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Nutrition and the Person-in-Environment Perspective: Implications for Social Work

Kayla Harter
Grand Valley State University

Nutrition and the Person-in-Environment Perspective: Implications for Social Work

Kayla Harter

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Dedication

To my fiancé/soon-to-be husband Kealy – I don't know how I could've done this without you. You have been my motivator, support, and source of strength throughout this whole process. Thank you for pushing me to do this, and being there for me.

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Abstract

The purpose of this research study was to explore the relationship between nutrition and social work education, practice, and perceptions on nutrition. Licensed master's level social workers in the state of Michigan (n=45) were recruited online through Grand Valley State University's School of Social Work listserv, social media, social work professors and colleagues. Participants completed an anonymous online survey through Google Forms which included 18 questions. The online survey involved open and closed-ended questions focusing on 1) integration of nutrition in practice; 2) perceptions on the value of nutrition in social work; and 3) nutrition training during and after graduate school. The statistical tests included descriptive statistics, frequency tables, Spearman's rho correlations, and independent samples t-tests via SPSS version 22. Qualitative data was analyzed using conventional content analysis and open coding. Results indicate that the majority of social workers integrate nutrition through psychoeducation. Participants primarily perceived nutrition as "moderately valuable" with clients and in the field of social work. Most social workers have not received nutrition education pre or post-graduate school. There is a gap in nutrition in social work practice and education. Most social workers integrate nutrition, but have no formal education on nutrition. Further research is required on the topic of nutrition and social work.

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Chapter One

Chapter one includes an introduction of the study, problem statement, and conceptualization of the topic.

Introduction

This study focuses on nutrition and social work. Specifically, it examines how social workers are educated on the topic of nutrition in social work education; whether and how social workers are currently integrating nutrition into practice; and what social workers' perceptions, or opinions are on the value of nutrition in the field of social work. This quantitative study was grounded in the person-in-environment perspective, biopsychosocial perspective, and social-ecological theory. The literature review analyzed multilevel social work – micro, mezzo, and macro. A multilevel approach strengthened this study because nutrition impacts clients at all levels; nutrition is part of every area of social work (Dog, 2010; Harbottle, 2011; Newton, 2013; Tran, 2014).

Problem Statement

The field of social work emphasizes addressing all dimensions of clients' livesDog, 2010; Huskamp, 2013; Tran, 2014. Social workers engage, assess, and intervene with diverse, multilevel client populations. The multidimensional and multilevel approach has been the force that changes and moves the professional forward by consistently identifying gaps and limitations in the field. One of such gaps it highlights in social work practice, education, and research is the relevance and significance of nutrition. Nutrition, a social-health issue, has a history as long as the social work practice, as the settlement movement pioneers and subsequent professionals have never stopped anti-poverty/anti-hunger effects (Addames, 1912/2014). Today, nutrition is still

conceptualized as social-health issue, especially relevant to social work-related public health issues such as mental illness, the obesity epidemic, and food insecurity.

Current literature suggests that nutrition is linked to mental illnesses such as depression, anxiety, ADHD, and neurodegenerative disorders (Charlton, 2015; Clark, Bezyak, & Testerman, 2015; Dog, 2010; Harbottle, 2011; Newton, 2013; Tran, 2014). Nutrition, or diet, is correlated with mental health, and mental health also impacts eating habits. Research studies have shown that there is a dynamic relationship between nutrition and mental health, and they cannot be separate from each other (Charlton, 2015; Clark, Bezyak, & Testerman, 2015; Dog, 2010; Harbottle, 2011; Newton, 2013; Tran, 2014).

While anti-hunger advocacy still has its relevance and importance in domestic and international social work, contemporary social work has taken anti-hunger efforts to the next level and articulated it in a broader health concept. Food insecurity and obesity are huge issues that clients face today (Fram, Frongillo, Fishbein, & Burke, 2014; Juby & Meyer, 2010; Martinez & Kawam, 2014; Melius, 2013; Pappas, Ai, & Dietrick, 2015; Sealy & Farmer, 2011; Towery, Nix, & Norman, 2014; Walther, Aldrian, Stuger, Kiefer, & Ekmekcioglu, 2014). The Council on Social Work Education (CSWE; CSWE, 2014) defines food insecurity as "a lack of consistent and ongoing access to sufficient, safe, and nutritious food needed to maintain a healthy and active lifestyle." A new public health issue related to food insecurity is obesity. Centers for Disease Control and Prevention (2016) define overweight and obesity as "Weight that is higher than what is considered as a healthy weight for a given height." Overweight and obesity is quantified through the Body Mass Index (BMI) formula, which uses an individual's height and weight.

Nutrition related issues impact all levels of social work. At the micro level, individual clients are suffering from physical, mental, and emotional issues as a result of obesity and food insecurity. According to the National Institute of Health (2016), approximately 68.8% of adults 20 and over are considered to be overweight or obese. Furthermore, approximately 35.7% of adults 20 and over are obese. At the mezzo level, families often do not have access to healthy food, or cannot afford to pay for healthy foods. According to Feeding America (2016, p. 15), "The average county food-insecurity rate as of 2014 is 14.7%, meaning that an estimated 1 in 7 people in the United States struggles with hunger." Lastly, at the macro level, the United States government supports subsidies for corn and soy, which leads to junk foods being cheaper than fruits and vegetables. The CSWE conceptualize food security as a basic human rights issue, and it requires the coalition among government, public, and social work (CSWE, 2014).

Despite of known facts and the recognized social work role in nutrition-related social-health issues, it is still unclear whether social workers have learned about these issues and correlations in undergraduate programs, graduate programs, or continuing education courses. If social workers are to address all dimensions of clients' lives at the multilevel systems. It is social work's inherent ethical responsibility to take nutrition and its social- health correlations into consideration to a greater extent. Furthermore, it is uncertain how social workers integrate nutrition into practice. While conducting a biopsychosocial, or intake assessment on a client, there is usually a question or two regarding nutrition, diet, or eating habits (Huskamp, 2013). Beyond those questions, there is no set standard for incorporating nutrition into practice. Current research has failed to explore how social workers are utilizing nutrition in practice. Although overall research has shown that nutrition programs in communities and schools have been effective for participants (Clark, Bezyak, & Testerman, 2015; Diehl, 2014; Heo et al., 2016;

Pappas, Ai, & Dietrick, 2015; Towery, Nix, & Norman, 2014; Yao, Brasseur, Robins, Adams, & Bachar, 2013), little to no research has asked what social workers have done with these programs.

In response to lack of evidence on nutrition in social work practice, education, and research, this study worked to address the gaps by exploring where, or if, social workers have learned about nutrition; how, or if, social workers integrate nutrition into practice; social workers' perceptions on the value of nutrition in the field of social work; and how, or if, social workers collaborate with nutritional specialists in practice.

There are three primary hypotheses. (1) Over 50% of participants will not have any nutrition-related education. In a meta-analysis of three studies, approximately 84% of participants (n=150) had not received any training on nutrition (Huskamp, 2013; Shor, 2010a; Tran, 2014). (2) Over 50% of participants integrate nutrition into practice informally, meaning without any structure or standard, like with the nutrition section of the biopsychosocial assessment. In Huskamp (2013), 67% of participants (n=9) informally incorporated nutrition into practice. (3) Over 50% of participants rate nutrition as having a "high value" in social work practice and education on the online survey. In a meta-analysis of three studies, approximately 91% of participants (n=35) viewed nutrition to be important in practice and social work education (Huskamp, 2013; Shor, 2010b; Tran, 2014).

Conceptualization of Nutrition

Exploring nutrition in the field of social work stems from a variety of different theories and perspectives. These include, but are not limited to: the person-in-environment perspective, biopsychosocial perspective, and social-ecological theory. The commonality between the three is that they all hold the view of encompassing the whole person in multilevel systems. The

purpose of taking all three perspectives into consideration is the fact that they all have a slightly different angle on addressing the complexity of the numerous layers of a person in multilevel systems. Nutritional status has an impact on the other layers of a person and vice versa. In this research, the physical/biological and psychological aspects are essential. The biological aspect includes more than nutrition, such as genetics, physical trauma, hormones, and many other factors(Dog, 2010; Huskamp, 2013; Walther et al., 2014).

Person-in-environment perspective. According to Kondrat (2015), the person-in-environment perspective is embedded in social work education and practice. Understanding the whole individual requires looking at several aspects of their lives, such as physical, spiritual, family, social, political, economic, and temporal. Continually assessing and addressing all aspects allows the social worker to better serve their clients. The physical can include mental health and physical health.

Biopsychosocial perspective. The biopsychosocial perspective is similar to the person-in-environment perspective with some differences. Cardoso (2013) described the biopsychosocial perspective as "interactions between people's genetic makeup (biology), mental health and personality (psychology), and sociocultural environment (social world) contribute to their experience of mental illness." The biopsychosocial approach is good to integrate into practice when trying to figure out the root of a client's mental illness (Cardoso, 2013; Dog, 2010; Huskamp, 2013). Again, in this research, the biological and psychological aspects are essential.

Social-ecological theory. The social-ecological model can be utilized in many different ways in social work practice with individuals, families, groups, and organizations, and communities. It can be especially helpful when examining nutrition-related issues. The social-ecological model includes four different layers: 1) individual; 2) relationship; 3) community; and

4) societal. These layers allow the social worker, client, or other individuals involved to explore the impact of an issue such as nutritional deficiency.

Chapter Two – Literature Review

Chapter two includes definitions of key concepts; current research on nutrition and mental health; how social workers are taking action regarding nutrition-related issues in the micro, mezzo, and macro levels; nutritional programs in research and federal food assistance programs; populations most researched; and recommendations for social workers regarding nutrition.

Definitions

There were several keywords or phrases that continued to appear in current literature focusing on social work and nutrition. It is important to discuss and define these keywords or phrases because they serve as a foundation for the literature review. The majority of articles failed to define basic words such as nutrition, diet, collaboration, or multidisciplinary work. Nutrition and collaboration or multidisciplinary work are the focus of this research. The term "diet" is frequently used in the field of social work, such as with assessment or intake tools.

Nutrition. Nutrition serves several different functions in the human body. Nutrition is our fuel for survival; it allows us to restore and replenish energy. Nutrition helps us repair after injury or illness. Nutrition aids in the fight against illnesses. We receive nutrition through food or supplementation (Tran, 2014). Nutrition is critical in maintaining health. Nutrition is also essential for growth (Edwards & Cheeley, 2016). Overall, there are two parts to nutrition: 1) consuming food, or energy sources; and 2) the body's response to the food, or what the body does with the food.

Diet. The word "diet" is everywhere – on television, in advertisements, and on social media. The term has many different meanings, clarified for the purpose of this literature review.

Overall, diet includes eating habits, the frequency of meals, types of food consumed, and portion sizes (Wen, Tchong, & Chong, 2015).

Collaboration or multidisciplinary work. More often than not in social work, practitioners work in multidisciplinary team environments, especially in schools, hospitals, or criminal justice settings. Coordinating care with other professionals such as doctors, teachers, probation officers, or dieticians is important to serve the client's best interest. Interdisciplinary collaboration is when social workers work together with other professionals from different disciplines toward the same goals. Interdisciplinary collaboration is a process (Bronstein, 2003). Collaboration in social work simply means to work with a client or other professionals to serve the client. Similarly, multidisciplinary work means that there are many, or multiple disciplines working together. An example of this is social workers, doctors, and dieticians working together on one client's case. Healthcare professionals and researchers have been calling for interdisciplinary collaboration in food security and providing quality care, for example, long-term home parental nutrition and adult hospital nutrition (Karunasagar & Karunsagar, 2016; Tappenden et al., 2013; Winkler & Guenter, 2014).

Nutrition and Mental Health

Current research focusing on nutrition and mental health is on the rise (Clark, Bezyak, & Testerman, 2015; Harbottle, 2011; Newton, 2013; Tran, 2014). Social workers and other mental health professionals are becoming more aware of how nutrition impacts mental health. Reviewing research about their connection emphasizes the importance of integrating nutrition and social work. Deficiencies in vitamins or minerals, nutrition's impact on physical and mental health, the benefits of eating healthy, and maternal diet are the areas that have been discussed the most in the current literature.

Vitamin/mineral deficiencies. There are several vitamin or mineral deficiencies that can lead to symptoms that mimic mental illness or exacerbate existing mental illness. Several vitamin and mineral deficiencies can lead to depression or symptoms of depression. For example, vitamin B, vitamin D, folate, magnesium, or chromium deficiencies can lead to depression (Dog, 2010). Iron deficiency can lead to symptoms of depression such as fatigue, apathy, or poor concentration. Zinc deficiency can lead to behavioral or sleep disturbances, which can impact mood (Bener, Ehlayel, Bener, & Hamid, 2014; Dog, 2010; Harbottle, 2011; Weinest & Silverno, 2015; White, Cox, Peters, Pipingas, & Scholey, 2015; Yousatzai et al., 2013).

Similarly, certain foods can mimic symptoms of mental illnesses, or exacerbate ongoing mental illnesses. Knowing this is significant for social workers conducting assessments, making diagnoses, or creating a treatment plan. If social workers are unaware of a vitamin or mineral deficiency, clients may not be receiving appropriate treatment. An example or foods mimicking mental illness is when the consumption of caffeine can lead to symptoms of anxiety, or increase anxiety levels (Dog, 2010). Foods high in sugar lead to a blood sugar spike followed by a crash. The blood sugar spike mimics symptoms of anxiety or exacerbates ongoing anxiety. The crash can lead to symptoms of depression (Simulation IQ, 2013). Alcohol can impact mood and deplete the body of vitamins and minerals, such as zinc and thiamin. These deficiencies can lead to depression, aggression, or irritability (Harbottle, 2011). Research suggests that out of all of the mental illnesses, there is a connection between depression and a poor diet. Specifically, a diet high in saturated and trans fats, processed foods, and foods low in vitamins and minerals.

Lastly, society tends to believe that being deficient in vitamins or minerals means being underweight. In reality, individuals can be deficient and be of a healthy weight, obese, or

underweight. The CSWE (2014) indicated that hunger or a lack of access to healthy food could lead to a variety of physical illnesses along with depression, aggression, or other mental health issues. Simply being aware of how deficiencies are related to mental illness can be beneficial to social workers in practice.

Nutrition and physical/mental health. Current literature indicates that physical and mental health and nutrition are related. Nutrition influences physical health. Physical health has an impact on mood, self-esteem, and mental health (Newton, 2013). More specifically, nutrition directly impacts the neurotransmitters of the brain, or brain functioning (Tran, 2014). Mental health can also impact nutrition. For example, individuals struggling with depression may have a lower appetite, therefore consuming fewer nutrients. Deficiencies in vitamins or minerals could increase ongoing depression (Harbottle, 2011). Current research has found a link between poor nutrition and severe mental illness (Clark, Bezyak, & Testerman, 2015). Overall, nutrition, physical health, and mental health are all interwoven. They cannot be separated like they currently seem to be in the field of social work. Having a basic understanding of nutrition and physical health aids in effectively treating mental illness.

Benefits of eating healthy. There are numerous benefits involved with healthy eating. Individuals can prevent or reduce mental illness with an increased consumption of fruits and vegetables (Dog, 2010; Harbottle, 2011; Tran, 2014). A better overall mood is another byproduct of healthy eating. Another benefit is for ongoing mental illness, such as ADHD. Furthermore, symptoms of ADHD may respond to supplementation of certain nutrients (Charlton, 2015). Finally, a nutritious diet may have several long-term benefits. Healthy eating may prevent or delay cognitive decline (McNaughton, Crawford, Ball, & Salmon, 2012). The Mediterranean Diet has been known to be beneficial for the aging population due to its emphasis

on fish, vegetables, and oils. These food groups protect the brain against neurodegenerative diseases (Charlton, 2015). It seems that research has not been able to document whether or not social workers were aware of these benefits, or whether or not they had integrated related knowledge into practice.

Maternal diet. Research focuses heavily on maternal diet. Horton (2013) has noted that maternal diet impacts the child throughout their childhood. Prenatal and postnatal diet impacts a child's mental health. Specifically, vitamin supplementation during pregnancy helps the child develop critical organs in a healthy way (Yousafzai, Rasheed, & Bhutta, 2013). Maternal diet is an area that social workers could further examine or explore, but it is unknown whether or not they do. Research primarily has been on the Women, Infant, and Children (WIC) Supplemental Nutrition program (Gjesfjeld, Weaver, & Schommer, 2015; Tabb et al., 2015).

Populations Most Researched

The populations most researched were children, families, and the elderly. By far, children were the most researched out of the three. Children and the elderly are both vulnerable populations in relation to nutrition. Nutritional status of both populations will have a large impact on their future life trajectories. Nutritional requirements of children and the aging population are very different (Rizzo & Seidman, n.d).

Children and families. Current literature primarily focuses on children, families, nutrition, and social work. There are a few domains that current research highlights 1) child protective services, or welfare work and nutrition; 2) nutrition in schools, and 3) nutrition in home settings.

The ongoing child obesity crisis and food insecurity drive current research on children, families, and nutrition. There were numerous programs throughout the literature that were

attempting to combat the obesity crisis in middle and high schools (Diehl, 2014; Heo et al., 2016; Hoying, Melnyk, & Arcoleo, 2016; Melius, 2013; Newton, 2013; Pappas, Ai, & Dietrick, 2015; Towery, Nix, & Norman, 2014; Walther et al., 2014). All programs had a positive impact on students in some way – physically, mentally, or emotionally. For example, Diehl (2014) found that students improved physically after participating in a HealthCorps program. Specifically, stress levels were lower than before HealthCorps, blood pressure improved, and flexibility increased. Other programs found an increase in nutrition-related knowledge, increase in healthy eating behaviors, and a decrease in depression or anxiety (Heo et al., 2016; Hoying, Melnyk, & Arcoleo, 2016).

Food insecurity among children is the other major area. Food insecurity can impact school performance just as much as obesity, which is why schools are analyzing the effects of food insecurity (Fram et al., 2014; Martinez & Kawam, 2014). Research suggests that children or adolescents tend to hide the issues due to embarrassment, shame, guilt, and stigma surrounding food insecurity (Fram et al., 2014). As a result, teachers, counselors, or other school staff may be unaware that an issue exists. Bernel et al. (2014) observed that food insecurity in children is associated with altered activities, school absenteeism, and stunting. Due to social workers' special value and skill set, school social workers or other social workers could be gatekeepers in combatting food insecurity and other issues associated with food insecurity (Sherman, 2016).

Literature has identified many factors that contribute to poor nutrition in children and families. Common contributors may include but are not limited to: skipping meals, lack of physical activity, the cost of healthy food, access to healthy food, lack of nutrition-related knowledge, and many other factors (Casey, Cook-Cottone, & Beck- Joslyn, 2012; Diehl, 2014;

Edwards & Cheely, 2016; Fram et al., 2014; Heo et al., 2016; Hoying, Melnyk, & Arcoleo, 2016; Juby & Meyer, 2010; Martinez & Kawam, 2014; Melius, 2013; Newton, 2013; Pappas, Ai, & Dietrick, 2015; Sealy & Farmer, 2011; Tanihata et al., 2012; Towery, Nix, & Norman, 2014; Walther et al., 2014; Wen, Tchong, & Ching, 2015). However, current research has been lacking on how social workers are currently taking action to combat issues of child obesity and food insecurityJuby & Meyer, 2010; Melius, 2013; Pappas et al., 2015.

The aging population. The aging population was the second most emphasized group in the literature on nutrition and social work. One of the major issues with the elderly and nutrition was malnutrition. Older adults may not be able to cook or shop for themselves, there may be a lack of nutrition-related knowledge, or they might have a lack of supports (Rizzo & Seidman, 2016). The aging population could be battling a physical or mental illness that impacts their eating behaviors. Jih et al. (2016) incorporated culture and nutrition with the aging population, and addressed that different cultures may have very different eating habits, perspectives on nutrition, or diet. Overall findings have shown that older adults lack in nutrition education, physical activity, fruit, and vegetable consumption, which all impacts quality of life (Jih et al., 2016; McNaughton et al., 2012; Rizzo & Seidman, 2016). So, it is obvious as to what the issues are regarding the aging population and nutrition, but it is not documented how or if social workers are addressing these issues, for instance, working in the interdisciplinary team, making referrals, or facilitating nutrition-related wellness activities (Casey et al., 2012; Diwan, Perdue, & Lee, 2016).

Programs

There are two categories of programs throughout the current literature on nutrition and social work. One is food assistance programs, which are known nationwide. The second is

nutrition programs, which are with smaller groups of individuals. The nutrition programs have primarily been implemented in schools or communities, whereas the food assistance programs target larger, more diverse groups of people in the United States.

Food assistance programs. Food assistance programs are programs which help individuals, families, children, and communities gain access to food. However, there are several barriers to accessing food, especially healthy foods. The food assistance programs that will be discussed only help with the financial aspect of obtaining food. As mentioned previously, barriers to food may include geographic location, lack of transportation, the cost of food, and many others.

Juby and Meyer (2010) discussed food assistance programs related to children and families, including the National School Lunch Program and the Fresh Fruit and Vegetable Program. The National School Lunch Program allows families that are struggling financially to have their children's lunches discounted or free, and families with several children in school especially benefit from it (Tran, 2014). The Fresh Fruit and Vegetable Program is in place to combat the ongoing child obesity epidemic (Juby & Meyer, 2010; USDA, 2016).

Other studied food assistance programs are WIC and the Supplemental Nutrition Assistance Program. WIC is in place to help those nutritionally at risk, such as low-income women, especially those that are pregnant, breastfeeding women, infants, and children (Juby & Meyer, 2010; Tran, 2014; USDA, 2015). The Supplemental Nutrition Assistance Program was formerly known as the Food Stamp Program. It is essentially the same concept as WIC, but it serves a larger population. It caters to low-income families and adults so that they can meet their basic food-related needs (Leung et al., 2015; Tran, 2014; USDA, 2016).

The food assistance programs relate to nutrition and social work in several ways. Case management often utilizes federal programs. Furthermore, they are major programs that social workers utilize in practice, and are prevalent in the current research focusing on nutrition and social work (Juby & Meyer, 2010; Leung et al., 2015; Tran, 2014).

Nutrition programs. Current research has shown that nutrition-related programs are on the rise, especially in schools. Schools are targeted because of the child obesity crisis, increasing mental illness among children or adolescents, and the fact that many children eat two of their three meals at school. All programs in current research seemed to be beneficial for children's physical health, mental health, or stress levels (Diehl, 2014; Heo et al., 2016; Hoying, Melnyk, & Arcoleo, 2016; Pappas, Al, & Dietrick, 2015; Towery, Nix, & Norman, 2014). The participants of nutrition-related programs also receive some nutrition education. Overall results have shown that program participants increase their intake of healthy foods and have an increased understanding of health and nutrition afterward (Diehl, 2014; Heo et al., 2016; Hoying, Melnyk, & Arcoleo, 2016).

Nutrition programs have also targeted individuals with severe mental illness. Clark, Bezyak, and Testerman (2015) found that a hands-on cooking class with demonstrations was beneficial for participants. Nutrition-related knowledge, shopping behaviors, and cooking abilities improved after being in the program. Nutrition programs are another area related to social workers. However current research does not adequately document such a practice and issues around it.

How Social Workers Are Taking Action

There are few studies conducted on how social workers integrate nutrition into practice. There are some conflicting statements in the literature on social work collaboration with

nutritional specialists. Rizzo and Seidman (2016) have reported that social workers often collaborate with nutritional specialists when working with the aging population. On the other hand, Shor (2010a; 2010b) indicated that social workers do not collaborate enough when it comes to nutrition.

The biggest two areas where social workers are taking action is in psychoeducation and connecting clients with resources (Casey et al., 2012; Jih et al., 2016; National Association of Social Workers [NASW], 2016). An example of psychoeducation in this area is educating clients about the benefits of healthy eating and exercise (Jih et al., 2016). As for connecting with resources, social workers often assist clients in finding food pantries (Yao et al., 2013).

Huskamp (2013) provided the most noticeable observation on how they integrate nutrition into practice, and the findings were various yet not conclusive. The majority of participants indicated that there is a nutrition section on the intake and assessment forms. Some social workers stated that they are not responsible for the nutritional domain of client's lives. Others go for a holistic approach, integrating yoga, deep breathing, or exercise into their practice. All of these findings indicate that there needs to be more research in the area of nutrition and how social workers *currently* integrate it into their practice.

Recommendations for Social Workers

The majority of current literature on nutrition and social work focuses on what social workers should be doing, rather than what they are doing about nutrition-related issues. Since most of the research focused on children or adolescents, the majority of recommendations targeted those populations. However, research has also suggested that social workers improve upon their knowledge of nutrition in social work practice.

There are several settings where social workers practice with children – in schools, home visits, family counseling, or individual counseling. Research suggests that social workers should be more involved with nutrition in the school setting (Edwards & Cheely, 2016; NASW, 2016; Newton, 2013). School social workers should be more involved because school is where some children eat most of their meals. Several studies indicate that social workers are beginning to take action in some way. Social workers are increasing nutrition-related education; working to improve nutrition programs for children; advocating for at-risk children; increasing prevention work, and addressing stigma related to obesity or food insecurity (Edwards & Cheely, 2016; Juby & Meyer, 2010; Lawrence, Hazlett, & Abel, 2012; NASW, 2016; Newton, 2013).

Outside of working with children and adolescents, there are many other actions social workers should take. Social workers should have a basic understanding of nutrition-related concepts as it could be relevant to any specialty of social work, especially with children, the elderly, or individuals with severe mental illness. Social workers should increase their collaboration with nutritional specialists; utilize a holistic approach in practice in order to serve the client's best interest; increase emphasis on "bio" in the biopsychosocial assessment; increase nutrition-related involvement in the community, and assist with nutrition-related policymaking (Acevedo, 2014; CSWE, 2016; NASW, 2016; Shor, 2010a;2010b; Siefert, 2013; Simulation IQ, 2013; Tran, 2014; Yousafzai et al., 2013). All of these recommendations make it appear as though social workers are doing little to nothing about nutrition in practice. However, there is a lack of research to show what social workers are doing, or have done in the past.

Gaps in Literature

There are several gaps in the current literature on social work and nutrition. These gaps include, but are not limited to 1) populations researched; 2) social work practice; and 3) social work education. These gap

Populations researched. Regarding social work and nutrition research, there are two populations in the spotlight over all other populations: children and the elderly. Both of these populations are important and at risk for poor nutrition. However, it is unknown where adults, other than pregnant women, stand regarding nutrition. Furthermore, there is not research on whether there are nutritional issues that social workers should address or be aware of with adults and nutrition. Lastly, while a lot of the research seemed to focus on the child obesity crisis, obesity as a public epidemic affects more than children. the Adults are also struggling with obesity; physical issues associated with obesity; mental health related impacts of obesity; and stigma associated with obesity.

Social work practice/evaluation. Nutrition and social work practice is the biggest gap in the current literature. There were few studies on how social workers integrate nutrition into practice. The studies that do exist were small scale, limited by geographic location, or culture. Current research has focused too heavily on what social workers should be doing in practice, rather than documenting and analyzing actions taken regarding nutrition and social work practice. It would be beneficial to understand how social workers incorporate nutrition into practice because physical health, mental health, and social equality correlates with diet in many different ways.

There is a lack of evaluation regarding social work and nutrition. Since there is a gap regarding social work practice and nutrition, a gap in evaluation is unavoidable. If social

workers are incorporating nutrition at the micro, mezzo, and macro levels, the impact is unknown. Current research has only focused on evaluating the impact of specific nutrition programs, usually those facilitated in middle or high schools. Overall, there needs to be an increase in the analysis of nutrition and social work at all levels. One of the starting points could be in social work education. Evaluation of social work education about nutrition could also help with understanding how many social workers know about nutrition, whether they would be comfortable incorporating nutrition into practice, or where they stand on the subject.

Social work education. Similar to social work practice, there is also a gap in the literature on nutrition and social work education. There were no studies focusing on nutrition education in social work curriculum, although, studies recommend that social workers increase their basic understanding of nutrition. A foundational understanding of nutrition concepts may allow social workers to understand and appropriately integrate nutrition into their practice. Furthermore, social workers can better diagnose by learning the difference between mental illness and nutritional deficiency. Finally, there does not appear to be a current standard for nutrition in social work education in graduate or undergraduate social work programs. There is no evidence as to whether or not social workers attend training or take continuing education courses on nutrition.

Chapter Three – Methods

Chapter three includes research questions and hypotheses; research design; sample population; methods and data collection; and the data analysis.

Hypotheses

There were three hypotheses in the exploratory research study. The researcher hypothesized that over 50% of social workers would not have had training on nutrition; over 50% of social workers integrate nutrition informally into practice; and over 50% would rate nutrition as having a "high value" with clients and in the field of social work.

Research Design

The research approach for this study was quantitative, with some qualitative elements. A quantitative study was helpful in obtaining a somewhat large dataset in a limited time since there is little research on social workers and nutrition. The anonymous online survey was cross-sectional. A cross-sectional survey design was most appropriate due to the limited recruiting period, limited resources, and exploratory nature of the research study. This design allowed for a comparison of many different variables in an efficient manner. The cross-sectional design was also a good fit because the survey measured multiple variables at one point in time. Furthermore, manipulation of the study environment could not occur, since the research involved investigating social worker's perceptions on the value of nutrition; past nutrition-related education; and nutrition and practice integration. An online survey was most likely more convenient for participants rather than an interview.

Sample Population

This research study focused on licensed master's level social workers in the state of Michigan. Specifically, social workers in Western and Southeast Michigan were recruited to

participate in the online survey. Master's level social workers were the sample population, rather than limited license or bachelor's level due to a higher level of experience in the field of social work.

The sampling method consisted of a variety of approaches. This research study utilized snowball, convenience, purposive, and quota sampling. A variety of sampling strategies were implemented due to the limited timeframe and resources. Initially, the targeted sample size for this study set at 150 to 300 participants.

The minimum number of participants changed during the IRB review process. Initially, data collection start date was October 10, 2016. The minimum number of participants lowered to 35 due to the length of time it took to obtain IRB approval. According to Belle (2002), a minimum of 30 participants is enough to have a normal statistical distribution.

Methods/ Data Collection

Recruitment. The online survey took place in November 2016 to **January 2017.** All recruitment took place online. Several studies suggest that online recruitment has been an efficient way of targeting social workers (Hussein, Manthorpe, & Stevens, 2011; Miller, Smith, Kliewer, Rosenthal, & Wedel, 2016; Park, Bhuyan, Richards, & Rundle, 2011). Social media and the school of social work listserv were the top two recruitment strategies.

The first major social media recruitment strategy involved posting study announcements on social media such as Facebook and Linkedin. Study announcements were posted on National Association of Social Workers-Michigan Chapter's social media pages; Arbor Circle, Wedgwood Christian Services, and network180's Facebook pages; and the announcement was also posted on the GVSU MSW and Social Workers and Therapists of SE Michigan group pages. The school of social work listserv was utilized multiple times during the recruitment period. The

researcher contacted individuals within Grand Valley State University to attempt to gain access to licensed social workers. These contacts included Grand Valley's social work continuing education and other professors in the school of social work. Continuing education was unable to give their list of eligible participants because the social workers were not signed up for emails outside of continuing education. The researcher contacted human resources departments in large mental health agencies in Western Michigan to attempt to gain access to licensed social workers. Several agencies declined for policy reasons. The researcher contacted colleagues and professors in Grand Valley's school of social work during the recruitment stage. Lastly, the researcher contacted the National Association of Social Workers-Michigan Chapter for participant recruitment. The strategies listed above were in no particular order. Once the IRB approved the research, the researcher utilized all recruitment strategies simultaneously.

The emails for participant recruitment included the link to the anonymous online survey. Including a link to the online survey in recruitment emails was easier for both the researcher and participants. The participants can simply take the survey at any time that is convenient for them. Easy access to the survey was designed to hopefully lead to a high response rate, compared to participants having to contact the researcher for the survey.

Once participants entered the survey, there were some essential recruitment and selection questions before the actual survey questions. The first question was: are you interested in participating in a study related to nutrition and social work? If participants answered "no" to this question, the survey form was submitted. The second pre-survey question was: have you obtained your LMSW in the state of Michigan? This question was an eligibility requirement. The study included participants in the state of Michigan only because of limited resources and time. If participants answered "no" to this question, the form was submitted, and participants were

unable to answer the survey questions. Lastly, the survey directed participants to the informed consent form. Participants were required to respond to the statement: I have read through and understand the study information listed above. Again, if participants selected "no," they were not able to access the actual survey questions.

Instrument. Based on the conceptual frameworks – person-in-environment perspective and biopsychosocial approach – a survey instrument was developed for this exploratory study. It contained 18 questions on social work education or training, value of nutrition with clients and in the field of social work, and nutrition integration. They tested three hypotheses respectively.

The first section of the survey consisted of questions directly related to nutrition and social work. Nutrition and social work-related questions were in the first section because those questions were the most difficult and thought-provoking questions. It was best to include study-related questions at the beginning to avoid participant fatigue on key questions. The second section of the online survey included a demographic question. The demographic question was last due to it being the easiest question for participants to answer.

The first section asked background questions such as 1) how long have you been working in the field as an LMSW; 2) what is your specialty within the field of social work, and 3) what setting do you currently work. Those three questions were in a short answer format. From there the survey asked open and closed-ended questions about nutrition-related education or training that social workers have received. If the participant has received some nutrition education, there were three follow-up questions to obtain additional information. The follow-up questions were: 1) please specify the class or training; 2) what was the class or training about, and 3) how valuable was the training in current practice. These questions allowed the researcher to begin to understand what types of nutrition-related training or education is available to social workers,

and how useful they have been in practice. Furthermore, there were more questions involving nutrition-related training and education. One question asked whether participants have received nutrition training after receiving their graduate degree. Follow-up questions asked what the training was about and the type of training participants received.

The second half of the first section focused on the value of nutrition in social work. There were three value questions: 1) how valuable do you feel nutrition is in social work education (for any specialty); 2) how valuable do you feel nutrition-related knowledge is when working with clients; and 3) how do you feel about collaboration with nutritional specialists in social work practice. These questions were in place to get an idea of social workers' thoughts on nutrition in different areas, without a long answer. There were also a few questions on collaboration with nutritional specialists. The purpose of those questions was to explore whether collaboration takes place; the frequency of collaboration; and how social workers feel about collaboration with nutritional specialists. The last two questions of section one asked whether social workers integrate nutrition into practice, furthermore, how social workers integrate nutrition.

The second section consisted of a demographic question. The demographic question simply focused on age. The question was in a short answer format. The purpose of the question on age was to analyze the diversity within the sample. Age and views on nutrition will also be analyzed.

After participants have completed the survey, a confirmation message appeared on their screen. The online survey was only open for approximately two months. After the data collection period had passed, the survey closed, and participants were no longer able to respond to the survey link.

Justification of methods. Most of the justification for the research methods stemmed from the pilot study conducted for a master of social work research methods course in a Midwestern public university. Regarding participant recruitment, one of the limitations of the pilot study occurred in the mass emails to participants; the researcher did not include the link to the online survey. Therefore, participants had to contact the researcher to gain access to the survey. Since the survey link was not readily available in recruitment emails, participants may have been less likely to respond because of the extra step (Harter, 2016).

There was another issue regarding recruitment in the pilot study. The researcher did not have enough strategies in place for recruitment. For example, the school of social work listserv was the main recruitment method. This study had additional backup plans, such as contacting social work continuing education directors and posting on social media. Lastly, the researcher was more aggressive and proactive at the beginning of the recruitment period compared to the pilot study (Harter, 2016).

The reasoning behind the methodology also stemmed from the exploratory nature of the study. An online survey seemed to be the best data collection modality because it allowed the researcher to obtain a large amount of information from a variety of participants. Accessing larger groups of participants was beneficial because there are huge gaps in the current literature on nutrition and social work practice, education, and research. The survey contained a mixture of multiple choice, Likert scale, and short answer questions. Most questions were closed-ended. However, six survey questions were open-ended. There were 18 total questions on the online survey. Participant responses were completely anonymous. Survey questions were adjusted to address areas that were missing from the pilot study, for example, social work continuing education. The researcher added additional survey questions for more depth, which was lacking

in the pilot study. The additional survey questions focused on getting more information regarding how social workers integrate nutrition into practice, along with their education or training received pre and post-MSW.

Human subject protection. Quantitative data collection took place in an anonymous online survey. Participants took the online survey through Google Forms. However, it is in no way proven to be internally consistent or valid. The research was not internally consistent or valid due to the exploratory nature of the study.

It is important to mention that the researcher has completed the Epigeum Responsible Conduct of Research training through Grand Valley State University on September 24, 2016. Since the research was of minimal risk, it was unlikely that a major ethical dilemma would occur. However, there were some potential ethical dilemmas. One, it was possible that potential participants would believe that the online survey was required for their employment or continuing education. This ethical dilemma was addressed immediately in the recruitment email and the informed consent portion of the survey. The informed consent clearly stated that the survey is completely voluntary and not required for employment.

Another possible ethical dilemma was that participants might believe that their survey responses could impact their employment. For example, participants could have thought that they could lose their job if they selected "low value" for nutrition-related knowledge with clients. However, the informed consent and online survey clearly stated that responses would not impact their employment in any way. The recruitment posts or emails noted that participant responses were anonymous. The survey questions collected no identifying information. Furthermore, participants had the option to withdraw from the study at any point in time, or not answer certain questions. The researcher provided a "prefer not to answer" choice. As mentioned previously,

the voluntary nature of the study was clearly described in the informed consent. The only questions that participants were required to answer were 1) have you obtained your LMSW in the state of Michigan; and 2) I have read through and understand the study information listed above.

Data Analysis

Open coding. After the online survey closed for responses at the end of January 2017, the data was downloaded as a Microsoft Excel spreadsheet for coding. The purpose of coding was to reformat the data so it could be analyzed. Ordinal, categorical, and other survey questions were coded appropriately.

Questions with yes, no, or don't know options were formatted into don't know=2; yes=1; and no=0. For the question, "How long have you been working in the field as an LMSW," responses were grouped into six different categories - <1 year=1; 1-5 years=2; 6-10 years=3; 11-15 years=4; 16-20 years=5; and 21-25 years=6. Eight different codes were created for specialty within the field of social work – Mental health=1; Substance abuse=2; Medical=3; Trauma=4; Geriatrics=5; Children and families=6; Child welfare=7; and Other=8. The "other" category was created for specialties that did not fit into the other categories. The researcher created ten different categories for the setting in which the respondents currently work. Private practice=1; Community Mental Health=2; Hospital/Doctor's Office=3; College/University=4; Residential=5; Crisis Intervention=6; Home-based=7; Headstart-12th grade=8; Non-profit=9; and Other=10. Again, the "other" category was created for settings that did not fit in the other categories. The specialties and settings could be connected to the three social-health issues – mental health, obesity, and food insecurity. For example, participants with a medical specialty may have more opportunities to integrate nutrition. Or, social workers in child welfare could be addressing the

issue of food insecurity in practice. Furthermore, it is important to analyze where nutrition is being addressed in practice. For value-related questions – High value=1; Moderate value=2; Neutral=3; Low value=2; No value=1; and Prefer not to answer=0. For, "what was/were the nutrition class(es)/training(s) about," Eating disorders=1; Healthy eating habits=2; Medical (i.e. diabetes)=3; Nutrition and mental health=4; Substance abuse=5; and Other=6. The "other" category consisted of responses that did not answer the question. For, "how often do you collaborate with nutritional specialists," Daily=7; Every few days=6; Weekly=5; Bi-weekly=4; Monthly=3; Prefer not to answer=2; and Other=1. For, "how do you feel about collaboration with nutritional specialists in social work practice," Strongly in favor=8; Somewhat in favor=7; Neutral=6; Somewhat opposed=5; Strongly opposed=4; Mixed=3; Do not care=2, and Prefer not to answer=1. Finally, eight categories were created for, "how do you integrate nutrition into your current practice," – Psychoeducation=1; Collaboration=2; Group topic=3; Assess=4; Connect with Resources=5; Therapeutic Intervention=6; Advocate=7; and Other=8. Missing responses were coded with an asterisk to make them stand out from the rest of the data.

The researcher coded the data with the "find and replace" Excel tool. After coding and reformatting were completed, the Excel spreadsheet was uploaded into IBM's Statistical Package for the Social Science (SPSS) version 22.

Data analysis tests. Quantitative data analysis was conducted through SPSS 22 and Google Forms. Google Forms was utilized because it provides basic information from online survey results such as percentages in the form of pie charts or bar graphs. In SPSS, descriptive statistics tests, frequency tables, independent samples t-tests, and Spearman's rho correlations were used to analyze the results of the online survey.

Descriptive statistics were utilized in a few different areas on the survey results. The value questions on the survey are on a one to five scale, one being "no value" and five being of "high value." Analyzing the social work and nutrition value questions on the survey will be beneficial to see the distribution of responses along with the average. Age was also analyzed with descriptive statistics tests in SPSS. The purpose of this was to see the average age of participants.

Frequency tables were utilized with ordinal survey questions. Frequency tables were helpful in visualizing the number of participants that selected certain answers. The frequency table was used with the value questions related to nutrition knowledge with clients, value of nutrition in social work education, and value of collaboration with nutrition specialists.

Independent samples t-tests were utilized survey results. For the pilot study, the independent samples t-test was used to compare two groups: social workers that do not collaborate with nutritional specialists and social workers that do collaborate with nutritional specialists. This allowed the researcher to examine whether answers differed between the two groups.

Finally, Spearman's rho correlations will be utilized with the online survey results. The study used Spearman's rho correlations to examine the relationships between certain questions on the survey. These questions included: 1) the value of nutrition in social work education; 2) the value of nutrition with clients; 3) the value of collaboration with nutritional specialists in the field of social work, and 4) whether nutrition education would have had a positive impact on current practice. The relationships between the questions previously mentioned have shown positive correlations between the majority of them. Furthermore, the researcher has consulted with the statistical assistance center at Grand Valley State University.

Open-ended questions. There were seven short answer questions on the online survey. Some were simpler, for example: how long have you been working in the field as an LMSW. Other questions were more complex and therefore required further analysis. An example is: how do you integrate nutrition into practice. The open-ended questions were analyzed using conventional content analysis and open coding.

Data from open-ended questions were analyzed using descriptive statistics and frequency tables. Length of time in the field as a LMSW and age were analyzed using descriptive statistics. Specialty in the field of social work, setting, nutrition training topic, and method of nutrition integration were reported in results as frequency tables.

Chapter Four – Results

Chapter four includes the data analysis. Statistical tests using SPSS 22 included frequency tables, spearman's rho correlations, descriptive statistics, and independent samples t-tests.

Participants

There was a difference in the number of overall responses (n=53) compared to valid responses (n=45). Eight participants (n=8) attempted to take the survey that did not have their LMSW in the state of Michigan. The non-LMSWs could not be included in the final sample because they could not reach the survey questions if they did not meet the eligibility requirements as per the online survey settings. Regarding the number of years of experience in the field as a LMSW, there was a wide range of years – with the shortest at one month, and the longest at 23 years of experience. The LMSWs that participated in the online survey came from many different backgrounds. Specialties in the field of social work were as specific as anxiety disorders to as general as aging, medical social work, mental health, or addiction. Participants reported working in a variety of settings. Some examples included community mental health, university, private practice, and crisis intervention. Finally, the age of participants ranged from 23 to 65.

Frequency Tables

Data were analyzed using frequency tables, including participant responses on nutrition education, value questions, collaboration, and integrating nutrition.

Nutrition education. There were some interesting findings regarding participants' nutrition-related education pre and post-MSW. As Appendix C shows, the majority of participants (n=42, 93.3%) did not receive any nutrition-related education or training while in

graduate school. A meager 6.7% (n=3) of participants did receive nutrition-related education while in graduate school. Of those that did receive education, 66.7% (n=2) took a class that incorporated nutrition in some way. While 33.3% (n=1) reported "other" for the question of "Please specify the class or training." Furthermore, 33.3% (n=1) of participants that did receive nutrition-related education in graduate school reported it as having a "high value" in their current practice. The majority of participants (n=2, 66.7%) rated their nutrition education as having a "moderate value" in their current practice. No participants ranked their past nutrition training or education as "neutral," "low value," or "no value."

Post-MSW nutrition education was significantly different from pre-MSW. The majority of participants (n=26, 57,8%) did not receive nutrition-related education or training after graduate school. However, 42.2% (n=19) of participants reported receiving some sort of nutrition education after graduate school. From the results on nutrition education pre- to post-MSW, we can reject H_0 since over 50% of participants have not received any nutrition education. Interestingly, the difference in the number of participants that received education pre-MSW to post-MSW was 35.6% (n=16). The training or education topics included eating disorders (n=2, 9.1%); healthy eating habits (n=5, 22.7%); medical-related nutrition (n=5, 22.7%); nutrition and mental health (n=3, 13.6%); substance abuse and nutrition (n=3, 13.6%); or "other" (n=4, 18.2%).

For the question, "would training have been beneficial in current practice," the majority of participants (n=29, 64.4%) selected "yes." Eight participants (17.8%) reported that training would not have been beneficial in their current practice. Six participants (13.3%) selected "don't know."

Value questions. For the question, "how valuable do you feel nutrition is in social work education (for social workers going into any specialty)," the majority of participants (n=19, 43.2%) responded with "moderate value." The next highest rating was "high value" with 38.6% (n=17) of respondents. "Neutral" and "low value" were tied in the ranking of value of nutrition in social work education with 9.1% (n=4) for each response. No participants ranked nutrition as having "no value" in social work education.

For the question, "how valuable do you feel nutrition-related knowledge is when working with clients," the majority of participants (n=22, 50%) reported "moderate value." "High value" was the next highest at 40.9% (n=18). Three participants, or 6.8%, gave nutrition a "low value" ranking when working with clients. One participant, 2.3%, ranked nutrition as having a "neutral" value when working with clients. Finally, no participants selected "no value" or "prefer not to answer."

Finally, for "how do you feel about collaboration with nutritional specialists in social work practice," the majority of participants (n=29, 65.9%) responded with "strongly in favor." Nine participants (20.5%) reported "somewhat in favor." Four participants (9.1%) reported "neutral." One participant (2.3%) responded with "mixed." Lastly, 2.3% (n=1) reported "do not care." None of the participants answered with "somewhat opposed" or "strongly opposed." From the results on social workers' perceptions on nutrition, we fail to reject H_0 because over 50% of participants did not rank nutrition as having a "high value" in social work education and with clients.

Collaboration. The majority of participants (n=29, 64.4%) reported that they do not collaborate with nutritional specialists in their current practice. Sixteen, or 35.6% of participants reported that they do collaborate with nutritional specialists in their current practice. Seven

participants (43.8%) reported "other" for how often they collaborate with nutritional specialists. Of those seven participants, most reported "as needed," or "on a case-by-case basis," for their explanation of their "other" response. Three respondents (18.8%) collaborate with nutritional specialists on a monthly basis. Three respondents (18.8%) reported collaborating with nutritional specialists weekly. One participant (6.3%) collaborates with nutritional specialists bi-weekly. One participant (6.3%) collaborates with nutritional specialists every few days. Lastly, one participant (6.3%) collaborates with nutritional specialists on a daily basis. No participants reported "prefer not to answer."

Integrating nutrition. The majority of participants (n=30, 68.2%) reported that they do in fact integrate nutrition into their current practice. Thirteen participants (29.5%) do not integrate nutrition into practice. One participant (2.3%) reported "don't know" for whether they integrate nutrition into practice. No participants selected "prefer not to answer."

Of those participants that did report integrating nutrition into practice, the majority by far integrated nutrition through psychoeducation (n=21, 60.0%). Psychoeducation could include having a simple discussion on the importance of healthy eating, talking about the link between nutrition and mental health, or discussing nutrition and physical health and how that impacts a client's emotional state. Another way that social workers integrated nutrition into practice was through collaboration with a nutritional specialist (n=3, 8.6%). Some participants reported using nutrition as a group topic (n=2, 5.7%). Participants (n=2, 5.7%) assess nutrition in practice through the intake or by tracking client symptoms and diet. Respondents (n=2, 5.7%) reported connecting clients with resources such as a food bank or primary care physician to address nutrition in practice. One social worker (2.9%) integrated nutrition through therapeutic intervention. Another social worker (2.9%) advocates for their clients in response to nutrition-

related issues. Finally, three participants (8.6%) reported that they integrate nutrition informally or on a case-by-case basis. From the results on nutrition integration, we fail to reject H_0 because over 50% of participants integrate nutrition, with only 8.6% reporting that integration was informal.

Specialty. There were eight different categories for specialties in the field of social work: 1) mental health; 2) substance abuse; 3) medical; 4) trauma; 5) geriatrics; 6) children and families; 7) child welfare; and 8) other. The majority of participants either worked in mental health (n=14, 23.7%) or with children and families (n=10, 16.9%). Participants also had specialties in substance abuse (n=9, 15.3%); geriatrics (n=6, 10.2%); medical social work (n=5, 8.5%); trauma (n=5, 8.5%); child welfare (n=3, 5.1%); and "other" (n=7, 11.9), which included macro social work, corrections, disability services, and women's issues.

Descriptive Statistics

Participants' ages were analyzed using descriptive statistics. Forty-three participants responded to the question on age. The minimum age was 23, and the maximum was 65. The mean age of participants was 32.88, and the standard deviation was 8.370. Participants' length in of time in the field in years as a LMSW was also analyzed. The mean number of years was approximately 7.04. The minimum length of time as an LMSW was one month. The maximum was equal to 23 years.

Spearman's Rho Correlations

A series of Spearman's Rho correlations were conducted to examine potential relationships between the following questions: 1) how valuable do you feel nutrition-related knowledge is when working with clients; 2) how valuable do you feel nutrition is in social work education (for social workers going into any specialty); and 3) do you feel that nutrition-related

training or classes would have been beneficial in your current practice. A two-tailed test of significance revealed that there was a strong positive correlation between questions one and two $r_s(44) = .868$, $p < .05$. A second two-tailed test of significance determined that there was no significant correlation between questions two and three, along with one and three. The p-value for the previous two tests was greater than .05, so it cannot be concluded that the correlation is different than 0.

Independent Samples t-tests

Independent samples t-tests were conducted to compare participants that collaborate with nutritional specialists (n=15) with those that do not (n=28). The first comparison was made on the question, "would nutrition training have been beneficial in your current practice." There was not a significant difference in the scores for social workers that collaborate (M=1.07, SD=0.594) and social workers that do not collaborate with nutritional specialists (M=0.89, SD=0.567); t(41)=0.943, p=0.351. These results suggest that collaboration with nutritional specialists did not impact social workers' responses on the topic of whether nutrition training would have been beneficial for them in current practice.

Another independent samples t-test was conducted on the question related to the value of nutrition in the field of social work. The same two groups were compared. The test revealed that there was not a significant difference in the scores for social workers that collaborate (M=4.19, SD=1.109) and social workers that do not collaborate with nutritional specialists (M=4.07, SD=0.813); t(24.363)=0.366, p=0.717. These results suggest that collaboration with nutritional specialists did not impact social workers' responses on the topic of the value of nutrition in the field of social work.

Finally, an independent samples t-test was conducted on the question involving the value of nutrition-related knowledge with clients. Again, the same two groups were compared. The test revealed that there was not a significant difference in the scores for social workers that collaborate (M=4.31, SD=0.873) and social workers that do not collaborate with nutritional specialists (M=4.21, SD=0.787); t(42)=0.383, p=0.704. These results suggest that collaboration with nutritional specialists did not impact social workers' responses regarding the value of nutrition-related knowledge with clients.

Chapter Five – Discussion

Chapter five includes the most critical findings of the research study; several interpretations of the results; potential relationships between the findings; possible causes of findings; how the results fit in with current literature on social work and nutrition; and the results in relation to the original research questions. The discussion is broken up into three subsections: 1) nutrition training; 2) integrating nutrition; and 3) perceptions on the value of nutrition.

Nutrition Training

There were several interesting findings to consider. The first major finding related to nutrition training that social workers received. Before receiving their MSW, or while in graduate school, the majority of participants (n=42) did not receive any nutrition-related training. After graduate school, the majority of participants still did not receive any nutrition training (n=26), but there was a significant difference in participants that received nutrition training. It is interesting how big of a jump there was in participants pre-MSW to post-MSW.

There are several reasons as to why participants had more nutrition training post-MSW. Nutrition and mental health, or nutrition in the field of social work is a somewhat new relationship. Awareness of the importance of nutrition continues to grow in the mental health field (Clark et al., 2015; Harbottle, 2011; NASW, 2016; Newton, 2013; Tran, 2014). Agencies may have required that social workers attend nutrition trainings, especially if they work in a medical setting. Furthermore, Appendix C shows that 8.5% of participants are medical social workers. Another possible reason for the increase in nutrition training is that participants simply may have been in the field longer, therefore receiving more training on a variety of topics. The descriptive statistics support this interpretation because the mean was 7.04 years for length of

time as a LMSW. In addition, participants ranged from one month to 23 years in the field as a LMSW.

The topic of nutrition training in the field of social work is not highly researched. However, current literature suggests that social workers are not typically trained or involved with nutrition in practice. So, the finding that the majority of participants were not trained on nutrition pre and post-MSW fits in with the literature. Lastly, the finding supports the researcher's hypothesis that over 50% of social workers would not have any training on nutrition.

An additional finding was that the majority of participants (n=29, 64.4%) reported that nutrition training would have been beneficial in current practice. There was not a follow-up question asking why it would have been beneficial, so that is left for speculation. There are many different reasons that participants felt that training may have been beneficial in current practice. Again, nutrition is growing in the field of social work, so participants might have wanted to educate themselves on the subject. Participants may work with clients that ask nutrition-related questions that they cannot answer without training. Participants might not have the opportunity to collaborate with nutritional specialists, therefore need to take it upon themselves to learn about nutrition.

Integrating Nutrition

There were a couple of findings to consider in relation to integrating nutrition in social work practice. The majority of participants (n=30, 66.7%) reported that they integrate nutrition into their practice. Out of the 30 participants that integrate nutrition, the majority utilize psychoeducation (n=21, 60.0%). The rest of the participants collaborated with nutritional specialists (n=3, 8.6%); used nutrition as a group topic (n=2, 5.7%); assessed nutrition by symptom tracking or through the intake assessment (n=2, 5.7%); connected clients with

resources (n=2, 5.7%); utilized a therapeutic intervention to address nutrition (n=1, 2.9%); advocated for their client (n=1, 2.9%); or integrated nutrition in some other way (n=3, 8.6%). Lastly, the majority of participants (n=29, 64.4%) reported that they do not collaborate with nutritional specialists.

There are a number of possible reasons for the findings involving the integration of nutrition. Psychoeducation might be the most popular way to integrate nutrition due to its informal nature. A client might ask a nutrition-related question in session, and it could be a brief discussion on nutrition. Psychoeducation is perhaps less involved than meeting with a nutritional specialist, using nutrition as a group topic, or advocating for clients. Psychoeducation could possibly be utilized the most by social workers because a nutrition question could be on the intake assessment. As a result, the assessment sparks a conversation on nutrition. The literature also suggests that psychoeducation was one of the top ways that social workers integrate nutrition into practice (Casey et al., 2012; Jih et al., 2016; NASW, 2016).

In a way, it makes sense that the majority of participants do not collaborate with nutritional specialists. Social workers often have busy schedules, involving large caseloads. Social workers may not have time to meet with nutritional specialists. In addition, all participants most likely did not have access to a nutritional specialist. Current literature indicates that social workers do not collaborate enough (Shor, 2010a; 2010b), and that social workers collaborate mainly when working with the aging population (Rizzo & Seidman, n.d.). Finally, this finding does not support the researcher's hypothesis that over 50% of social workers collaborate with a nutritional specialist.

Perceptions on Nutrition

Two questions on the online survey were created to attempt to understand social workers' perception on nutrition. These questions asked participants about the value of nutrition in the field of social work, along with the value of nutrition-related knowledge with clients. The majority of participants (n=19, 42.2%) selected "moderate value" on the value of nutrition in social work. The next most popular choice for the value of nutrition in social work was "high value" (n=17, 37.8%). The majority of participants (n=22, 48.9%) also selected "moderate value" for the value of nutrition-related knowledge with clients. "High value" was the next most popular selection (n=18, 40%) for the value of nutrition-related knowledge with clients. A Spearman's rho correlation indicated that the two value questions were positively correlated.

One possible reason for "moderate" responses is the central tendency bias, which is when survey participants choose neutral responses rather than extreme. The extreme response in this case would be "high value." Although, this may not be true since more participants selected "low value" (n=3, 6.7%) over neutral (n=1, 2.2%) on the question of nutrition knowledge with clients. For the value of nutrition in the field of social work, an equal number of participants selected "neutral" (n=4, 8.9%) and "low value" (n=4, 8.9%).

Social workers could feel differently about nutrition in the field of social work and nutrition knowledge with clients based on the setting in which they work. Social workers that work with the aging population, or children and families might see nutrition-related issues arise more than social workers that specialize in domestic violence. So, it is possible that participants could perceive nutrition as having a low value with clients and in the field of social work if they do not view it as an issue. Participants may not see value in nutrition simply because they do not have enough time to address it in practice.

The ratings on the value questions of the survey could have to do with the participant's own preferences. If they do not value nutrition in their own lives, they might not see the value of nutrition with clients or in the field of social work. Every participant came from a different background, with a different worldview. So, if nutrition was not part of the participant's culture, they also may not see a value in it.

As mentioned previously, the majority of participants did not receive any nutrition training pre (n=43, 93.3%) or post-MSW (n=19, 57.8%). This finding could be relevant to the findings on value questions. If participants did not receive any nutrition training, they might perceive it as having a low value with clients or in the field of social work in general.

Collaboration could be another factor to examine in relation to participants' ratings on the value questions of the survey. It could be argued that participants' perceptions of nutrition in the field of social work, or with clients were impacted by collaboration with nutritional specialists. However, independent samples t-tests suggested that participants' responses were not influenced by collaboration.

Chapter Six – Conclusion and Implications for Social Work Practice

Chapter six includes significance of the study and implications of findings for social work policy, practice, and research. This chapter also includes the limitations and conclusion sections.

Policy

The overall findings suggest some changes that could be made to policy. As mentioned previously, nutrition and social work is a new relationship that is gaining awareness over time. One of the major findings was that the majority of participants did not receive any training on nutrition pre and post-MSW. MSW programs could begin to require a course on nutrition, or integrate nutrition into existing courses. Nutrition is a subject that applies to all populations, and cannot be separated from the person-in-environment perspective. Nutrition is known to influence mental health and vice-versa (Clark et al., 2015; Harbottle, 2011; NASW, 2016; Newton, 2013; Tran, 2014).

Another policy change could involve agencies in field of social work. The majority of participants reported that nutrition training would have been beneficial in current practice. Agencies could begin to hold mandatory trainings on nutrition for their staff. At the very minimum, agencies that work with children, families, and the aging population could require trainings. Nutrition training could be especially valuable with children and the aging population (Edwards & Cheely, 2016; Juby & Meyer, 2010; Lawrence et al., 2012; NASW, 2016; Newton, 2013; Rizzo & Seidman, n.d.).

Another area of further research is nutrition and social work education. The extent in which social workers are trained on nutrition is unknown. This research study indicated that the

majority of social workers were not trained on nutrition pre and post-MSW, yet the majority of participants reported that nutrition training would have been beneficial in practice.

This study could potentially have an impact on local mental health agencies in West Michigan. Agencies may see nutrition-related gaps that they have not addressed in their agency. Mental health agencies could possibly change their intake assessment or training requirements. Social workers in West Michigan may get involved in more advocacy or macro work related to nutrition.

Practice

The findings led to some practice implications in relation to nutrition and social work. Only one of the 45 participants reported that they advocate for clients and their nutrition. There could be more macro-level work on the subject of nutrition in social work. Social workers could advocate for clients, write grants for nutrition programs or resources, or be involved in policymaking involving nutrition.

Another change involves the intake assessment. If they are not already, agencies could assess client's nutrition in the intake. Only one participant reported that their agency's assessment tool incorporates nutrition. Even if social workers have no desire to incorporate nutrition in their practice, the assessment would at least provide some documentation regarding the client's nutrition. That would give a space for the client and social worker to discuss any concerns or questions the client has on nutrition.

This study may have an impact on social workers in West Michigan. They may decide to engage in nutrition research to inform their practice. From this study, social workers could get involved with nutrition-related workshops, or increase their nutrition integration in practice. Social workers could begin to collaborate with nutritional specialists if they have not in the past.

Research

There are several implications for social work research. This research study was meant to be an exploratory foundation for future research in nutrition and social work. There are few studies in the current literature that focus on nutrition and social work. More research on nutrition and social work in general could be beneficial in order to understand the next steps for social work practice and policy.

It would be interesting to conduct further research on how social workers integrate nutrition into practice. A national study on social workers could show where nutrition in practice is most prevalent, along with the top method of nutrition integration. Although the results from this study were interesting, they were not generalizable. Furthermore, research should focus on the outcomes of integrating nutrition in social work practice.

This study may have an impact on social work research. Since this study is exploratory, social workers could possibly build on this research in the future. A large-scale nutrition study focusing on LMSWs could be an opportunity for researchers with a lot of resources and a flexible timeline. Research on social work and nutrition is especially relevant in states with high rates of obesity and food insecurity.

Limitations

There were several limitations to consider from this research. The biggest limitation is the small sample size. The researcher initially planned to recruit participants from local large mental health agencies in West Michigan. However, the researcher did not obtain approval from these agencies prior to the IRB review process. Several agencies that were contacted before IRB approval refused to send mass emails to potential participants for policy reasons. The limitations in recruitment yielded the small sample size.

Another limitation of this study was the lack of diversity within the sample. Social media and the school of social work listserv were the two main recruitment methods. Utilizing those two recruitment methods raised questions regarding where the participants were located in Michigan. Posting on the Facebook pages of large mental health agencies does not show up in their main feed. Facebook has a "visitor posts" section on Facebook pages, which is limited to a small part of the page on the right-hand side. So, people do not see these posts unless they visit the agency's Facebook page. As a result, clients probably saw the recruitment posts more than licensed social workers since they were reviewing the mental health agencies. Lastly, some mental health agencies do not even allow visitor posts on their page. Or, a recruitment post could be pending until the agency approves it to be on their Facebook page.

Sampling was another limitation of this study. Since the sampling strategy was non-random, this study may have only included social workers who were interested in nutrition. It would have been best to randomly sample social workers in the state of Michigan from the licensing list.

The instrument was another limitation of this study. Although it was used in a pilot study, the online survey was not tested for reliability or validity. It also would have been useful to ask participant feedback on the survey.

In short, results from the small and homogeneous sample size are in no way generalizable. There was simply not enough time or resources to obtain enough participants for the results to be generalizable across the state of Michigan.

Conclusion

There were three major findings from this study. One, is that nutrition education increased significantly while in graduate school (6.7%) to during MSW practice (42.2%). Two,

the majority of participants (68.2%) integrated nutrition into their practice. Out of those that integrated, psychoeducation was the top nutrition integration method (60%), which is consistent with the previous literature. Three, participants rated nutrition as having a "moderate value" with clients and in social work education. Most reported that nutrition would have been beneficial in their current practice (67.4%).

This study was one of few on nutrition and social work. It worked to address gaps in the literature involving the relationship between nutrition and social work education, practice, and perceptions on nutrition. Surveying social workers further adds to the discussion and awareness of nutrition in the field. This research also defined relevant terms such as nutrition and diet, which was lacking in current literature.

It is critical that social workers are aware of nutrition in the field of social work. Nutrition is embedded in the person-in-environment and biopsychosocial perspectives as the physical and biological, respectively. Current literature reports that nutrition impacts clients at every level – micro, mezzo, and macro. Nutrition impacts mental health, and vice versa (Clark et al., 2015; Harbottle, 2011; NASW, 2016; Newton, 2013; Tran, 2014). Often times, low-income families do not have access to healthy foods (Casey et al., 2012). At the macro level, systemic barriers are in place such as the high cost of healthy foods (Feeding America, 2016). It is also known that there are three urgent and ongoing social-health issues related to nutrition – food insecurity, the obesity crisis, and mental illness.

In conclusion, although findings of this study are not generalizable, they not only have added new evidence to limited knowledge on nutrition and social work, but also invite social work practitioners and social worker educators to engage in this important but undervalued conversation. There is much research to be done on the topic of nutrition and social work. This

quantitative study only scratched the surface in regard to social workers' perceptions on nutrition, how they integrate nutrition into practice, and the training they have received on the value of nutrition. Further research is required to address gaps in the relationship between nutrition and social work. From this study, there seems to be a gap in the social workers that integrate nutrition (68.2%) and those that have received nutrition education (42.2%). Without addressing nutrition in the lives of clients, we are not seeing the whole person and we are doing them a serious injustice. According to this study and current literature, social workers should be more involved in the mezzo and macro levels of social work.

Appendix A: Information Sheet

1. TITLE Nutrition and the Person-in-Environment Perspective: Implications for Social Work

2. RESEARCHERS Principal investigator: Kayla Harter

Faculty advisor: Lihua Huang

3. PURPOSE The purpose of this study is to explore social worker's perceptions on nutrition in social work practice and education. Nutrition for the purpose of this study means, "The process of getting food into the body that is necessary for health and growth" (Edwards & Cheeley, 2016, p. 172).

4. REASON FOR INVITATION The reason for inviting individuals to participate is to explore social worker's perceptions on nutrition in the field of social work. Furthermore, how social workers integrate nutrition into practice.

5. HOW PARTICIPANTS WILL BE SELECTED

• Social workers with their Licensed Master of Social Work (LMSW) in the state of Michigan are eligible to participate in this study.

• Individuals that have not yet obtained their LMSW are not eligible because they most likely have less experience in the field of social work.

6. PROCEDURES

• To participate in this study, you will partake in an anonymous online survey study through

Google Forms.

• The survey will take approximately 10 to 15 minutes.

• There are no out of pocket costs for participating in this study.

7. RISKS There are minimal risks involved in this study, no more than experienced in the daily activities of a social worker. Participation in this study will not compromise your position as a social worker. No physical or psychological discomfort is anticipated as a result of this study. Should a mental or physical health need arise during the study, you will be referred to the proper services.

8. POTENTIAL BENEFITS TO YOU There are no direct or indirect benefits from your participation in the study.

9. POTENTIAL BENEFITS TO SOCIETY One possible indirect benefit to society is that it may improve future social work practice related to nutrition.

10. VOLUNTARY PARTICIPATION Your participation in this research study is completely voluntary. You do not have to participate. You may quit at any time without any penalty to you.

11. PRIVACY and CONFIDENTIALITY Your name will not be given to anyone other than the research team. All the information collected from you or about you will be kept confidential to the fullest extent allowed by law. In very rare circumstances specially authorized university or government officials may be given access to our research records for purposes of protecting your

rights and welfare. The information collected will be used for the stated purposes of this research project only and will not be provided to any other party for any other reason at any time. Participants should be aware that although the information they provide is anonymous, it is transmitted in a non-secure manner. There is a remote chance that skilled, knowledgeable persons unaffiliated with the research project could track the information you provide to the IP address of the computer from which you sent it. However, their personal identity cannot be determined.

The survey will be anonymous. Data will be stored in a password-protected Google account, on a password-protected computer. The data security and terms of agreement for the services used have been read. Google's information security section of their privacy policy includes the following: "We encrypt many of our services using SSL. We review our information collection, storage and processing practices, including physical security measures, to guard against unauthorized access to systems. We restrict access to personal information to Google employees, contractors and agents who need to know that information in order to process it for us, and who are subject to strict contractual confidentiality obligations and may be disciplined or terminated if they fail to meet these obligations." Study results may be published or presented to the public, however, identifying information will not be included. Lastly, the researcher's thesis chair may access the study data to assist with data analysis.

12. RESEARCH STUDY RESULTS If you wish to learn about the results of this research study you may request that information by contacting: _Kayla Harter_____.

13. PAYMENT There will be no payment for participation in the research.

14. AGREEMENT TO PARTICIPATE By checking the box below, you are stating the following:

• I have read the details of this research study including what I am being asked to do and the anticipated risks and benefits;

• I have had an opportunity to have my questions answered;

• I am voluntarily agreeing to participate in the research as described on this form;

• I may ask more questions or quit participating at any time without penalty.

I have read through and understand the study information listed.

15. If you have any questions about this study you may contact the lead researcher as follows:

NAME: _Kayla Harter_____ PHONE: _ (906)-370-9537_____

E-MAIL: harterka@mail.gvsu.edu_____

If you have any questions about your rights as a research participant, please contact the Research Protections Office at Grand Valley State University, Grand Rapids, MI

Phone: 616-331-3197 e-mail: HRRC@GVSU.EDU

Appendix B: Online Survey

Section 1: Nutrition & Social Work Questions

1) **How long have you been working in the field as an LMSW?**

_____

2) **What is your specialty within the field of social work? (e.g. eating disorders, school social work, policy, grant writing, etc.)**

_____

3) **What setting do you currently work in? (e.g. hospital, high school, university, homeless shelter, etc.)**

_____

4) **In your graduate social work education (master's or Ph.D.), did you receive any nutrition-related training or classes?**

- ○ Yes
- ○ No
- ○ Don't know
- ○ Prefer not to answer

If you answered YES to question 4, please answer questions 5 through 7.
If you answered NO, don't know, or prefer not to answer to question 4, please skip to question 8.

5) **Please specify the class or training. (Check all that apply)**

- ○ Class(es)
- ○ Certificate(s)
- ○ Training(s)
- ○ Nutrition degree
- ○ Other (please specify): _____
- ○ Prefer not to answer

6) **What was/were the class(es) or training(s) about?**

_____

7) **How valuable has/have the training(s)/class(es) been in your current practice?**

- ○ High value
- ○ Moderate value
- ○ Neutral
- ○ Low value
- ○ No value
- ○ Prefer not to answer

8) **Do you feel that nutrition-related training or classes would have been beneficial in your current practice?**

- ○ Yes
- ○ No
- ○ Don't know
- ○ Prefer not to answer

9) Have you received nutrition-related education or training after obtaining your MSW degree?

- ○ Yes
- ○ No
- ○ Prefer not to answer

If you answered YES to question 9, please complete question 10. If you answered NO to question 9, please skip to question 11.

10) What was/were the nutrition class(es)/training(s) about?

_____

11) How valuable do you feel nutrition is in social work education (for social workers going into any specialty)?

- ○ High value
- ○ Moderate value
- ○ Neutral
- ○ Low value
- ○ Not valuable
- ○ Prefer not to answer

12) How valuable do you feel nutrition-related knowledge is when working with clients?

- ○ High value
- ○ Moderate value
- ○ Neutral
- ○ Low value
- ○ Not valuable
- ○ Prefer not to answer

13) Do you collaborate with nutritional specialists (e.g. registered dietician) in your current practice? (Please specify)

- ○ Yes
- ○ No
- ○ Prefer not to answer

If you answered YES to question 13, please complete question 14.
If you answered NO or prefer not to answer to question 13, please skip to question 15.

14) How often do you collaborate with nutritional specialists?

- ○ Daily
- ○ Every few days
- ○ Weekly
- ○ Bi-weekly
- ○ Monthly
- ○ Other (please specify): _____
- ○ Prefer not to answer

15) How do you feel about collaboration with nutritional specialists in social work practice? (Are you/Would you be)

- ○ Strongly in favor
- ○ Somewhat in favor
- ○ Neutral
- ○ Somewhat opposed
- ○ Strongly opposed
- ○ Mixed
- ○ Do not care
- ○ Prefer not to answer

16) Do you integrate nutrition into your current practice?

- ○ Yes
- ○ No
- ○ Don't know
- ○ Prefer not to answer

If you answered YES to question 16, please complete question 17. If you answered NO to question 16, please skip to question 18.

17) How do you integrate nutrition into your current practice?

_____

Section 2: Demographic Questions

18) What is your age?

Appendix C: Frequency Tables

Summary of Social Work Specialty Frequency Distribution

	Cases					
	Valid		Missing		Total	
	N	%	N	%	N	%
Specialty_SW	45	100.0	0	0.0	45	100.0

Frequency Distribution of Social Work Specialties

		Responses	
		N	%
What is your specialty in SW?	Mental Health Specialty	14	23.7
	Substance Abuse Specialty	9	15.3
	Medical Specialty	5	8.5
	Trauma Specialty	5	8.5
	Geriatrics Specialty	6	10.2
	Children & Families Specialty	10	16.9
	Child Welfare Specialty	3	5.1
	Other	7	11.9
Total		59	100.0

Frequency Distribution of Training Pre-MSW

		N	%
Have you received nutrition training pre-MSW?	Yes	3	6.7
	No	42	93.3
	Total	45	100.0

Frequency Distribution of Training Post-MSW

		N	%
Have you received nutrition training post-MSW?	Yes	19	42.2
	No	26	57.8
	Total	45	100.0

Summary of Nutrition Training Post-MSW Frequency Distribution

	Cases					
	Valid		Missing		Total	
	N	%	N	%	N	%
Nutrition_Training	19	42.2	26	57.8	45	100.0

Frequency Distribution of Nutrition Training Post-MSW

		Responses	
		N	%
What was the training about?	Eating Disorders	2	9.1
	Healthy Eating Habits	5	22.7
	Medical	5	22.7
	Nutrition & Mental Health	3	13.6
	Substance Abuse & Nutrition	3	13.6
	Other	4	18.2
Total		22	100.0

Frequency Distribution of Training Benefit in Current Practice

		N	%
Would training have been beneficial in current practice?	Yes	29	64.4
	No	8	17.8
	Don't know	6	13.3
	Missing	2	4.4
	Total	45	100.0

Frequency Distribution of Nutrition Value in Social Work

		N	%
What is the value of nutrition in social work?	Missing	1	2.2
	Low Value	4	8.9
	Neutral	4	8.9
	Moderate Value	19	42.2
	High Value	17	37.8
	Total	45	100.0

Frequency Distribution of Nutrition-Related Knowledge Value with Clients

		N	%
What is the value of nutrition-related knowledge with clients?	Missing	1	2.2
	Low Value	3	6.7
	Neutral	1	2.2
	Moderate Value	22	48.9
	High Value	18	40.0
	Total	45	100.0

Frequency Distribution of Nutrition Collaboration

		N	*%*
Do you collaborate with nutritional specialists?	Yes	16	35.6
	No	29	64.4
	Total	45	100.0

Frequency Distribution of Nutrition Integration

		N	%
Do you integrate nutrition in practice?	Yes	30	66.7
	No	13	28.9
	Don’t know	1	2.2
	Missing	1	2.2
	Total	45	100.0

Summary of Nutrition Integration Frequency Distribution

	Cases					
	Valid		Missing		Total	
	N	%	N	Percent	N	Percent
Integrate_Nutrition	29	64.4	16	35.6	45	100.0

Frequency Distribution of Nutrition Integration

		Responses	
		N	%
How do you integrate nutrition?	Psychoeducation	21	60.0
	Collaboration	3	8.6
	Group Topic	2	5.7
	Assess Nutrition	2	5.7
	Connect with Resources	2	5.7
	Therapeutic Intervention	1	2.9
	Advocate	1	2.9
	Other	3	8.6
Total		35	100.0

Appendix D: Spearman's Rho Correlations

Spearman's Rho Correlations

	Value of Nutrition Knowledge with Clients	Value of Nutrition in Social Work	Nutrition Integration	Benefit of Training	Collaboration
Value of Nutrition Knowledge with Clients					
Value of Nutrition in Social Work	.868**				
Nutrition Integration	.335*	.305*			
Benefit of Training	.107	.116	.219		
Collaboration	.095	.144	.216	.145	

***significant at 0.01 level (2-tailed)*
**significant at 0.05 level (2-tailed)*

Appendix E: Independent Samples t-tests

t-test Comparison of Nutrition Collaboration vs. No Collaboration

	t	df	Sig. (2-tailed)
Value of Nutrition in Social Work	.366	24.363	.717
Value of Nutrition with Clients	.383	42	.704
Benefit of Training	.943	41	.351

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