal of mental health treatment (Murphy & Murphy, 2006). At present, the concept of mental health, or optimal mental health, is commonly associated with the concept of well-being. As early as the 1940s the World Health Organization (WHO) began defining health in terms of wellness (Hattie et al., 2004). Today, the WHO continues to conceptualize mental health as a psychological state far more complex than the absence of a diagnosed mental health disorder. Specifically, the WHO adopts a eudaimonic objective view of mental health, defining it as the “state of well-being in which every individual realizes his or her potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (World Health Organization [WHO], 2011, Key Facts, para. 3). Comparably Myers, Sweeney, and Wirmer (2000) view wellness as “a way of life oriented toward optimal health and well-being in which body, mind, and spirit are integrated by the individual to live more fully within the
human and natural community” (p. 252), though they place greater value on subjective measures of well-being than does the WHO. The Victorian Health Promotion Foundation also holds a similar view, defining mental health as the embodiment of social, emotional, and spiritual well-being (Wiseman & Brasher, 2008). Informed by these and other social welfare views regarding the nature of mental health, the authors of this thesis have conceptually defined the term overall mental health as the state of psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities to cope with common life stressors, function in society, and meet the ordinary demands of everyday life. For purpose of this study, the term has been further operationalized by narrowing focus to the state of psychological well-being described above of those individuals seeking or receiving mental health services from the social work clinicians participating in the research.

**Mental Health Service Delivery: Medical Model**

The view that mental health and overall well-being are intricately linked suggests that all people, not just those with diagnosed mental health conditions, have mental health needs; a philosophy consistent with the field of social work’s mission to promote overall human well-being (Kress, 2006). In our work toward this goal, emerging social work clinicians are taught to approach client needs from a holistic perspective, a perspective that views every individual as a whole person with strengths and resources and “emphasizes the [individual’s] mind-body-spirit connection with the larger environment” (Le, Ng, Leung, & Chan, 2009, p. 5). The National Association of Social Workers (NASW) for example reminds those in the field that “attention to the environmental
forces that create, contribute to, and address problems in living” is fundamental to effective social work (National Association of Social Work Delegate Assembly, 2008). While a holistic viewpoint - often associated with systems theory, the strengths-based perspective, and the biopsychosocial practice model - is fundamental to the values underlying social work practice, its utility has been recognized and its popularity expanding in other mental health disciplines in recent years. The 1990s saw the start of a paradigm shift from the traditional illness-based or disease-based medical model of treatment in the field of medicine to a more holistic approach with a focus on patient health and wellness; this shift has since expanded to include the field of mental health care, albeit slowly (Myers et al., 2000).

Despite increasing acceptance of holistic mental health treatment modalities along with the incorporation of holistic principles into established care practices, substantial research exists to suggest that the traditional medical model of mental health care still dominates the sector (Boyle, 2006; Nathan & Webber, 2010; Scott, 2010). Members of the clinical social work community as well as a growing number of clinical psychologists, therapists, counselors, and service users have expressed concern about the limitations of the medical model of mental health care (Boyle, 2006; Carpenter, 2002; Scott, 2010; Smith, 2010). Included among these is the concern that medical models emphasize symptom reduction, but give little attention to preventative care or the enhancement of overall well-being (Anthony, 1993 as cited in Carpenter, 2002; Yuen & Pardeck, 1999). Another common concern is that the assessment parameters of the medical model are too narrow in their focus and therefore may result in missed
opportunities for meaningful clinical intervention. Specifically, the model privileges biological and genetic knowledge and consequently looks for the cause of a client’s presenting problems in these realms while giving only peripheral attention to interpersonal, social, environmental, and other factors of a client’s lived experience (Boyle, 2006). Similar to the mainstream medical model, the disease model of mental health care also focuses exclusively on the biological aspects of mental health and presents a treatment approach “grounded in the physical aspects of a presenting problem” (Yuen & Pardeck, 1999, p. 2). According to Smith (2010) it is not only comprehensive assessment that is restricted by the medical model but thorough treatment as well, as treatment provided under disease based medical models often focuses only on the medical related management of illness while overlooking the day-to-day aspects of clients’ lives that might assist in minimizing acute mental health symptoms. Specifically, treatment is centered on the pharmaceutical control of mental health symptoms, often without consideration of factors such as physical health, lifestyle choices, or the individual’s environment (Smith, 2010). Finally, critics note that the medical model, which views mental health conditions as organic or biological diseases is often applied in a way that reduces clients to their diagnoses and strips each individual of his or her greater identity (Deegan, 1996 as cited in Carpenter, 2002). Simply put, the medical model of mental health care is one that aims to reduce the symptoms of mental illness; it is less clear however that the model seeks to promote overall mental health and well-being, thus making it contrary to social work philosophy (Carpenter, 2002).
Longstanding domination of the medical model in mental health treatment has led to slow progress toward the implementation of holistic alternatives despite a lack of evidence to show that primary reliance on biomedical methods in treating those experiencing mental illness has been successful in achieving long-term recovery (Tew, 2002). One example of such a shortcoming can be seen in the recovery rates of individuals suffering from schizophrenia. Research indicates that the recovery rate for schizophrenia (defined as the remission of symptomology) has seen little improvement over the last fifty years despite rapid medical advancement during the same time period. There is however some evidence within the United States to indicate that states that provide a more holistic approach to treatment of patients with schizophrenia have a higher recovery rate than neighboring states that do not. Specifically, Vermont, a state that has embraced a psychosocial approach to treatment, has a 15% higher recovery rate than neighboring Maine (Tew, 2002). While change has been slow, the limitations of the medical model discussed here have prompted the mental health community to entertain alternative, often holistic and preventative, assessment and treatment modalities over the past two decades.

**Mental Health Service Delivery: Holistic Approach**

As previously noted, the term *holistic* is often used to describe a social welfare practice perspective that gives credence to the many dimensions of clients’ lives (Roberts, 2009). Witmer and Sweeney (1992) propose that the theoretical constructs of holistic practice are themselves multidimensional, having roots in the fields of psychology, anthropology, sociology, religion, education, and behavioral sciences (as
cited in Hermon & Hazler, 1999). Alderian philosophy, one such influence, embraces the concept of holism by stressing the importance of seeking to understand and view individuals as whole people (Alle-Corliss & Alle-Corliss 2009). To accept that the human experience is complex and multifaceted, as does the holistic perspective, is also in alignment with the core concepts of systems (or ecological systems) theory and strengths-based practice orientations, both cornerstones of social work philosophy.

Systems theory embraces the notion of circular causality, proposing that every element in a system is simultaneously influenced by and influences other elements (Walsh, 2010). This theory can be useful both when assessing relationships between individuals and their environments (social or physical) and when exploring the impact of a particular malady, action, or input on the human body and overall well-being. Like systems theory, strengths-based orientations also emphasize the importance of big-picture evaluation. Specifically, strengths-based orientations look beyond pathology to recognize that all people regardless of their status, history, or present challenges possess “knowledge, abilities, resilience, coping, and problem-solving skills,” and as a result approach treatment as a collaborative process avoiding where possible the traditional hierarchy that exists between clinician and client (Ligon, 2009, p. 217). The application of both systems theory and strengths-based approaches endorse holistic mental health service delivery as they encourage clinicians to look beyond presenting symptomology and diagnostic criteria so that they might view clients as whole people with unique lived experiences.
As mentioned in the previous section, many mental health clinicians who adopt a holistic view recognize that in order for clients experiencing mental health issues to recover and experience enhanced well-being they will require not only broad assessment, but also ongoing treatment and support delivered in a personalized, holistic manner. Smith (2010) asserts that holistic treatment necessitates more than symptom management and the provision of medication, noting that clients may need support in a multitude of life domains in order to achieve optimal well-being. Consistent with the underpinnings of systems theory, these areas may include promoting physical health, finding safe and sustainable living arrangements, meaningful employment, establishing and maintaining social supports, and engaging in recreational activities.

In the mental health care field’s pursuit to acclimate to a holistic approach to mental health service delivery a number of well-respected practice paradigms have emerged. Among the earliest and most enduring is the biopsychosocial approach, a service delivery model that was developed to give recognition to psychological and social factors in addition to an individual client’s biology as they relate to overall well-being (Boyle, 2006). Informed by both ecosystems theory and strengths-based concepts, the biopsychosocial model provides a collaborative framework for “examining and understanding the complexity of a case at a given point in time while focusing on the interaction and reciprocity of person and environment” (Austrian, 2009, p. 376). Following the lead of the biopsychosocial model other holistic paradigms including recovery oriented therapeutic intervention and various categories of wellness counseling have emerged.
Recovery mental health philosophy, which gained considerable attention during the 1990s and remains prominent in the field of mental health today, views mental health recovery as a journey, draws a purposeful distinction between an individual and his or her mental health diagnosis, promotes self efficacy, and habitually adopts a hopeful prognosis (Ridgway, 2006; Substance Abuse and Mental Health Services Administration, 2006). Tew (2002) equates recovery oriented approaches with holistic values as the orientation offers recognition and consideration of a combination of medical, social, personal, spiritual, and other factors in each client’s life.

Similar to those ideologies already discussed, wellness-based clinical models also emphasize the view of individuals as complex beings possessing strengths and needs across many life domains (Epstein, Senzon, & Lemberger, 2009; Myers & Sweeney, 2008). Embracing the key concepts of systems theory, the same models consistently take into account the influence of emotional, social, and ecological factors on individual well-being and accept that change in one life domain can cause or contribute to change in other areas of an individual’s life as well (Hermon & Hazler, 1999; Myers & Sweeney, 2008). Originally developed in the early 1990s and based on medical and psychosocial research studies of “healthy people,” the “Wheel of Wellness” provides one such clinical tool for holistic assessment and preventative treatment planning (Myers et al., 2000, p. 251). Specifically, the Wheel of Wellness depicts five interconnected life tasks influencing an individual’s healthy functioning and well-being. These include: spirituality, self-regulation, work, friendship, and love, each with its own subtasks. The resulting Wheel of Wellness depicts the interconnectedness of an individual’s many life
domains and is intended to provide a holistic, clinical mental health practice tool to aid clinicians in “developing personal wellness plans to help clients achieve greater wellness” (Myers et al., 2000, p. 251).

In line with the social work value of maintaining the dignity and worth of others, practice models that adopt a holistic approach to treating those experiencing mental distress involve a fundamental shift from how clinicians guided by the medical model view and approach clients (NASW, 2008). To begin, clinicians must abstain from language and practices that are inherently marginalizing, “that impose or reinforce splits between ‘normal’ people and those suffering from distress, or tend to define the totality of the person in terms of their ‘pathology’ ” (Tew, 2002, p. 144). The use of mental health diagnoses to label or describe clients provides an example of potentially detrimental communication as it serves to emphasize the power differential between mental health clinicians and clients, and to depersonalize clients (Scott, 2010). Instead, consistent with systems theory and a strengths-based approach, holistic service providers must see their clients first as people, taking into account their unique lived experiences. This practice should include an attempt to understanding each client’s personal and social histories in terms of power and oppression in addition to considering the individual’s medical, nutritional, and genetic vulnerabilities. Furthermore, clinicians adopting a holistic approach to mental health practice must be prepared to view each client as a whole person and be willing to “engage honestly with all the fractured and contradictory elements that may constitute a person’s experience or social relationships” (Tew, 2002, p. 145).
While the development and generally positive reception of the biopsychosocial model and wellness counseling techniques provide a clear step toward a more holistic approach to mental health treatment, discord continues in the field of social work about what specific elements a true holistic clinical framework should include (Tew, 2002). Although definitions of holistic practice are plentiful in professional literature, most are vague. Like those cited earlier in this chapter, most definitions of holistic practice encourage the view of clients as whole people, but fail to itemize the specific elements or life domains that merit consideration. Conversely within the healthcare system holistic medicine has been defined by the Canadian Holistic Medical Association (2008) as a cooperative relationship among all those involved, leading toward optimal attainment of the physical, mental, emotional, social, and spiritual aspects of health. It emphasizes the need to look at the whole person, including analysis of physical, nutritional, environmental, emotional, social, spiritual, and lifestyle values. (as cited in Johnson & Rhodes, 2010, p. 64) This concept of holistic practice embraces the collaborative approach advocated by the strengths-based perspective. Additionally, this view of holistic treatment stresses consideration of not only those factors which have already begun receiving mainstream consideration during the holistic paradigm shift of the past two decades (e.g. biological, psychological, and social factors) but also those elements too often dismissed as inconsequential to an individual’s overall mental health - such as spirituality, physical activity, and nutrition. A review of current professional literature reveals evidence to suggest that spirituality, physical activity, and nutrition are all factors with relationships
to individual well-being, which supports that they should be considered during holistic mental health service delivery. The work that follows will look briefly at the role of spirituality and physical activity as components of overall mental health and well-being, before exploring in considerable detail the relationship between nutritional intake and mental health along with the possible role of nutrition in holistic mental health service delivery.

**Elements of a Holistic Approach: Spirituality and Religion**

Considerable research exists to support the practice of incorporating elements of religion and spirituality into holistic service delivery as well as the potential benefit of spiritual practices in promoting overall well-being (Koenig, 2004). While the terms religion and spirituality are sometimes used interchangeably, Ingersoll (1994) provides a distinction by explaining spirituality as an individual’s broad beliefs and practices that are based on a more narrow concept of religiosity, or institutional beliefs and behaviors (as cited in Myers et al., 2000). As for the role of spirituality and religion in promoting wellness, Myers et al. (2000) recognize spirituality “as an awareness of a being or force that transcends the material aspects of life and gives a deep sense of wholeness or connectedness to the universe” (p. 252). Additionally, Maton (1989) proposes that religion has the ability to reduce stress through the use of cognitive mediation and emotional support. Cognitive mediation refers to the practice of positive reframing of negative events in one’s life, while emotional support refers to the effects of perceiving that one is valued and cared for by God (as cited in Hood, Hill, & Spilka, 2009, p. 201). Given the cathartic effects of religious and spiritual practices, Entwistle (2009) advocates
the inclusion of this aspect of an individual’s life as a component of holistic mental health service delivery.

In addition to the identified benefits of individual spiritual practices, religious communities have also been recognized for their capacity to make valuable contributions to the field of mental health (Jaju, 2009). Lindgren and Coursey (1996) found that an individual’s spiritual support system, much like a social support network, has the capacity to act as a buffer between an individual and the detrimental effects of stress (as cited in Myers et al., 2000, p. 253). Additionally, by inviting an individual’s religious leaders to be incorporated in the treatment of congregants facing mental health conditions, religious leaders can act as agents of change in motivating clients to seek or adhere to prescribed treatment (Jaju, 2009). Connections to spiritual and religious supports are also important as they allow individuals to confer with others of shared values and ultimately may reduce the stigma of seeking treatment. Finally, in addition to considering a client’s spiritual and religious practices as a component of holistic mental health assessment, many clinicians also believe that understanding and validating an individual’s spirituality has implications for holistic treatment (Entwistle, 2009). Specifically, an individual’s spiritual and religious beliefs can be instrumental in helping them to derive meaning from their lived experiences and as a result can help to bring about positive change and fulfillment in their lives (Nichols & Hunt, 2011).

**Elements of a Holistic Approach: Exercise and Physical Activity**

Though exercise and physical activity have long been accepted as beneficial to general health, recent research suggests that an additional benefit to physical activity is
“maintaining, enhancing, and ameliorating mental health” (Perham & Accordinio, 2007). While regular exercise has been shown to improve the subjective well-being of all people, consideration of physical activity is particularly important for those suffering from serious mental illness. A decade of research exists to support the idea that an increase in physical fitness can result in positive outcomes for individuals living with severe psychiatric disabilities (Plante & Rodin, 1990 as cited in Hutchinson, Skrinar, & Cross, 1999). Documented benefits of physical fitness have included: improved mood and self-concept, decreased symptoms of anxiety and depression, and elevated psychological well-being (Hutchinson et al., 1999). To that point, a study conducted with a group of adults suffering from serious mental illness found that those who participated in fitness groups at least twice per week for a period of at least 30 minutes showed some improvement in functioning, including improved hygiene and pursuit of independence (Perham & Accordinio, 2007). A separate quasi-experimental, non-equivalent control group study of 37 adults experiencing severe psychiatric disabilities concluded that participation in structured aerobic exercise over a period of 15-20 weeks resulted in significant positive changes in both physical and psychological variables, “indicating the potential of physical fitness as a rehabilitation intervention” for persons experiencing mental health conditions (Hutchinson et al., 1999, p. 355). These studies and others like them provide particularly useful information as individuals experiencing severe mental illness are noted to have increased risk for developing physical health problems resulting from limited physical exercise and poor dietary habits (McKeown & Colman, 2006; Perham & Accordinio, 2007). Evidence of the impact of physical activity, or lack thereof,
on overall mental health and well-being support the practice of assessing this facet of a client’s life during holistic mental health service delivery. Further exploration of the relationship between physical health and mental health, apart from the concepts of exercise and physical activity, will take place later in this literature review.

**Nutrition**

As discussed in the first half of this literature review nutritional intake is often an overlooked element in holistic social welfare practice, specifically assessment and treatment planning. A study conducted by Burks and Keeley (1989) found that a majority of participating mental health professionals lacked knowledge regarding nutrition, as well as exercise, and the relationship between these factors and mental health. Furthermore, the study found that nutrition and exercise ranked low on the lifestyle factors assessed by mental health professionals and that modifications to these factors were seldom recommended as a component of treatment. As previously discussed, in the years since this research was conducted the field of mental health has begun to transition away from the medical model of mental health care toward a more holistic approach that encourages consideration of the many facets of a client’s lifestyle. While those in the field have differing opinions about what factors of a client’s life are to be considered throughout the delivery of holistic mental health services, there is considerable evidence to support the inclusion of nutritional intake as it has been repeatedly shown to affect overall mental health and well-being. The work that follows will explore in detail the relationship between nutritional intake and well-being, as well
as the influence of specific nutrients on the symptomology of diagnosed mental health conditions.

Before moving forward it is important to clarify the meaning intended when the terms *nutritional intake* and *diet* are used. Specifically, readers should note that throughout this work when the term *diet* is used, that the authors do not intend the term to imply or promote a particular food regiment. Instead the term diet will be used in a broad sense to refer to the type and quantity of food, drink, and/or substance consumed by an individual or society. Similarly, the term nutritional intake will be used to refer to the type and quantity of nutrients consumed through food, drink, and supplement that provide nourishment essential for growth and the maintenance of life.

**Food Insufficiency and Well-being**

Evaluation of nutrition and health is usually reserved for professionals in the healthcare field, and is not commonly associated with social work practice. Despite this, issues of food insufficiency and malnutrition have long been considered issues of social justice and well within the scope of social welfare practice. Specifically, food insufficiency and nutrition should be viewed as an issue of social justice as lack of food and poor nutritional intake can be detrimental to one’s physical and mental health and overall well-being. These challenges appear to affect certain populations more than others. For instance, in analyzing the issue from a global perspective studies show that malnutrition is increasing in Sub-Saharan Africa, while decreasing in other parts of the developing world (Seipel, 1999). The same study found that malnutrition is also more common amongst women and female children compared to their male counterparts.
Around the world, including in the United States, there is a divide between households that can afford sufficient food and households that cannot. Seipel (1999) states that even when there is “an abundance of food, some people may not have access to it, because more and more, access to food … is determined by household income” (p. 419). To that point, the Healthy Food Financing Initiative (HFFI) has identified that at present there are many low income communities throughout the United States that do not have access to nutritious and affordable food, as determined by the existence of a supermarket or large grocery store within a certain distance from the community. Under the HFFI these communities are termed food deserts. Beginning in 2009, a number of collaborating government agencies began collecting data on the number of American citizens living in food deserts. This process of data collection marks the beginning of an effort to expand access to nutritious and affordable food for communities determined to be low income and without easy access to a supermarket (Ver Ploeg, n.d.). This and other research related to the issue of food insufficiency is of particular relevance to the social work community. Social workers, who are bound by the ethics of the profession to advance social justice, must critically consider the macroeconomic policies and practices that create and sustain food deserts, as well as those that contribute to hunger and poor nutrition in our society. In addition, because food insufficiency and poor nutrition can affect a client’s physical and mental well-being, it is essential that micro level social workers who provide direct clinical services are thoroughly informed about such effects.

In practice, micro level social workers often find themselves supporting individuals and families who struggle with financial constraints. Furthermore, it is not
uncommon for clients to be struggling with food insecurity as a result of these financial insecurity (Seipel, 1999). Due to the adverse effects of food insecurity - which will be discussed later in this chapter - social workers who are concerned with assessing their client’s nutritional intake will likely seek to determine if the client has sufficient access to food before concerning themselves with the quality of his or her diet. It is because of such cases that it is crucial for social workers to support policies and programs that provide clients with employment and/or income that allows for their nutritional needs to be met (Seipel, 1999). On the contrary, when clients have the means to provide for themselves and their families with sufficient nourishment to prevent hunger, the social worker may then seek to determine the quality of their client’s nutritional intake. As the evidence that will be discussed in a later portion this chapter suggests, making certain adjustments to one’s nutritional intake can reduce the symptoms of common mental health conditions.

In recent years there have been a number of studies linking food insufficiency with poor physical health. Additionally, studies have highlighted the association between poor physical health and mental health conditions (Chan, Sambamoorthi, & Rust, 2008; Hooper & Wanderling, 2000 as cited in Peet, 2004) or that “mental illness and physical health conditions are interwoven” (Ivbijaro, 2010, p. 127). For instance, physical ailments such as diabetes and coronary heart disease “occur with increased frequency in patients with schizophrenia and major depression” (Peet & Edwards, 1997; Ryan & Thakore, 2002 as cited in Peet, 2004, p. 404) and have been shown to share epidemiological features with these mental health disorders (Hopper & Wanderling, 2000
as cited in Peet, 2004). Corrigan, Mueser, Bond, Drake, and Solomon (2008) also note that individuals living with chronic and persistent mental health disorders experience serious medical conditions at higher rates than those in the general population. Specifically, Corrigan et al. note that the “most common serious medical problems in this population [individuals living with mental illness] include obesity, hyperlipidemia, Type II diabetes, cardiovascular disease, and blood-borne viral infections” (p. 347). While they make no inference of direct causation, Corrigan et al. (2008) do note that behavioral tendencies of those with mental health disorders, including sedentary lifestyles and unhealthy diets, increase the risk for serious medical conditions.

To demonstrate the impact of this issue, a study conducted by Nord, Andrews, and Carlson (2006) estimated that 35.1 million Americans lived in households that suffered from food insecurity. Food insecurity was defined as being unable to secure an adequate food supply or being uncertain of having an adequate food supply to meet basic needs due to insufficient resources (as cited in Heflin & Ziliak, 2008, p. 707). More recently the U.S Department of Agriculture (2011) released findings reporting that in 2010, 14.5% of households in the United States were food insecure, with 5.4% of those earning classification as very low food security households (para. 1). Very low food security was defined as having a reduction of food intake and/or a disruption in eating patterns for at least one member of the household during that year. According to Andrews et al. (2000) food insecurity in the United States is found in higher percentages amongst minorities, families living under the poverty line, and households headed by a single mother (as cited in Siefert, Heflin, Corcoran, & Williams, 2004, p. 172). Two
separate studies on the effects of food insecurity among adult women were conducted by Rose and Oliveira (1997), and Tarasuk and Beaton (1999). Both studies found that food insufficiency or hunger has a significant association with low nutrient intake and low levels of energy (as cited in Siefert et al., 2004, p. 172). An additional study by Dixon, Radimer, and Winkleby (2001) found that adults living in food insufficient households were more likely to test with low levels of essential nutrients and were more likely to have diets that could potentially compromise their health as compared to adults living in food sufficient households (as cited in Heflin, Siefert, & Williams, 2005).

A longitudinal study conducted by Siefert et al. (2004) which examined the physical and mental health consequences of food insufficiency amongst women on welfare found that women who did not suffer from food insufficiency initially, but later became food insufficient were more likely to meet the diagnostic criteria from major depressive disorder and were less likely to feel that they had a sense of mastery over their lives. This data suggests that prevention of food insufficiency may reduce the risk of a major depressive episode. In addition, women who suffered from persistent food insufficiency showed a significant association with experiencing recurrent major depressive episodes, meeting the diagnostic criteria for major depressive disorder (Siefert et al., 2004). The study also concluded that in addition to evidence that nutrient deficiency could increase the risk of depression, that the stress and anxiety related to food insufficiency (e.g. feelings of not having control over one’s life situation) might also influence the risk for major depressive disorder. A study conducted by Heflin et al. (2005) that was designed to explore the relationship between food insufficiency and
major depression amongst low income women concurred with the study finding outlined above, stating that “the relationship between food insufficiency and respondents’ meeting the diagnostic screening criteria for major depression remained highly significant even when controlling for factors known to confer increased risk of depression” (p. 1977).

There is further evidence that correlates food insufficiency with increases in psychological and behavioral problems. For example, a study of 1,081 young men who were determined to be in good health conducted by Heseker, Kubler, Pudel & Westenhoffer (1992) found that a reduction in vitamin intake over a two-month period was correlated with adverse changes in disposition and functioning. In addition to decreases in memory and reaction performance, reduction in vitamin intake increased depression, anxiety, and irritability in the participants. Many of these negative effects on reduction in vitamin intake were reversed when the participants’ vitamin intake was restored (as cited in Hefflin & Ziliak, 2008, p. 708). Given the interconnected nature of diet and nutrition, physical health, and mental health, social workers should view a client’s access to adequate food supply not only as a means of survival, but also as an essential element of his or her overall well-being.

**Nutritional Intake and Well-being**

The effects of diet and nutrition have been long understood as being “modifiable determinants of chronic disease and as having a significant impact, both positive and negative, on health” (Jacka & Berk, 2007, p. 321). Wurtman and Suffes (1996) for example presented evidence to support a clear relationship between nutritional intake and health, moods, performance, and longevity (as cited in Myers et al. 2000). This and other
research suggests that nutritional intake is a contributing influence on overall mental health. Additionally, the presence or lack of sufficient micronutrients has been correlated to the onset and exacerbation of mental health symptoms. Apart from concerns of food insufficiency, there is evidence to suggest that even a plentiful modern diet may not be adequately supplying humans with the nutrients needed to remain healthy, both physically and mentally. Specifically, emerging research indicates that the deterioration of the Western diet is correlated with an increase in mental health conditions in developed countries despite the availability of calorie rich foods at relatively low costs (Lakhan & Vieira, 2008). When discussing the role of diet as it relates to the onset of depression Jacka and Berk (2007) state that

the typical dietary patterns of industrialized societies have become high in saturated fats and refined sugar, with energy-dense, nutrient-poor foods continuing to provide a significant proportion of the daily energy and macronutrient intakes in western diets, with a corresponding reduction in fruit, vegetables and fibre. (p. 321)

They continue by highlighting the apparent impact that one’s environment has, including diet, on the genetic expression of depression and other disorders, stating that “emerging data indicate(s) that nutrients are factors in modulating gene expression” (p. 321). Furthermore, following a comparative evaluation of international data related to national dietary factors and the prevalence of major depression and the outcome of schizophrenia, Peet (2004) similarly concludes that cultural variation in diet, including variations in Omega-3 fatty acid intake, influences the prognosis of these mental health conditions.
In recent years there has been increased media coverage and scientific research centered on Omega-3 fatty acids, a micronutrient that is largely absent from today’s typical Western diet. Many food products found in our local supermarket, such as eggs and milk, now boast *fortified with Omega-3 fatty acids* on their containers; but what is it about Omega-3s that merits such attention? Omega-3s are essential fatty acids, meaning that the human body requires them for survival yet does not produce them (University of Maryland Medical Center, n.d., para. 1). Humans acquire Omega-3 fatty acids, a micronutrient that has been shown to play a vital role in the development and health of brain cells by eating green plants and algae (Pollen, 2006; Pollen, 2008). The ratios of Omega-6 (another fatty acid needed to sustain life) to Omega-3 fatty acids are at the center of this research. Plants produce Omega-3s in their leaves, while producing Omega-6s in their seeds. As the Western diet and the diet of the animals Westerners consume shifted from a diet based largely on the consumption of green plants, such as grasses, to the consumption of grains and seed oils, such as corn and soy, researchers have found an increasingly disproportionate ratio between the two essential fatty acids in the human body. To put this into perspective, the diet of hunter-gathers is said to have had a balanced 1:1 ratio of Omega-6s to Omega-3s (Pollen, 2006). At the beginning of the 20th century, prior to the widespread consumption of seed oils and grains, the ratio was approximately 3:1 (Pollen, 2008), whereas current research places the ratio of Omega-6s to Omega-3s at more than 10:1 (Pollen, 2006). Other research places the consumption of Omega-6s in the average American diet at 14-25 times higher than that of Omega-3s (University of Maryland Medical Center, n.d., para. 3). Because Omega-6s act
as an inflammatory in the human body and Omega-3s act as an anti-inflammatory (Gogus & Smith, 2010; Pollen, 2006; Pollen, 2008), such a high discrepancy has been correlated with a high number of chronic diseases, such as heart disease (Young, 2009), cardiovascular disease, and certain cancers (Gogus & Smith, 2010), as well as depression and learning and behavioral problems in children (Pollen, 2006). 

While Jacka, Mykletun, and Berk (2009) concur that it is important to consider the lack of specific nutrients (e.g. Omega-3 fatty acids) when determining the cause of psychiatric illness, due to “the multiplicity of combinations and interactions among nutrients in the daily diet” (p. 976), it is important to consider an individual’s dietary pattern as a whole. As dietary patterns in industrialized societies appear to have gone through significant alterations over the previous decades, it is important to consider the potential association with the high prevalence rates of mental illness. While nutrition may not be the single factor leading to the development of mental illness, Jacka et al. (2009) conclude that

dietary factors that contribute a small share of the variance in etiology [of mental illness] may translate to an important effect at the population level due to the number of people exposed (i.e. 100%). Given that diet, unlike many other risk factors, is a modifiable environmental exposure, the development of an evidence base for diet as a preventative strategy and intervention target seems worth pursuing. (p. 977)

In order to pursue diet as a preventative strategy, the research that follows outlines evidence of the associations between specific micronutrients and mental health
conditions. Research has highlighted improvements in certain mental health conditions with the addition of certain nutrients in a client’s diet. Other studies have found a marked lack of various nutrients in clients that are presenting with certain mental health conditions.

**Micronutrients and Specific Mental Health Disorders**

**Mood Disorders**

There are numerous mental health conditions that are commonly cited in research literature as being influenced by the presence of micronutrients. Research commonly highlights the impact that nutrition has on delaying or decreasing the symptoms of depression and bipolar disorder, attention deficit hyperactivity disorder (ADHD), schizophrenia, and late onset cognitive deterioration. For instance, studies found that deficiencies in micronutrients, such as Omega-3 fatty acids, tryptophan, and folate have been linked to depression in adults (Hakkarainen, Partonen, Haukka, Virtamo, Albanes & Lönnqvist, 2004; Harbottle & Schonfelder, 2008; Lakhan & Vieira, 2008; Tomlinson, Wilkinson H., & Wilkinson P., 2009). A similar study by Young (2002) found that tryptophan depletion resulted in the reemergence of depression symptoms in formally depressed patients, with the symptoms reversing once tryptophan levels were restored to normal. The same study also found that folate deficiency has been shown to amplify depression symptoms in patients and that recovery occurred faster when patients received folate supplements (p. 206). In addition to the nutrient deficiencies cited above, Lakhan and Vieira (2008) also note that magnesium deficiencies have been linked to depression. Though not a controlled trial, Peet’s (2004) comparison of national dietary habits
concludes that cultural diets high in “dairy products and sugar [are] associated with an increased prevalence of depression” (p. 405). Conversely, diets high in starchy roots and seafood, which provide naturally high quantities of Omega-3 fatty acids, folate, and other essential nutrients, are associated with a low prevalence of depression (Peet, 2004).

In regard to dietary modification, studies have also shown that the use of Omega-3 supplements have proven more effective than placebos in treating symptoms of depression (Bamber, Stokes, & Stephen, 2007; Tomlinson, Wilkinson & Wilkinson, 2009). Omega-3 and folic acid supplementation have both shown to improve symptoms of depression by improving the effectiveness of antidepressant medication (Bamber et al., 2007). Lakhan and Vieira (2008) further note that the essential amino acids tryptophan and tyrosine are precursors to the body’s development of neurochemicals (i.e. serotonin, dopamine, and norepinephrine) and may have positive effects on the symptom presentation of depression when supplemented, though further research is needed to determine the exact dose at which antidepressant effects are achieved (p. 2).

Current research also suggests that nutrient supplementation may serve to mitigate not only symptoms of depression, but also the manic symptoms associated with bipolar disorder as well. Naylor and Smith (1981) concluded a double blind placebo controlled study with the finding that vitamin C supplementation resulted in a decrease in manic symptoms of individuals diagnosed with bipolar disorder compared to placebo (as cited in Lakhan & Vieira, 2008). A separate double blind placebo controlled trial conducted by Cress et al. (1999) found that Omega-3 supplementation among patients suffering from bipolar disorder resulted in improvement in symptoms (as cited in Hakkarainen et
al., 2004, p. 1). Finally, Lakhan and Vieira (2008) cite numerous clinical trials that support that Omega-3 supplementation results in a decrease in both manic and depressive symptoms of individual’s diagnosed with bipolar disorder compared to placebo (p. 4).

**Attention Deficit Hyperactivity Disorder**

Attention deficit hyperactivity disorder (ADHD) is another mental health condition that has inspired research about the role of nutritional intake and symptom presentation. ADHD symptoms in children have shown improvement with exclusion diets limited to natural foods free from certain artificial flavorings and coloring, with one study showing marked improvement in 70% of the children studied (Tomlinson et al., 2009). Curtis and Patel (2008) reported that a meta-analysis of 15 double-blind, placebo controlled studies researching the effects of artificial food coloring, such as tartrazine, on clients with ADHD found that such food colorings significantly increased the clients’ symptoms (p. 82). In addition, Curtis and Patel (2008) highlight that certain food preservative as well as foods that naturally contain salicylic acid, like almonds and various fruits, have been shown to exacerbate ADHD symptoms (p. 82). The authors of this research also point out studies that demonstrate that clients with ADHD are shown to have significantly lowers levels of Omega-3 fatty acids; however Omega-3 supplementation has been proven effective in reducing ADHD symptoms in only some of the studies (p. 81).

**Schizophrenia**

Another mental health condition that has inspired research related to the relationship between nutritional intake, symptom presentation, and outcome is
schizophrenia. Peet’s (2004) cross cultural comparison of diet and mental illness revealed that high consumption of refined sugars, as is common in the modern diet of developed nations, is associated with poor outcome among those individuals suffering from schizophrenia. Additionally, Lakhan and Vieira (2008) found that increased consumption of refined sugar resulted in “an overall decreased state of mind for schizophrenic patients, as measured by both the number of days spent in the hospital and poor social functioning” (p. 5). Research of this nature has inspired exploration of the utility of nutritional therapies (i.e. nutrient modification) to improve the outcome of individuals suffering from schizophrenia.

The Brain Bio Centre in the United Kingdom for example has found that adding dietary supplementation in addition to therapy and psychotropic medication greatly improves symptoms of schizophrenia. The Brain Bio Centre has reported hundreds of cases in which people with a clear and long-standing history of schizophrenia no longer meet the criteria for the diagnosis following this treatment (Pointon, 2006). Some research has discovered low serum folate levels in clients with schizophrenia and found that the supplementation of folic acid in their diet resulted in dramatic reductions in the client’s positive symptoms, specifically a decrease in hallucinations and paranoia. Continued improvement was marked with the addition of vitamin B-12 supplementation (Pfeiffer, 1975). The Brown University Psychopharmacology Update cites three studies that also concluded that patients suffering from schizophrenia presented with lower plasma folate levels then the control group. According to the article, there have been few studies that actually demonstrate improvement in symptomology using folic acid
supplementation. However, a 2004 study conducted in Israel found that patients with schizophrenia that were treated with a combination of folic acid, vitamin B-6, and vitamin B-12 showed significant decreases in their symptoms (“Folate Deficiency in Schizophrenia,” 2005).

**Age-Related Cognitive Deterioration**

Lastly, studies have found that deficiencies in vitamins B-12, B-6, C, E, folate, and beta-carotene may be related to age-related cognitive deficits such as dementia and Alzheimer’s disease. It has been shown that increased consumption of antioxidants from fruits and vegetables earlier in life could slow or stop the death of neurons that lead to these disorders (Jacka & Berk, 2007). Pfeiffer (1975) discusses the evidence that the ability to retain recent memory, a common deficit amongst individuals suffering from Alzheimer’s disease, depends on the brain’s ability to synthesize ribonucleic acid, or (RNA). According to Pfeiffer (1975), “the continual synthesis of RNA depends on RNSA polymerase, which is activated by spermine” (p. 449). Spermine levels decrease with age and are found to be particularly low in studies of Alzheimer’s patients compared to control groups. Pfeiffer (1975) highlights evidence that certain vitamin supplementation, specifically manganese, has been shown to be effective in elevating spermine levels, thereby reducing mental confusion and memory loss amongst elder clients and has even been a component in alleviating confusion symptoms (Pfeiffer, 1975). Other studies highlight the role of folate in preventing Alzheimer’s disease. According to the Brown University Psychopharmacology Update “folate can be used to
reduce plasma homocysteine levels” which can increase risk for the disease at elevated levels (“Folate Deficiency in Schizophrenia,” 2005, p. 6).

**Nutritional Intake and Mental Health Service Delivery**

Given the growing amount of research at the time that supported the idea of exercise and proper nutrition as effective means of treating mental illness and enhancing the well-being of clients suffering from mental illness, a study conducted by Burks and Keeley (1989) sought to explore the extent to which mental health clinicians incorporated interventions that included nutrition and exercise into their therapeutic practices. The researchers highlighted the importance of mental health clinicians understanding the connections between diet, exercise, and mental illness given that clinicians “have the [daily] opportunity to prescribe exercise and nutrition therapy to clients seeking help” (p. 62). However, the study found that most participating mental health clinicians lacked knowledge about the relationship between nutrition and overall well-being and as a result seldom gathered information about this factor during assessment. Despite this, a majority of the study participants believed that such information should be taught to clinicians. The study also found that a majority of the study participants reported making diet and exercise recommendations to their clients, despite lacking proper education on the topic, which “suggests that such training in nutrition and exercise may be highly desirable” (p. 64).

Following Burks and Keeley’s work (1989), further research has emerged to show that acknowledgement of nutritional intake and its influence on mental health is now being considered by a number of mental health clinicians during assessment and
treatment of clients. For example, today educational texts intended to guide the clinical treatment of mental health conditions are plentiful. It is concerning however, that many of these texts emphasize the important role of maintaining a healthy diet as a component to achieve mental well-being, yet fail to set parameters as to what constitutes such a diet (Corrigan, 2008; Najavits, 2002; Robinson & Strosahl, 2008). In addition, such texts also fail to provide concrete strategies for incorporating diet and nutrition in clinical assessment and treatment. Despite the growing emphasis on nutritional considerations, further informative training and awareness of the relationship between nutritional intake and well-being, as well as the benefits of nutritional counseling within the mental health arena, is clearly needed and must increase in an effort to achieve best practice (Pointon, 2006; Quinn, 2009). Some efforts to expand the knowledge of mental health clinicians about nutritional considerations for clients are already underway in many parts of the world.

Psychologist Patrick Holford, of the United Kingdom’s Brain Bio Centre, has identified the task of providing ongoing education for his staff concerning the need for consideration of nutritional factors in mental health service delivery as a high priority. While Holford acknowledges that nutritional consideration may not be applicable for all mental health conditions, such as trauma related conditions, he urges clinicians to be mindful of the effects of nutrition on mental health (Pointon, 2006). Additionally, Australia’s Royal Brisbane and Women’s Hospital which provides mental health services has developed and is implementing “nutrition and dietetic resources and decision making tools as part of a new model for dietetic care” for use by case-managing healthcare
professionals in an attempt to further educate clinicians as well as clientele regarding nutrition and its effect on mental health (Wilkinson & Himstedt, 2008, p. 280).

The mental health practices discussed above are examples of various programs that are actively incorporating a nutritional component to their mental health practices. The examples provided here are evidence that some mental health clinicians are making efforts to gather and incorporate information about their clients’ dietary and nutritional habits during assessment and in treatment planning. Given the evidence to support a correlation between nutritional intake and mental health, it is the opinion of the authors of this thesis that social work clinicians who wish to adopt a holistic approach to mental health treatment should give consideration to a client’s nutritional intake when providing services. As previously stated, this research study aimed to ascertain information regarding the knowledge, beliefs, and practice of Sacramento area social work clinicians on this topic.
Chapter 3  

METHODOLOGY  

Study Design  

This research study on the extent to which Sacramento area social work clinicians consider nutritional intake in the delivery of holistic mental health practice makes use of a descriptive study design. Specifically, the authors of this work utilized the descriptive design as an avenue for exploring trends and correlations between the study’s stated variables. Independent variables included: length of time (measured in years) that a participating social work clinician has been licensed, the years of experience a social work clinician has providing direct mental health services, the setting in which a participating clinician provides services, the majority age group of the clinician’s clientele, and various measures of the clinician’s education on the topic of nutrition. Dependent variables included: participating social work clinicians’ self-report regarding their knowledge, belief, and practice of considering nutritional intake when assessing and treating mental health conditions.

Based on personal observations described in Chapter 1, and knowledge gathered through the review of current professional literature described in Chapter 2, the authors of this thesis determined testable study hypotheses (outlined in the following section). Through the use of a written survey questionnaire, the authors then collected quantitative data from Sacramento area social work clinicians. Participating social work clinicians were asked to provide demographic information relevant to the study. Additionally, the clinicians were asked to answer a ranking question, a yes/no question, and respond to a
series of Likert scale statements. The data collected from the survey was then analyzed by the authors of this thesis to explore relationships between the variables, thus confirming or disproving the study’s stated hypotheses.

**Research Hypotheses**

- A majority of social work clinicians *understand* that nutritional intake is a contributing factor to overall mental health.
- A majority of social work clinicians *believe* that nutritional intake is a contributing factor to overall mental health.
- Within the context of a holistic framework, a majority of social work clinicians fail to consider nutritional intake as a contributing factor to their clients’ mental health conditions.

**Population**

The population for this study consisted of social work clinicians with experience providing direct mental health services. Specifically, the study gathered data from social workers with clinical licensure (LCSWs) working in the Sacramento area. It was the goal of the researchers at the start of the study to gather data from no less than 30 participants meeting this criteria. After implementing the data collection procedures outlined below, the study concluded with participation from 34 LCSWs.

**Data Collection and Sampling Procedures**

Following approval from the CSU, Sacramento Human Subjects Review Committee, the researchers utilized convenience, snowball, and quota sampling methods in order to ensure the desired number of Sacramento area LCSWs took part in the study.
Data Collection Instrument

All data was gathered through the use of the Holistic Mental Health Questionnaire, a survey tool crafted by the authors of this thesis using the Table of Specifications. The
tool includes 20 items. Those items consisted of the following: five participant
demographic questions, one ranking question, one yes/no question that solicited
participant opinion, and thirteen Likert scale statements. Likert scale items were intended
to gauge participants’ knowledge and beliefs regarding the relationship between
nutritional intake and mental health conditions, as well as their practice of considering
nutritional intake in their assessment and treatment planning. The survey took no more
than 20 minutes to complete and was completed by the participants using pen and paper.
It should be noted that because the survey tool has not been peer reviewed, the validity
and reliability of the Holistic Mental Health Questionnaire has yet to be established. A
copy of the questionnaire can be found in Appendix B.

**Data Analysis Approach**

After the researchers collected completed questionnaires, responses were coded in
preparation for descriptive and inferential analysis. Descriptive statistics were used to
provide a summary of the study sample’s demographic characteristics and response
frequencies, while inferential statistics were used to draw conclusions regarding
relationships between variables. Microsoft Excel was used to perform descriptive
analysis. Where appropriate measurements of central tendency - including mean,
median, and mode, as well as measurements of dispersion - including the max, min,
range, and standard deviation - were calculated.

Additionally, the researchers used the Statistical Package for Social Sciences
(SPSS) to accomplish inferential analysis. To assess the relationship between nominal
level variables and interval level variables, the researchers used the independent t-test.
When comparing nominal level variables only, the variables were cross-tabulated using Fisher’s Exact Test to determine the significance of the relationship.

Results for all tests were evaluated for their statistical significance in order to support or invalidate the study’s hypotheses. The researchers then utilized Microsoft Excel to create tables and figures to highlight relationships that proved to be significant. At the conclusion of the data analysis process outlined above, the authors of this thesis summarized their research findings and explored the implications of these findings for the field of social work; this information can be found in chapters 4 and 5.

**Ethical and Legal Considerations**

Given that study participation was not anticipated to cause greater harm or discomfort to participants than they would be likely to encounter in their daily lives and clinical work, the CSU, Sacramento Human Subjects Review Committee granted the study described above a “no-risk” designation. This designation was awarded based on the understanding that participants would be educated clinical professionals, participating in the study voluntarily with the knowledge that they could elect to discontinue their participation at any point without fear of reprisal. Furthermore, voluntary participation occurred only after participants were provided the information required to make an informed decision about whether or not to participate in the study. As previously described, potential participants were provided information in writing regarding the purpose of the study and the type of information that would be gathered. The document containing this information also addressed participant consent. Specifically, the document made clear that participation in the study (i.e. completing and returning a
questionnaire) implied the participant’s consent to participate. Finally, participants were provided information about the ethical and legal considerations undertaken by the researchers as outlined below.

To ensure participant anonymity, only information pertinent to the goals of the research was collected. Specifically, as the research design did not require additional post-survey contact with individual respondents, participant names, contact information, and other intimately identifying demographic information was not gathered. Additionally, participants were instructed not to return completed survey questionnaires directly to the researchers (i.e. face to face delivery). Instead, participants were asked to return completed paperwork in a method that ensured both confidentiality and anonymity. This process included providing study participants with a self-addressed stamped envelope and requesting that they return completed surveys by mail without return address or other identifying information. Once data collection had begun, all information acquired was held in a secure location to preserve confidentiality. Finally, all completed questionnaires were destroyed following the completion of this research.
The primary aim of this study was to determine the extent to which social work clinicians consider nutritional intake (operationally defined as the type and quantity of nutrients consumed through food, drink, or supplement) when delivering holistic mental health services. Additionally, the study attempted to explore the beliefs and knowledge of social work clinicians regarding the relationship between nutritional intake and mental health, and to gather data about how a clinician’s expressed beliefs and knowledge impact his or her practice of considering a client’s nutritional intake during the course of their clinical work.

As discussed in Chapter 3, study participants included Sacramento area social workers with clinical licensure (LCSWs) actively providing mental health services. Utilizing snowball and quota sampling methods, the researchers approached area social workers with the goal of recruiting no less than 30 LCSWs to participate in the study. In total, 34 LCSWs took part in the research; participants provided data by way of a written questionnaire. This chapter provides an overview of the data collected, including both descriptive and inferential statistical analysis. Presented first is an overview of the demographic characteristics of the study’s 34 participating LCSWs, followed by descriptive analysis of study variables, and lastly an examination of the relationships between variables.
Basic Findings

Demographics

Study participants were asked to respond to four demographic questions (data is displayed in Table 4.1). With the intention of gathering information about participants’ professional experience, individuals were asked to report how long they have been licensed. Of the 34 participants, a considerable majority (n = 28) reported being licensed for 10 or more years (82.35%). Three LCSWs reported active licensure between 7 and 9 years (8.82%). One LCSW reported being licensed for between 4 and 6 years (2.94%), and two LCSWs reported being licensed for 3 years or less (5.88%). Study participants were also asked how many years of experience they have providing direct mental health services. As would be expected given participant response regarding length of licensure, a large majority of the sample (n = 33) reported 10 or more years of experience providing mental health services (97.06%), while only one participant reported experience providing mental health services for less than 10 years. A visual representation of this data is presented in Figure 4.1.
Table 4.1

*Participant Demographic Information*

<table>
<thead>
<tr>
<th>Years Licensed</th>
<th>Frequency</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 Years</td>
<td>2</td>
<td>5.90</td>
<td>5.90</td>
</tr>
<tr>
<td>4-6 Years</td>
<td>1</td>
<td>2.90</td>
<td>8.80</td>
</tr>
<tr>
<td>7-9 Years</td>
<td>3</td>
<td>8.80</td>
<td>17.60</td>
</tr>
<tr>
<td>10+ Years</td>
<td>28</td>
<td>82.40</td>
<td>100.00</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years Providing Direct Mental Health Services</th>
<th>Frequency</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-9 Years</td>
<td>1</td>
<td>2.90</td>
<td>2.90</td>
</tr>
<tr>
<td>10+ Years</td>
<td>33</td>
<td>97.10</td>
<td>100.00</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

| Direct Service Setting                        |           |               |                    |
| Government Sector                             | 1         | 2.90          | 2.90               |
| Nonprofit Agency                              | 13        | 38.20         | 41.20              |
| Private Practice                              | 14        | 41.20         | 82.40              |
| Managed Care Facility                         | 4         | 11.80         | 94.10              |
| Other                                         | 2         | 5.90          | 100.00             |
| Total                                         | 34        | 100.00        |                    |

| Majority Client Age                          |           |               |                    |
| 0-18 Years Old                               | 7         | 20.60         | 20.60              |
| 19+ Years Old                                | 27        | 79.40         | 100.00             |
| Total                                        | 34        | 100.00        |                    |
The researchers also inquired as to the setting in which the majority of study participants’ mental health service delivery has taken place. As can be seen in Figure 4.2, fourteen participants (41.18%) reported providing a majority of their mental health services in a private practice. Work in non-profit agencies made up the second largest response group, with 38.24% of participants reporting that a majority of their direct service work has taken place in this sector (n = 13). This was followed by work in a managed care setting at 11.76% (n = 4). Finally, two LCSWs reported that a majority of their practice occurred in a setting other than the options provided (5.88%) - but did not specify the setting. Lastly, only one participant reported that a majority of his or her work has taken place in the government sector (2.94%).
Finally, participants were asked to select from a collection of pre-determined ranges, the age group that best describes the majority of their clientele. The four pre-determined ranges included 0-11 years old, 12-18 years old, 19-54 years old, and 55 years and older. For the purpose of data analysis, categories were condensed to two: *adults* and *youth*. Adult clients were defined as those 19 years and older, while youth were defined as those 18 years and younger. As can be seen in Figure 4.2, twenty-seven study participants (79.41%) reported that a majority of their practice has been spent serving adult clients, while remaining participants \( (n = 7) \) indicated that a majority of their practice has been spent serving youth (20.59%).

![Figure 4.2 Demographics: Participant Work Setting and Client Population](image_url)
Belief, Knowledge, and Practice

Using thirteen Likert statements, participants were asked to provide information about their beliefs, knowledge, and practice as it pertains to the relationship between nutritional intake and mental health. To establish participant agreement with each statement, a Likert scale of 1 through 5 was used. As can be seen on the study’s questionnaire displayed in Appendix B, an answer of 1 indicated *strongly agree*, 2 indicated *agree*, 3 indicated a *neutral* response, 4 indicated *disagree*, and an answer of 5 indicated *strongly disagree*. For the purpose of statistical analysis answers of *strongly agree* and *agree* were combined and recoded plainly *agree*, while *strongly disagree* and *disagree* were combined and recoded *disagree*. The following sections highlight the data gathered as it relates to the study’s key domains: beliefs, knowledge, and practice.

**Belief.** To gauge participants’ beliefs about the relationship between nutritional intake and mental health, participants were asked to respond to four Likert scale statements. The statements included: “a holistic approach to mental health treatment involves consideration of biological and environmental factors, in addition to presenting mental health conditions,” “consideration of nutritional intake is an important component of a holistic approach to mental health treatment,” “nutritional intake should be considered in the formulation of a client’s mental health treatment plan,” and “a client’s nutritional intake should be considered during the assessment phase of mental health services.”

As is displayed in Figure 4.3, 94.12% of participants (n = 32) reported a belief that a holistic approach to mental health treatment involves consideration of both
biological and environmental factors. Thirty-one participants (91.18%) indicated agreement that nutritional intake is an important component of a holistic approach to mental health treatment. Twenty-two participants (64.71%) reported a belief that nutritional intake should be considered in the formulation of a client’s treatment plan; the researched observed that an additional nine participants responded neutrally to this statement, leaving only three participants in disagreement. Finally, 85.29% of participants \( (n = 29) \) reported agreement that a client’s nutritional intake should be considered during the assessment phase of mental health services.

![Figure 4.3 Participant Belief Regarding Nutritional Intake and Mental Health Knowledge.](image)

**Knowledge.** To gather data about participants’ knowledge regarding the relationship between nutrition and mental health, five Likert scale statements were
presented. These statements included: “the presence or absence of nutrients can exacerbate the symptoms of some mental health conditions,” “in my education, I feel that I received adequate training regarding the relationship between nutritional intake and mental health conditions,” “I have taken steps to educate myself about the relationship between nutritional intake and mental health conditions,” “modifications to nutritional intake can be used to reduce symptomology of some mental health conditions,” and “nutritional intake is a contributing factor to the symptomology of certain mental health conditions.” Participant agreement with knowledge related statements is displayed in Figure 4.4.

Study findings revealed that only four participants (11.76%) indicated that they feel they received adequate training regarding the relationship between nutritional intake and mental health in their professional education, while a total of twenty-two participants (64.71%) indicated disagreement with the statement regarding adequate education. Data analysis also revealed that a total of 58.82% of participants \( (n = 20) \) reported that they have taken steps to educate themselves about the relationship between nutritional intake and mental health conditions; ten participants indicated neither agreement nor disagreement with this statement. Twenty-eight participants (82.35%) agreed with the statements that nutritional intake is a contributing factor to the symptomology of certain mental health conditions and that modifications to nutritional intake can be used to reduce symptomology of some mental health conditions. The researchers observed that no participants \( (n = 0) \) reported disagreement with either of these two statements.
Finally, 85.29% of participants (n = 29) agreed that the presence or absence of nutrients can exacerbate the symptoms of some mental health conditions.

Figure 4.4 Participant Knowledge Regarding Nutritional Intake and Mental Health

Practice. A total of four Likert scale statements were used to gauge participants’ practice of considering nutritional intake in their delivery of mental health services. These statements included: “the direct mental health services I provide to clients are guided by a holistic approach to treatment,” “in practice, I consider a client’s nutritional intake when formulating a treatment plan,” “in practice, I consider a client’s nutritional intake as a contributing factor to their mental health symptoms,” and “in practice, I gather information about a client’s nutritional intake during assessment.”
In total, 85.29% of participants (n = 29) indicated that the direct mental health services they provide are guided by a holistic approach to treatment. Twenty-two participants (64.71%) reported that they consider nutritional intake a contributing factor to mental health symptoms (n = 22). Fewer participants (52.94%, n = 18) indicated that they take steps to gather information about a client’s nutritional intake during assessment, while 20.59% (n = 7) reported that they do not. Similarly, twenty participants (58.82%) indicated that they consider a client’s nutritional intake when formulating a treatment plan, while 20.59% (n = 7) indicated that they do not. A visual representation of participant practice related data is provided in Figure 4.5.

Figure 4.5 Participant Practice Providing Mental Health Services
Clinical Assessment

In an effort to gather information about the way in which survey participants allocate their time and attention during clinical assessment, participants were presented a list of “lifestyle factors” commonly identified in professional literature as components of holistic mental health assessment and asked to indicate the amount of time they would be likely to devote to the assessment of each factor given a limited time frame. Specifically, participants were first asked to assume that they had “already gathered comprehensive information about the client’s presenting mental health symptoms and his or her chief complaint.” Guided by this assumption, survey participants were then asked to indicate how they would distribute their time among the listed lifestyle factors during a one hundred minute assessment. Lifestyle factors included: spirituality, family and social supports, genetics/family history, nutritional intake, substance use, physical activity, and physical environment. While a majority of participants answered using whole minutes, several provided responses that included fractions of a minute. For this reason the results were rounded to the nearest hundredth.

As indicated in Table 4.2, all survey participants \((N = 34)\) responded to this survey item. Also provided in Table 4.2 are measures of dispersion and measures of central tendency for each lifestyle factor. Responses across all domains, except nutritional intake, resulted in ranges of twenty minutes or more, while the response range for nutritional intake was close at nineteen minutes. With regard to measures of central tendency spirituality, physical activity, and nutritional intake faired similarly. All three lifestyle factors shared median and mode scores of ten minutes, and slightly lower mean
scores; spirituality (mean of 9.39 minutes), physical activity (mean of 9.73 minutes), and nutritional intake (mean of 9.77 minutes). Conversely, of the seven lifestyle factors included in the survey item, participants on average, allocated more than twice as much time to the assessment of family and social supports (mean of 24.26 minutes) and genetics/family history (mean of 19.72 minutes). Figure 4.6 provides a visual comparison of the average time distribution across all lifestyle factors.

Table 4.2

Minutes Allotted to the Clinical Assessment of Various Lifestyle Factors

<table>
<thead>
<tr>
<th></th>
<th>Spirituality</th>
<th>Family/Social Supports</th>
<th>Genetics/Family History</th>
<th>Nutritional Intake</th>
<th>Substance Use</th>
<th>Physical Activity</th>
<th>Physical Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>34.00</td>
<td>34.00</td>
<td>34.00</td>
<td>34.00</td>
<td>34.00</td>
<td>34.00</td>
<td>34.00</td>
</tr>
<tr>
<td>Missing</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Mean</td>
<td>9.39</td>
<td>24.26</td>
<td>19.72</td>
<td>9.77</td>
<td>15.24</td>
<td>9.73</td>
<td>12.10</td>
</tr>
<tr>
<td>Median</td>
<td>10.00</td>
<td>20.00</td>
<td>20.00</td>
<td>10.00</td>
<td>15.00</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Mode</td>
<td>10.00</td>
<td>20.00</td>
<td>10.00a</td>
<td>10.00</td>
<td>20.00</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>3.83</td>
<td>11.56</td>
<td>9.30</td>
<td>5.15</td>
<td>5.38</td>
<td>4.43</td>
<td>5.37</td>
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<td>Range</td>
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<td>20.00</td>
<td>27.30</td>
<td>25.00</td>
<td>25.00</td>
</tr>
</tbody>
</table>

a. Multiple modes exist. The smallest value is shown.
Barriers to the Consideration of Nutritional Intake

With the goal of gaining insight into the reasons why social work clinicians do not consider the issue of nutritional intake during their delivery of direct mental health services, study participants were presented four statements outlining possible barriers and asked to indicate agreement with those statements that directly influence their clinical practice. The statements included are as follows: “I do not believe that consideration of nutritional intake is within social work scope of practice,” “I have not received adequate education and training regarding the relationship between nutritional intake and mental health,” “I do not have adequate time or resources to consider a client’s nutritional intake..."
when providing mental health services,” and “I do not believe that consideration of nutritional intake is important in the delivery of mental health services.”

Data analysis revealed that only two participants, representing 5.88% of the study sample, indicated their practice of considering nutritional intake is influenced by a belief that consideration of nutritional intake is not an important part of mental health service delivery. Worth noting, the researchers observed that these two participants also indicated that they do not feel they have received adequate education or training on the topic. In total, more than half of survey participants (58.82%, \( n = 20 \)) indicated that a lack of adequate education and training regarding the relationship between nutritional intake and mental health influences their clinical practice. The percentage of affirmative responses to all barrier related statements are displayed in Figure 4.7.

*Figure 4.7 Factors Influencing the Consideration of Nutritional Intake*
Relationships of Variables

After descriptive statistics were complied and analyzed, the researchers made use of SPSS to explore relationships between study variables using a p value of .10 to establish statistical significance. The remaining sections of this chapter outline the study’s inferential findings.

Tests of Difference

**Time allotted to the assessment of nutritional intake.** Table 4.3 highlights the relationship between survey participants’ self report that they gather information about a client’s nutritional intake during clinical assessment (nominal level variable) and the total number of minutes allotted to the assessment of nutritional intake and other lifestyle factors (interval level variable). Association between these variables was examined through the use of an independent t-test. The reader should note that only those survey participants who indicated agreement or disagreement with the statement regarding assessment of nutritional intake were included in the comparison; data corresponding with participants who responded *neutral* to the Likert scale item was omitted.

The researchers observed a statistically significant relationship between a participant’s self-report that they gather information about a client’s nutritional intake during assessment and the number of minutes the participant allocated for assessment of nutritional intake ($t = 3.682$, df = 23, $p = .001$). As would be expected, participants who reported that they actively assess a client’s nutritional intake were more likely to devote a greater portion of time to the assessment of nutritional intake than their peers.
Additionally, the researchers noted a significant relationship between a participant’s self-report that they gather information about a client’s nutritional intake and the number of minutes the participant allocated for assessment of additional lifestyle factors (i.e. genetics/family history, family and social supports, and physical activity). This data is presented in Table 4.3.

Table 4.3

*Relationship Between Clinicians’ of Assessment of Nutritional Intake and Minutes Allotted to The Assessment of Various Lifestyle Factors*

<table>
<thead>
<tr>
<th>Variables Compared Using Independent t Test</th>
<th>Test of Significance</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant gathers information about nutritional intake during assessment and minutes allotted to the assessment of spirituality</td>
<td>t = 1.567, df = 23</td>
<td>0.131</td>
</tr>
<tr>
<td>Participant gathers information about nutritional intake during assessment and minutes allotted to the assessment of genetics and family history</td>
<td>t = -1.778, df = 23</td>
<td>0.089*</td>
</tr>
<tr>
<td>Participant gathers information about nutritional intake during assessment and minutes allotted to the assessment of substance use</td>
<td>t = 1.629, df = 23</td>
<td>0.117</td>
</tr>
<tr>
<td>Participant gathers information about nutritional intake during assessment and minutes allotted to the assessment of nutritional intake</td>
<td>t = 3.683, df = 23</td>
<td>0.001*</td>
</tr>
<tr>
<td>Participant gathers information about nutritional intake during assessment and minutes allotted to the assessment of family and social supports</td>
<td>t = -2.430, df = 23</td>
<td>0.023*</td>
</tr>
<tr>
<td>Participant gathers information about nutritional intake during assessment and minutes allotted to the assessment of physical activity</td>
<td>t = 1.908, df = 23</td>
<td>0.069*</td>
</tr>
<tr>
<td>Participant gathers information about nutritional intake during assessment and minutes allotted to the assessment of physical environment</td>
<td>t = 0.547, df = 23</td>
<td>0.590</td>
</tr>
</tbody>
</table>

*Denotes statistical significance

Furthermore, statistical analysis revealed that the range among mean minutes devoted to the assessment of various lifestyle factors was more narrow for those
participants who reported gathering information about a client’s nutritional intake during assessment (min = 10.27 minutes, max = 20.01 minutes, range = 9.87) than for those who did not (min = 4.67 minutes, max = 31.86 minutes, range = 27.19). This data suggests that those social work clinicians who report gathering information about nutritional intake during assessment are likely to distribute their time and attention more uniformly across lifestyle factors during assessment, than those who do not.

Similarly, researchers also employed an independent t-test to assess the relationship between clinical practice setting and the minutes devoted to the assessment of various lifestyle factors. Because of a majority of study participants \((n = 27)\) identified their practice setting as either a nonprofit agency or private practice, the analysis focused exclusively on these two groups. As can be seen in Table 4.4, the analysis revealed a significant relationship between practice setting and the number of minutes clinicians devoted to gathering information about a client’s nutritional intake during clinical assessment. Specifically, participants who work in the nonprofit sector devoted greater time (mean of 12.02 minutes) to gathering information about a client’s nutritional intake than those participants in private practice (mean of 8.64 minutes).
Table 4.4

<table>
<thead>
<tr>
<th>Variables Compared Using Independent t Test</th>
<th>Test of Significance</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice setting and minutes allotted to the assessment of spirituality</td>
<td>t = 0.198, df = 25</td>
<td>0.845</td>
</tr>
<tr>
<td>Practice setting and minutes allotted to the assessment of genetics and family history</td>
<td>t = -1.303, df = 25</td>
<td>0.204</td>
</tr>
<tr>
<td>Practice setting and minutes allotted to the assessment of substance use</td>
<td>t = -0.849, df = 25</td>
<td>0.404</td>
</tr>
<tr>
<td>Practice setting and minutes allotted to the assessment of nutritional intake</td>
<td>t = 1.809, df = 25</td>
<td>0.083*</td>
</tr>
<tr>
<td>Practice setting and minutes allotted to the assessment of family and social supports</td>
<td>t = -0.412, df = 25</td>
<td>0.684</td>
</tr>
<tr>
<td>Practice setting and minutes allotted to the assessment of physical activity</td>
<td>t = 1.109, df = 25</td>
<td>0.278</td>
</tr>
<tr>
<td>Practice setting and minutes allotted to the assessment of physical environment</td>
<td>t = 0.931, df = 25</td>
<td>0.361</td>
</tr>
</tbody>
</table>

*Denotes statistical significance

Tests of Association

Using cross tabulations, specifically Fisher’s Exact Test, the researchers explored relationships between the study’s remaining variables. As previously discussed, responses to Likert scale survey items were condensed into two nominal level categories, agree (including strongly agree and agree responses) and disagree (including disagree and strongly disagree responses) for the purpose of comparison. Neutral responses were omitted from cross tabulation analysis.

Holistic Practice. Table 4.5 illustrates statistically significant relationships among study variables related to the concept of a holistic approach. As discussed at length in the literature review that informed this study, a holistic approach is often conceptualized as a clinical practice perspective that takes into consideration the many
facets of a person’s lived experience; the perspective is commonly identified as a cornerstone of the social work profession. In the study of Sacramento area social work clinicians, the researchers observed that study participants who reported agreement with the statement that a holistic approach involves the “consideration of both biological and environmental factors,” as well as those participants who indicated a belief that nutritional intake is a component of a holistic approach, were more likely than their peers to report that their clinical practice is guided by a holistic approach (p = .033, p = .033). Furthermore, those participants who described their clinical practice as holistic were also more likely to consider nutritional intake a contributing factor to mental health symptoms (p = .091).

Table 4.5

<table>
<thead>
<tr>
<th>Holistic Approach</th>
<th>Variables Compared Using Fisher's Exact Test</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A holistic approach involves consideration of biological and environmental factors and direct practice is guided by a holistic approach</td>
<td>0.033*</td>
</tr>
<tr>
<td></td>
<td>Nutritional intake is a component of holistic approach and direct practice is guided by a holistic approach</td>
<td>0.033*</td>
</tr>
<tr>
<td></td>
<td>Direct practice is guided by a holistic approach and considers nutritional intake a factor contributing to symptoms</td>
<td>0.091*</td>
</tr>
</tbody>
</table>

*Denotes statistical significance

**Education regarding nutritional intake and mental health.** Further data analysis using cross tabulation revealed a prominent trend of correlations between variables related to participants’ education regarding nutritional intake and mental health, and other variables measuring participant belief, knowledge, and practice related to nutritional intake. For the sake of simplicity, the terms education and training will be
used throughout the remainder of this chapter to imply education and training regarding the relationship between nutritional intake and mental health.

As previously outlined, survey participants were asked to respond twice to statements regarding the “adequacy” of their education. Participants were first prompted by a Likert scale statement to indicate if they believe their professional education was adequate. Second, participants were asked to report if a lack of adequate education and training influences their practice of considering a client’s nutritional intake when providing holistic mental health services. Statistically significant correlations between these variables and others explored in the study are presented in Table 4.6.

Specifically, researchers observed that participants who judged their education to be adequate were more likely that their peers to agree that a holistic approach involves consideration of both biological and environmental factors ($p = .018$), and to identify nutritional intake as a component of a holistic approach ($p = .052$). Predictably, participants who indicated that their education was not adequate were more likely to name their lack of education as a barrier to the practice of considering nutritional intake when providing clinical services ($p = .014$). Participants who identified a lack of education as a barrier to considering nutritional intake during service delivery were also more likely that those who did not to cite the belief that nutritional intake in not within social work scope of practice as an additional factor that influences their practice of considering nutritional intake ($p = .056$). Finally, participants who identified their lack of education as a barrier to considering nutritional intake were less likely than their peers to identify nutritional intake as a component of a holistic approach ($p = .061$).
Table 4.6

*Education Regarding Nutritional Intake and Mental Health*

<table>
<thead>
<tr>
<th>Variables Compared Using Fisher's Exact Test</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education regarding the relationship between nutritional intake and mental health was adequate and holistic approach involves consideration of biological and environmental factors</td>
<td>0.018*</td>
</tr>
<tr>
<td>Education regarding the relationship between nutritional intake and mental health was adequate and nutritional intake is a component of holistic approach</td>
<td>0.052*</td>
</tr>
<tr>
<td>Education regarding the relationship between nutritional intake and mental health was adequate and inadequate education and training influences consideration of nutritional intake</td>
<td>0.014*</td>
</tr>
<tr>
<td>Inadequate education and training influences consideration of nutritional intake in practice and belief that nutritional intake is not within social work scope of practice influences consideration of nutritional intake in practice</td>
<td>0.056*</td>
</tr>
<tr>
<td>Nutritional intake is a component of holistic approach and inadequate education and training influences consideration of nutritional intake in practice</td>
<td>0.061*</td>
</tr>
</tbody>
</table>

*Denotes statistical significance

Study participants were also asked about their efforts to educate themselves on the relationship between nutritional intake and mental health. Table 4.7 displays statistically significant correlations between participants’ self report that they have taken steps to educate themselves and various other variables; all relationships observed are positive correlations. Specifically, participants who reported that they have taken initiative to educate themselves are more likely that their peers to consider nutritional intake as a component of a holistic approach (p = 0.61) and to consider nutritional intake a factor contributing to mental health symptomology (p = .019). Finally, participant efforts to educate themselves are positively correlated with participant self-report that they gather information about nutritional intake during clinical assessment (p = .010) and consider nutritional intake when formulating a treatment plan (p = .001).
Table 4.7

*Participants Educated Themselves About the Relationship Between Nutritional Intake and Mental Health*

<table>
<thead>
<tr>
<th>Variables Compared Using Fisher's Exact Test</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educated self about nutritional intake and mental health conditions <em>and</em> nutritional intake is a component of holistic approach</td>
<td>0.061*</td>
</tr>
<tr>
<td>Educated self about nutritional intake and mental health conditions <em>and</em> considers nutritional intake a factor contributing to symptoms</td>
<td>0.019*</td>
</tr>
<tr>
<td>Educated self about nutritional intake and mental health conditions <em>and</em> nutritional intake should be considered during assessment</td>
<td>0.067*</td>
</tr>
<tr>
<td>Educated self about nutritional intake and mental health conditions <em>and</em> gathers information about nutrition intake during assessment</td>
<td>0.010*</td>
</tr>
<tr>
<td>Educated self about nutritional intake and mental health conditions <em>and</em> nutritional intake should be considered when formulating a treatment plan</td>
<td>0.035*</td>
</tr>
<tr>
<td>Educated self about nutritional intake and mental health conditions <em>and</em> considers nutritional intake when formulating a treatment plan</td>
<td>0.001*</td>
</tr>
</tbody>
</table>

*Denotes statistical significance

Similarly, the researchers also employed Fisher’s Exact Test to examine the relationship between participants’ expressed belief that nutritional intake *should* be considered during the delivery of holistic mental health services and their individual practice of considering nutritional intake when providing mental health services. As might be expected, cross tabulations revealed statistically significant positive correlations between a participant’s expressed belief that nutritional intake should be considered during clinical assessment and affirmative report that they gather information about nutritional intake during assessment (p = .010). Similarly, participants who reported that nutritional intake should be considered when formulating a treatment plan were more likely than their peers to report that in practice they consider nutritional intake when formulating a treatment plan (p = .079).
Relationships Lacking Statistical Significance

It should be noted that in addition to the analysis described above, that the researchers also considered and investigated relationships between other variables within the study. Notably, researchers considered various measures of participant education and the practice of allotting time to the exploration of nutritional intake during clinical assessment; analysis revealed these relationships to be lacking statistical significance. Also lacking significance was the relationship between participant belief that nutritional intake should be considered an important component of a holistic approach and the allocation of time to nutritional intake during assessment, as well as the relationship between the majority age of a participant’s clientele and the participant’s allocation of time to nutritional intake during assessment. Finally, cross tabulation revealed no statistically significant relationships between a participant’s practice setting and/or majority client age and his or her expressed beliefs, knowledge, or practice related to nutritional intake and mental health.
In the last half century the human diet in Western countries has changed dramatically. We have seen a shift from a diet high in whole foods and rich in the nutrients necessary to sustain health, to a diet high in calories, sugars, and chemical additives/preservatives. As cited in Chapter 2, this new diet while cheap and high in calories, is simultaneously low in nutritional value. A growing number of research studies have drawn correlations between this new Western diet and health concerns. Specifically, research has found correlations between the lack of specific nutrients and the presentation of certain mental health conditions. Given this evidence, the authors of this thesis believe it is important for social workers providing direct mental health services to be aware of how nutrition can impact the presentation of conditions that they are exposed to in practice.

This study sought to determine the extent to which social work clinicians understand and believe that nutritional intake is a contributing factor to their client’s mental health, and the extent to which social work clinicians consider nutritional intake in the delivery of mental health services. Additionally, the study sought to gather and consider data regarding the factors that encourage or hinder the social work clinicians from considering nutritional intake in their practices. This chapter will begin by reviewing the study’s hypotheses and examining whether or not they were supported by the study’s findings. This will be followed by a discussion on the implications this study has on the field of social work, and the researchers’ recommendations given the study
findings. Lastly, the researchers will discuss the study’s limitations and ideas for future research.

Data and Hypotheses

The researchers formulated three hypotheses based on research cited in Chapter 2 as well as on their personal experiences and observations working in direct mental health service settings. The first hypothesis stated that a majority of social work clinicians understand that nutritional intake is a contributing factor to overall mental health. The second hypothesis stated that a majority of social work clinicians believe that nutritional intake is a contributing factor to overall mental health. The final hypothesis stated that within the context of a holistic framework, a majority of social work clinicians fail to consider nutritional intake as a contributing factor to their clients’ mental health condition.

The first hypothesis was supported by study findings. The data showed that a majority of participants are aware that nutritional intake can have an impact on their client’s mental health conditions. Interestingly, a large majority reported that they did not receive adequate training in their educational experience regarding the relationship between nutrition and mental health, while a lesser majority reported taking steps to educate themselves regarding this relationship. This suggests that while most social work clinicians are aware of the connection between nutritional intake and mental health conditions, a need for further professional education and training on the topic may be desirable.
As discussed in Chapter 4, a large majority of survey participants reported that they believe that a holistic approach to mental health treatment involves consideration of both biological and environmental factors, and that nutritional intake is an important component of a holistic approach to mental health treatment. This suggests that the study’s second hypothesis is also supported. Additionally, the data suggests that those clinicians who report adopting a holistic approach to treatment are more likely to consider holistic practice to entail the consideration of both biological and environmental factors, that nutrition is component of holistic practice, and they are more likely to assess nutritional intake in practice. Also, those who believed that their education regarding the relationship between nutritional intake and mental health was adequate were more likely to believe that the holistic approach to mental health treatment involved considering both biological and environmental factors. This data suggests that if social work clinicians received greater education to promote awareness of the impact nutritional intake has on mental health, it may become a common factor in a holistic approach to treatment and would therefore be more likely to be considered during mental health service delivery.

The data failed to confirm the study’s final hypothesis, as a majority of social work clinicians in this study report that they do in fact consider nutritional intake in their practice. A majority of the study participants did report that their practice is guided by a holistic framework, while a lesser majority reported the consideration of nutritional intake in their holistic mental health assessments and treatment planning. The data also highlighted that among the seven lifestyle factors used in this study to describe a holistic assessment, nutritional intake was one of the three factors to which the least amount of
time was devoted. These results suggest that currently nutritional intake is not often considered when defining holistic practice and if it is, it is not perceived to be as important as other factors. The researchers did find that those clinicians who reported gathering nutritional data during assessment were more likely to devote a longer amount of time to the consideration of nutritional intake and were more likely to distribute their time more evenly among the various lifestyle factors considered during assessment than their peers.

As mentioned earlier in this chapter, data was also gathered to determine the factors that may prevent social work clinicians from considering nutritional intake in their practices. According to the data, very few participants identified the belief that nutrition is not an important component of holistic mental health practice as a barrier that prevents them from considering a client’s nutritional intake in their delivery of mental health services. Over half of the study participants cited a lack of education and training as the reason why they would not consider nutritional intake in their mental health practices. The researchers observed a significant association between clinicians who reported not receiving adequate education and training regarding nutritional intake as it pertains to mental health, and the belief that nutritional intake is not a component of a holistic approach to treatment or that nutritional intake is not within the social work scope of practice. Conversely, those clinicians who reported educating themselves about the relationship between nutritional intake and mental health were more likely to consider nutrition to be a component of holistic practice and were more likely to consider nutritional intake during assessment and treatment planning. These associations highlight
the possibility that education and training regarding the relationship between nutritional intake and mental health will influence whether or not social work clinicians consider nutritional intake to be within their scope of practice and whether they incorporate such information in their practice.

The researchers also found that social work clinicians who perform a majority of their direct mental health services through a non-profit organization are more likely than those working primarily in private practice to devote more time to the consideration of nutritional intake. This difference may be explained by the possibility that working for a non-profit agency allows access to more training opportunities related to this topic compared to those working in private practice. Another plausible explanation is that clinicians working for a non-profit or community mental health agency are more likely than their private practice counterparts to encounter clientele who struggle with food insufficiency and/or poor nutrition. The researchers speculate that this kind of interaction encourages the active consideration of nutritional intake, though further research would be needed to confirm these assumptions.

**Limitations**

As previously discussed, the study’s final sample size ($N = 34$) was relatively small, and a majority of the study participants reported providing services in either private practice or in non-profit settings. In addition, all of the study participants provide services within the Sacramento area. For these reasons, one of the study’s limitations is the inability for findings to be generalized beyond these groups.
Furthermore, it is important to note that a large majority of study participants reported that they have been licensed for ten or more years and have been practicing in the mental health field for ten or more years, skewing the sample. Consequently, time in the field and years licensed could not be used as independent variables in the study’s statistical analysis. In hindsight, heavy reliance on the snowball sampling method may have served to create a sample that excluded certain participant groups (e.g., younger social work clinicians). Many of the social work clinicians initially approached by the researchers to take part in this study had been licensed and practicing for 10 or more years. These individuals then referred the researchers largely to other clinicians that they knew and who had the same demographic characteristics.

Future research may seek a larger sample size or use data collection methods that would ensure the inclusion of younger social work clinicians, and clinicians who work in settings other than private practice and non-profit agencies. Future research may also seek to develop strategies on how to collaborate with professionals in the nutrition sciences in order to provide education and training that would incorporate nutritional intake as a component of holistic mental health practice.

**Social Work Implications and Recommendations**

The field of social work can benefit from this research as it highlights the need to incorporate the integration of nutrition as a component of holistic mental health practice. While holistic lifestyle factors such as environment, family history, and social supports are commonly used in the assessment and treatment plan process, it is less common to see nutrition as a consideration. Given the evidence that nutritional intake does play a role in
the lives of our clients and the belief that social work clinicians are aware of this, one could argue that the incorporation of basic nutritional information into the social work clinician’s scope of practice would be pertinent.

On a macro level, providing master level social work students with course content that educates them on the relationship between nutritional intake and mental health could be a first step in the incorporation of nutrition into the concept of holistic service delivery. This could be accomplished by collaborating with professionals in nutritional sciences to provide social work clinicians with education and training that will allow clinicians to set treatment goals centered on nutritional intake and to make basic nutritional recommendations with clients that suffer from certain mental health conditions, while not violating their scope of practice. Additionally, providing current social work clinicians with the opportunity to earn continuing education credits by attending a training or conference on this relationship may have the same effect.

On a micro level, current social work clinicians can begin to question clients about their nutritional intake both for the purpose of the clinician’s knowledge and as a strategy of promoting client awareness of his or her behavior as it relates to food consumption. For example, having a client explore their nutritional intake patterns could assist the clinician and client in determining if such patterns are related to certain presenting symptoms, such as energy levels, sleeping patterns, and weight fluctuation. Additionally, social work clinicians can take it upon themselves to educate themselves regarding how nutritional intake can impact their clients. As suggested previously in this
chapter, those clinicians who did so were more likely to consider nutritional intake as an important component of holistic practice.

The social work profession commonly encourages its professionals to view their client’s through a holistic lens. The purpose of the holistic perspective is to give attention to the host of various factors that may be contributing to a client’s presenting problem. This may include oppressive economic or political policies, an unstable or unsafe physical environment, or a lack of social supports. Given the evidence supported in this study, nutritional intake can impact many of the conditions that are commonly seen in mental health settings. In order to best address client’s needs, it is important that a client’s nutritional intake is considered in the assessment and treatment process. While referrals to nutritional professionals may still be warranted, giving social clinicians the education and training they need in accurately considering nutritional intake would not only assist client’s suffering from certain mental health conditions, but would serve to further define what it means to use a holistic approach to mental health treatment.
Greetings potential study participant:

The purpose of the research study you have been invited to take part in is to gather data regarding the extent to which social work clinicians adopt a holistic approach when assessing and treating mental health conditions, as well as the extent to which clinicians consider a client’s nutritional intake during service delivery. Research is being conducted by CSU, Sacramento Master of Social Work students Nathan Stuckey and Emma Spanko. The data obtained will be analyzed for the purpose of completing the researchers’ thesis. To ensure anonymity, no identifying personal information will be gathered from participants. Additionally, all data collected will be held confidential and destroyed following the conclusion of the study. Finally, study participants will not receive compensation in return for their participation and are entitled to discontinue their participation at any time without the fear of repercussion.

Please note that your completion and submission of the Holistic Mental Health Questionnaire implies your consent to participate.

Participation will require:

- Completion and submission of a Holistic Mental Health Questionnaire. (The questionnaire will require no longer than 20 minutes to complete.)

Potential benefits of participation includes:

- Contribution to the field of social work by promoting knowledge regarding the application of a holistic approach in mental health practice.

Participation in this research study is expected to pose no risk of harm to participants. However, should participants experience any level of distress as a result of their participation they are encouraged to contact Sacramento County’s Mental Health Crisis Intervention Hotline at (916) XXX.XXXX for support.

Please note: In an effort to maintain participant anonymity, the individuals responsible for this research will not be available to answer questions once questionnaires have been distributed. Participants who wish to discuss their rights or who wish to seek clarification regarding the research process once participation has begun are encouraged to contact faculty advisor Dr. Francis Yuen, DSW, or CSU, Sacramento’s Human Subjects Review Committee at (916) XXX.XXXX.

Your voluntary participation is sincerely appreciated!
APPENDIX B

Holistic Mental Health Questionnaire

This questionnaire is part of a research study aimed at gathering data regarding the extent to which social work clinicians adopt a holistic approach when assessing and treating mental health conditions. The data obtained will be analyzed for the purpose of completing the researchers’ Master of Social Work thesis. All information gathered will be held confidential. Participation is voluntary and sincerely appreciated!

PLEASE NOTE: For the purpose of this study, the term “NUTRITIONAL INTAKE” is defined as the type and quantity of nutrients consumed through food, drink, or supplement.

---------------------------------------------------------------------------------------------------

1) During a clinical assessment, assume that you have already gathered comprehensive information about a client’s presenting mental health symptoms and his or her chief complaint. If you had 100 minutes to gather additional information, please indicate below how many minutes you would devote to the assessment of each lifestyle factor listed.

In the open space to the right of each factor, please indicate the number of minutes you would allot for assessment. Total minutes should equal 100.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spirituality</td>
<td></td>
</tr>
<tr>
<td>Family and social supports</td>
<td></td>
</tr>
<tr>
<td>Genetics/ family history</td>
<td></td>
</tr>
<tr>
<td>Nutritional intake</td>
<td></td>
</tr>
<tr>
<td>Substance use</td>
<td></td>
</tr>
<tr>
<td>Physical activity</td>
<td></td>
</tr>
<tr>
<td>Physical environment</td>
<td></td>
</tr>
</tbody>
</table>

Total: 100

---------------------------------------------------------------------------------------------------

1 of 4
Using the key below, please rate how strongly you agree or disagree with the statements that follow. Please circle ONE number per statement to indicate your level of agreement.

1 - Strongly Agree    2 - Agree    3 - Neutral    4 - Disagree    5 - Strongly Disagree

2) The direct mental health services I provide to clients are guided by a holistic approach to treatment.

3) IN PRACTICE, I consider a client’s nutritional intake when formulating a treatment plan.

4) The presence or absence of nutrients can EXACERBATE the symptoms of some mental health conditions.

5) I have taken steps to educate myself about the relationship between nutritional intake and mental health conditions.

6) IN PRACTICE, I consider a client’s nutritional intake as a contributing factor to their mental health symptoms.

7) A holistic approach to mental health treatment involves consideration of biological and environmental factors, in addition to presenting mental health symptoms.

8) IN PRACTICE, I gather information about a client’s nutritional intake during assessment.

9) Modifications to nutritional intake can be used to REDUCE symptomology of some mental health conditions.
10) Consideration of nutritional intake is an important component of a holistic approach to mental health treatment.

11) Nutritional intake is a contributing factor to the symptomology of certain mental health conditions.

12) Nutritional intake should be considered in the formation of a client’s mental health TREATMENT PLAN.

13) A client’s nutritional intake should be considered during the ASSESSMENT phase of mental health services.

14) In my professional education, I feel that I received adequate training regarding the relationship between nutritional intake and mental health conditions.

15) **Which of the following factors or beliefs influence YOUR practice of considering a client’s nutritional intake when providing holistic mental health services?**

   Using an X, please mark ALL THAT APPLY; if none apply, leave all boxes empty.

   | I do not believe that consideration for nutritional intake is within the social work scope of practice. |
   | I have not received adequate education and training regarding the relationship between nutritional intake and mental health. |
   | I do not have adequate time or resources to consider a client’s nutritional intake when providing mental health services. |
   | I do not believe that consideration for nutritional intake is important in the delivery of mental health services. |

------------------------------------------------------------------------------------------------------------
For each of the following questions, please circle the \textit{SINGLE most appropriate} answer:

16) Are you currently licensed as an LCSW? \hspace{1cm} \text{YES} \hspace{1cm} \text{NO}

17) If yes, how long have you been licensed?

\hspace{1cm} \text{0-3 years} \hspace{1cm} \text{4-6 years} \hspace{1cm} \text{7-9 years} \hspace{1cm} \text{10 or more years}

18) For what period of time have you been providing direct mental health services?

\hspace{1cm} \text{0-3 years} \hspace{1cm} \text{4-6 years} \hspace{1cm} \text{7-9 years} \hspace{1cm} \text{10 or more years}

19) In what setting has the \textit{majority} of your direct mental health practice taken place?

\hspace{1cm} \text{Government Sector} \hspace{1cm} \text{Nonprofit Agency} \hspace{1cm} \text{Private Practice} \hspace{1cm} \text{Managed Care Facility} \hspace{1cm} \text{Other: ____________________________}

20) What age range \textit{best} represents the \textit{majority} of your direct mental health clients?

\hspace{1cm} \text{0-11 years old} \hspace{1cm} \text{12-18 years old} \hspace{1cm} \text{19-54 years old} \hspace{1cm} \text{55 and older}
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