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# Health, Wellness, and the Health Care Experiences of Female Adolescents Living with Increased Weight

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HEALTH, WELLNESS, AND THE HEALTH CARE EXPERIENCES OF FEMALE  
ADOLESCENTS LIVING WITH INCREASED WEIGHT

by

April L. Yerges

A Dissertation Submitted in  
Partial Fulfillment of the  
Requirements for the Degree of

Doctor of Philosophy  
in Nursing

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The University of Wisconsin-Milwaukee

December 2018

## ABSTRACT

### HEALTH, WELLNESS, AND THE HEALTH CARE EXPERIENCES OF FEMALE ADOLESCENTS LIVING WITH INCREASED WEIGHT

by

April L. Yerges

The University of Wisconsin-Milwaukee, 2018  
Under the Supervision of Professor Julia Snethen

Clinic-based health care encounters (HCEs) remain a beneficial setting for early assessment, identification and treatment of overweight in adolescents. The purpose of this study is to describe how female adolescents who are obese or overweight perceive the health care encounter with a particular focus on obesity. Using a qualitative design, a purposive sample of 28 English speaking female adolescents, 13–19 years of age, who were overweight or obese, participated in in-depth interviews. Five themes emerged from the thematic analysis: *Mental and physical wellness, The impact of weight, Cause I'm a teenager, Talking about weight affects me, and Help me instead of just telling me.*

The findings from this study revealed that the adolescents' view of health encompasses physical, mental, and psychosocial health dimensions. The female adolescents felt they were healthy, despite their increased weight. Discussing weight in the HCE can incite negative perceptions of the self. Within the HCE, the adolescents identified the desire for respect, to have autonomy, and to be an active participant in the decision-making process. Conversely, the adolescents felt their health care was inadequate when they received impersonal and vague advice on weight loss. Adolescents desired providers who were kind, friendly, and did not judge them based upon their weight. The most helpful recommendations providers provided were small, individualized goals that the adolescents felt they could successfully achieve.

The insights derived from female adolescents living with increased weight in this study can provide guidance on how providers can improve the HCE. Implications for nursing policy, education, and research emerged from the interviews with the participants.

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To my family,  
who made as many sacrifices as I did to complete this degree.

Grayson your inquisitive, curious mind is what inspired me to reach for the stars.

You can be anything you want in this world!

Gavin, you amaze me with your genuine generosity and loving nature.

Keep hugging and hip-hopping your way through the kitchen and life!

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*I have spread my dreams under your feet*

*Tread softly because you tread on my dreams*

Thank you for treading softly and supporting my dreams. I love you.

## CHAPTER 1: INTRODUCTION

Obesity in American youth has reached epidemic proportions and is a significant public health problem (Institute of Medicine, 2012; Ogden, Carroll, Kit, & Flegal, 2014). Currently 17%, or 12.7 million, of American youth are obese (Centers for Disease Control and Prevention, 2014b; Ogden, Carroll, Fryar, & Flegal, 2015; Ogden, Fryar, Hales, Carroll, & Freedman, 2018). The prevalence of adolescents who are obese (age 12 – 19 years, 20.5%) is greater than school-aged children (age 6 – 11 years, 17.5%) and preschool-aged children (age 2 – 5 years, 8.9%) who are obese (Ogden et al., 2015). The vast proportion of adolescents who meet the definition of obese underlines the need for effective health care services to help alleviate the short- and long-term health risks associated with obesity (Fontaine, Redden, Wang, Westfall, & Allison, 2003; Freedman, Dietz, Srinivasan, & Berenson, 2009; Inge et al., 2013).

Health care providers (HCPs) occupy a unique role within the health care system and are increasingly called upon to assist youth in weight management within the health care encounter (HCE). Despite HCPs efforts, health care encounters have been unsuccessful in improving physical activity, nutritional intake, or body mass index (BMI) amongst youth (Wake et al., 2009; Wang et al., 2013), and prevalence rates of obesity remain constant (Ogden et al., 2015). The literature on the effectiveness of clinic-based interventions in youth who are obese is lacking (Seburg, Olson-Bullis, Bredeson, Hayes, & Sherwood, 2015). There is also a lack of published literature investigating which aspects of the health care encounter are beneficial and effective for adolescents who are obese (Patton et al., 2016), especially from the adolescents' point of view. In efforts to optimize health services for youth with obesity research needs to begin by examining the health care encounter from the perspective of the adolescent who is living with increased weight.

The current qualitative study is based upon the patient entering the HCE with a set of social characteristics: adolescent age, female gender, and obese or overweight status. Within the HCE, the patient interacts with a HCP, who could be a nurse, nurse practitioner, physician, dietician, physician assistant, or any other member of the health care team the patient identifies. Using in-depth interviews and thematic analysis, this research study aims to describe how female adolescents living with obesity experience the HCE. Experiences of HCEs addressing obesity management in youth have been explored, but only from the parent and provider perspective (Ball et al., 2015; Turner, Salisbury, & Shield, 2012). It is unknown how female adolescents who are obese experience the HCE, especially regarding weight management. This study will attempt to fill this gap in the literature.

### **Significance**

The prevention and treatment of obesity in youth is a national public health priority (Institute of Medicine, 2005; United States Preventative Services Task Force, 2017). It is imperative to improve health services and health outcomes of adolescents living with overweight or obesity because excess weight in childhood increases the risk for morbidity and mortality during adolescence and throughout the lifespan (Fontaine et al., 2003; Freedman et al., 2009; Inge et al., 2013; Simmonds, Llewellyn, Owen, & Woolacott, 2017). Obesity in youth increases the risk for many health concerns, including type 2 diabetes mellitus (T2DM), non-alcoholic fatty liver disease, hypertension, insulin resistance, cardiovascular disease, cancer, and hyperlipidemia (El-Koofy et al., 2012; Freedman et al., 2008; Robinson, Geier, Rizzolo, & Sedrak, 2011; Simmonds et al., 2017; Yang, Johnson, Schorpp, Boen, & Harris, 2017). Living with increased weight during childhood and adolescence can lead to psychosocial issues

including depression, low self-esteem, decreased health-related quality of life, disordered eating, anxiety, and body dissatisfaction (He, Cai, & Fan, 2017; Herget, Rudolph, Hilbert, & Blüher, 2014; Morgan, Saunders, & Lubans, 2012; Vander Wal & Mitchell, 2011).

Obesity in American youth is significant not only to the health of the nation's children, but also to the economics of health care. Obesity in childhood and adolescence raises significant economic concerns as health expenditures related to obesity have increased over the past two decades (Finkelstein, Graham, & Malhotra, 2014; Finkelstein, Trogon, Cohen, & Dietz, 2009). From 1998 through 2008, obesity-related health care spending increased by \$68.5 billion (Finkelstein et al., 2009). The increased spending is caused by the related comorbidities of obesity (Anis et al., 2010). Excess costs related to overweight and obesity may depend on the age and sex of the individual (Bell, Zimmerman, Arterburn, & Maciejewski, 2011). In a longitudinal Irish national study of over 7,000 youth, obesity and overweight status do not have an effect on health care utilization when children are 9 years old; however, by age 13 years old there is a large and significant effect demonstrated (Doherty, Queally, Cullinan, & Gillespie, 2017). Bell et al. (2011) demonstrated that by the time a male child was 9 years old and a female child was 13 years old, differences in obesity-related ambulatory costs became evident.

Increased costs will not only occur during childhood years but also continue across the lifespan. Obesity within adolescence is associated with increased direct and indirect medical expenses over the lifespan (Gray et al., 2015; Sonntag, Ali, & De Bock, 2016). Finkelstein et al. (2014) evaluated a single age cohort, ten-year-old children, to estimate lifetime medical costs of obesity. A ten-year-old child who is obese will require approximately \$19,000 more direct medical costs over the lifespan than a ten-year-old child with a BMI in the normal range (Finkelstein et al., 2014). Economic models demonstrate that the increased costs are related to

the higher initial prevalence and onset of comorbidities over the lifespan (Su et al., 2015). Despite the widespread concern over increased weight in youth, researchers and health care professionals have been unsuccessful in decreasing upward BMI trends (Ogden et al., 2015).

### **The Patient**

An individual's health can be fostered or compromised within the health care system and for adolescents this will lead to consequences across the life span (Patton et al., 2016; Sawyer et al., 2012). Adolescents are biologically, developmentally, and emotionally primed for social engagement beyond the family, and opportunities to meaningful connect and engage with them exist in the health care encounter (Patton et al., 2016). For this reason the adolescent patient is the focus and the parent and family context are not under investigation.

Several salient social characteristics have been shown to intersect and influence patients' experiences in the health care system, including age, gender, and weight (Andersen & Teicher, 2008; Keane, 2014; Patton et al., 2016). First, adolescence is a dynamic period of development that influences an individual's experiences in health care (Patton et al., 2016). Adolescent and young adults have different weight management goals and needs than adults, and treatments need to be tailored to this developmental stage (Lanoye, Gorin, & LaRose, 2016; Pont, Puhl, Cook, & Slusser, 2017). Secondly, gender influences the way obesity is experienced, affects individuals' perspectives and experiences, and influences health management (Baggio, Corsini, Floreani, Gianni, & Zagonel, 2013; Berghoffen, 2015; Patton et al., 2016; Puhl, Wall, et al., 2017).

Lastly, female adolescents with obesity or overweight often face numerous physical, social, and psychological health challenges that may be addressed during the HCE (Pont et al., 2017; Puhl, Luedicke, & Heuer, 2011; Robinson et al., 2011; Vander Wal & Mitchell, 2011). Obesity influences how patients interact with HCPs and experience the HCE (Mold & Forbes,



2013). Negative experiences in the HCE contribute to decreased quality of care and poor patient outcomes (Phelan et al., 2015). For example, when adult female patients perceive weight stigmatization within the HCE this leads to health care avoidance, decreased quality of care, poorer patient outcomes, and furthering of health disparities (Phelan et al., 2015). There is no literature regarding the health care experiences of adolescent females who are obese. While it has been established that adult females who are obese experience stigma in the HCE, questions remain about how female adolescents who are obese experience the HCE and if they have stigmatizing experiences.

### **The Health Care Provider**

Health care providers enter the health care encounter with their own sets of attitudes, knowledge, and beliefs. Numerous HCPs hold negative attitudes, beliefs, and stereotypes towards patients living with obesity (Phelan et al., 2014; Puhl, Latner, King, & Luedicke, 2014; Puhl, Wharton, & Heuer, 2009; Tomiyama et al., 2015). Stigmatization by HCPs is problematic because it can influence the quality of care provided in the HCE (Phelan et al., 2015). Phelan et al. (2015) conducted a systematic review on the impact of HCP stigma and reported that negative attitudes towards obesity impact person-perceptions, interactions, judgment, and decision-making.

The presence of weight bias in HCPs against adult patients who are obese is well established (Brown, 2006; Budd, Mariotti, Graff, & Falkenstein, 2011; Huizinga, Bleich, Beach, Clark, & Cooper, 2010; Pantenburg et al., 2012; Phelan et al., 2015; Sabin, Marini, & Nosek, 2012; Sikorski et al., 2013; Steele et al., 2011; Wolf, 2012). Students within health professional disciplines also hold weight bias against adult patients who are obese (Blanton, Brooks, & McKnight, 2016; Klos, 2014). However there is limited research into HCP stigma against

children and adolescents who are overweight or obese (Snethen, Treisman, Buseh, & Kelber, 2014; Van Gerwen, Franc, Rosman, Le Vaillant, & Pelletier-Fleury, 2009). It is unknown if adolescent patients who are overweight or obese experience stigmatization by the HCP.

### **The Health Care Encounter**

HCPs have traditionally assessed and treated adolescent obesity in the clinic setting (Ball et al., 2015; Institute of Medicine, 2012; Vine, Hargreaves, Briefel, & Orfield, 2013). Although childhood and adolescent obesity management has expanded into the community setting, the clinic-based health care encounter remains a beneficial setting for early identification, assessment, and treatment of obesity in adolescents (Institute of Medicine, 2012; Vine et al., 2013). Improvements in weight lead to improvements in health (Kirk et al., 2005). Kirk and colleagues demonstrated that when youth have a modest decrease in their BMI through pediatric weight management programs, their health outcomes improve. Youth aged 5 – 19 years old (n = 394) who decreased their BMIz score had significant improvements in their insulin levels, lipid levels, and blood pressure ( $p < 0.001$ ).

A number of biological, socio-cultural, and environmental factors play a causative role in the development of obesity amongst youth (Lake & Townshend, 2006; Loos, 2012). Personal and public attitudes, as well as familial, economic, and political factors influence the obesogenic environment (Kirk, Penney, & McHugh, 2010). Yet within the health care encounter, increased weight is viewed as an individual's problem and weight management relies on the patient's individual behavioral change (Aston, Price, Frances, Kirk, & Penney, 2012).

HCPs often use a weight-centered approach to counsel obese individuals on behavioral change techniques, including: improving nutritional intake, decreasing excess caloric intake, and increasing physical activity (Aston et al., 2012; McCullough & Hardin, 2013). These techniques

are utilized to achieve a BMI within a “normalized” range (McCullough & Hardin, 2013). This weight-centered approach towards weight management relies on behavioral management techniques, however, behavioral self-management depends upon a patient’s perspective of their condition and motivation to change (Teixeira, Silva, Mata, Palmeira, & Markland, 2012). Recent guidelines from the American Academy of Pediatrics urges providers to change their approach to addressing childhood and adolescent obesity by adopting empathetic and nonbiased language and behaviors (Pont et al., 2017).

Oftentimes, HCPs do not hold the same perspectives on health and illness as their patients (Menez, Cheskin, & Geller, 2013), nor do they have the same health goals or similar measures of what constitutes success (Teixeira et al., 2012). Insight into a patient’s perspective of weight management in the HCE may have significant implications in effectively promoting behavior change and long-term weight control (Teixeira et al., 2012).

### **Summary**

Adolescent females who are obese visit their HCP for various health concerns throughout childhood and adolescent. HCPs play a vital role in the management of obesity. The interaction between a HCP and patient form the health care encounter, and obesity influences this interaction and the HCE (Mold & Forbes, 2013). When patients perceive a negative experience of the HCE, poorer patient outcomes and a decrease in the quality of care occur (Phelan et al., 2015).

Research has explored the HCE from the perception of adults who are obese or overweight, parents of children who are obese or overweight, and HCPs (Ball et al., 2015; Phelan et al., 2014; Turner et al., 2012; Wolfenden et al., 2013). Perceptions of adolescent females who are obese or overweight are missing and may provide valuable insight to successful

weight management. The findings of this study will offer guidance about how HCPs can attempt to meet the needs and improve health outcomes of female adolescents who are living with increased weight.

### **Purpose Statement**

The purpose of this study is to describe how female adolescents who are obese or overweight perceive the health care encounter with a particular focus on obesity.

### **Aims**

1. Describe types of issues discussed during the health care encounters of female adolescents who are living with increased weight.
2. Describe how well female adolescents who are living with increased weight perceive their health needs being met within the health care encounter.
3. Explore views of weight from a female adolescent perspective, within the context of the health care system.
4. Identify suggestions from participants on how to improve the health care system in addressing needs of female adolescents who are living with increased weight.

### **Biases and Assumptions**

The following assumptions guide this research:

1. Obesity in female adolescents is prevalent and deserves further investigation from the adolescent's perspective.
2. Female adolescents living with obesity and overweight often face numerous physical, psychological, and social health challenges that necessitate a health care encounter with a health care provider.

3. During a health care encounter, health care providers address health issues and/or concerns such as increased weight.

### **Variables as Concepts Defined**

#### **Adolescence**

Adolescence is conceptually defined as a period of growth and development emerging after childhood and before adulthood. For this study, adolescence is defined by the ages of 13 to 19 years.

#### **Adolescent Patient**

Conceptually, a patient is an individual who is a client of a medical care services. Operationally, an individual aged 13 – 19 years old who has seen a health care provider twice in the past year is an adolescent patient.

#### **Female Gender**

Gender is a social construct; a self-described state of being that often is categorized as male or female. In this study individuals who self-identify as female will be involved.

#### **Health Care Provider (HCP)**

Conceptually, a health care provider is a nurse practitioner, nurse, physician, physician assistant, psychologist, or dietician who is authorized by the state to practice within the scope of their licensed field. Operationally, a health care provider is whomever the patient identifies as a health care provider.

#### **Health Care Encounter (HCE)**

A health care encounter is conceptually defined as the interaction between a health care provider and patient, where the patient seeks help and receives a type of service from a

HCP (American Academy of Pediatrics, 2012). Operationally, the health care encounter is a primary or specialty care clinic visit that involves a patient and her HCP.

### **Obesity**

Within pediatric health care the concept of *obesity* is conceptually defined as having excess body fat. Operationally, a body mass index (BMI) at or above the 95<sup>th</sup> percentile according to gender and age, defines childhood obesity for children of the same age and gender (Centers for Disease Control and Prevention, 2015).

### **Overweight**

Within pediatric health care the concept of *overweight* is conceptually defined as having increased body fat. Operationally, a body mass index (BMI) at or above the 85<sup>th</sup> percentile and below the 95<sup>th</sup> percentile according to gender and age, defines childhood overweight for children of the same age and gender (Centers for Disease Control and Prevention, 2015).

## CHAPTER 2: LITERATURE REVIEW

The purpose of this chapter is to review the scientific literature based upon the conceptual framework of this study. The patient will first be reviewed, with a focus on the social characteristics of adolescence, gender, and obesity. Obesity will further be examined, including incidence, disparities, causes and consequences, adolescents living with obesity, females living with obesity, and stigma related to weight. Next, literature on the health care provider will be reviewed, including their role and their attitudes and beliefs related to obesity. Lastly, the health care encounter will be reviewed. It should be noted that research focused on adolescents who are obese is limited.

### **The Patient**

The patient is a holistic individual, seen within context and environment. Thus, social, cultural, and environmental factors impact the development and health of individuals. Several social factors are influential in the health care encounter surrounding obesity: age, gender, and weight status (Andersen & Teicher, 2008; Keane, 2014; Ogden et al., 2015; Patton et al., 2016; Richardson, Paulis, van Middelkoop, & Koes, 2013; Viner et al., 2012). The specific social characteristics of adolescence, female gender, and obesity will be reviewed.

### **Adolescence**

Childhood and adolescence is a time of varying growth and development. From a developmental perspective, children vary significantly at different ages, and are grouped into the following age/developmental cohorts: infancy (0 - 2 years), preschool age (3 - 5 years), school age (6 - 12 years), and adolescence (13 - 18 years) (American Academy of Pediatrics, 2016). Age groups serve as proxies to developmental, biological, and psycho-social changes that occur over time (Williams et al., 2012). Youth development stages represent unique phases to

capitalize upon in disease prevention and health promotion that help determine health, wellbeing, learning, and behavior across the life course (World Health Organization, 2016b). Adolescence is time of rapid human development where biological maturity precedes psychosocial maturity and health programs and policy must address the unique nature and importance of adolescents (World Health Organization, 2016a).

### **Neurodevelopment.**

During adolescence maturational and lifestyle practices undergo a transitional period, but this time period also encompasses a transitional period in neurodevelopment. Research over the past 20 years into adolescent neurodevelopment research has made significant gains in science's understanding of the developing brain (Baker et al., 2015; Gladwin, Figner, Crone, & Wiers, 2014; Patton et al., 2016; Sisk & Foster, 2004; Spear, 2000). Adolescence is a time of rapid and dynamic brain development; the adolescents' period of high brain plasticity is second only to infancy in the scope and magnitude of brain and neural changes (Baker et al., 2015).

Neurodevelopment in adolescence has implications for current and future health and wellbeing across the lifespan (Andersen & Teicher, 2008; Patton et al., 2016; Sawyer et al., 2012).

Neurodevelopment has demonstrated two phases of adolescent development and are categorized as early and late adolescence. Early adolescence, 13 – 14 years old, is designated by puberty and the rapid increase in pubertal hormones (Patton et al., 2016; Sisk & Foster, 2004). During this time the brain's reward system begins remodeling and identify formation is substantial (Baker et al., 2015; Patton et al., 2016; Sisk & Foster, 2004). Cognitive changes have also been found to occur in the adolescent brain in reaction to high fat and sugar foods (Reichelt, 2016; Reichelt & Rank, 2017). The increased neuroplasticity of the adolescent brain may leave



these adolescents at higher risks for negative cognitive and behavior effects (Reichelt & Rank, 2017).

Physical activity may impact adolescent cognition. In a meta-analysis of physical activity, diet, and behavioral interventions and cognition of obese and overweight children and adolescents, 18 studies were reviewed (Martin et al., 2018). There was high-quality evidence that physical activity-only interventions and improved mean cognitive executive function was found (95% CI 0.68 to 9.32). No association was found between the physical activity-only intervention and school mathematics [0.49 (95% CI -0.04 to 0.01)] or reading [0.1 (95% CI -0.03 to 0.49)] (Martin et al., 2018).

Adolescence is a period of social-affective engagement; and interpersonal environments (such as school and family) are critical social contexts during this time (Crone & Dahl, 2012). This time period is also characterized by poor self-regulation and low risk perception (Pfeifer et al., 2011; Spear, 2000; Steinberg, 2008). Neurodevelopment during adolescence also affects motivation and addiction vulnerability (Gladwin et al., 2014).

During late adolescence (15 – 19 years old) the brain continues to be extremely active but physical changes are less obvious than in early adolescence (Baker et al., 2015). Adolescents demonstrate improvements in their self-regulatory skills and the ability to understand short- and long-term implications of decisions (Crone & Dahl, 2012; Spear, 2000). The changing brain structure and function affects emotional and cognitive capacities, and personal autonomy continues to increase (Pfeifer et al., 2011; Tanner & Arnett, 2011). Furthermore, this dynamic development interacts and is shaped by the social environment and social relationships (Blakemore & Mills, 2014).

Social environments and social relationships shape adolescents' neurodevelopment in ways not seen at other periods across the lifespan (Patton et al., 2016; Somerville, 2013; Steinberg & Monahan, 2007). One major difference is that adolescents' social processing is more sensitive to peer influence than adults (Pfeifer et al., 2011; Steinberg & Monahan, 2007). In fact peer influences on health and wellbeing, whether positive or negative, are greater during adolescence than at any other time in the life course (Andersen & Teicher, 2008; Jaccard, Blanton, & Dodge, 2005; Somerville, 2013). It is unknown how the health environment and provider relationship affects adolescent health behaviors and decisions.

During this sensitive period of development and brain maturation, new sets of behaviors and capacities emerge, including new behaviors and capacities that impact health and well-being (Viner et al., 2012). For example, a decrease in physical activity, intake of a poorer nutrient diet, cigarette smoking, alcohol consumption, and marijuana use are health behaviors that often appear during adolescence (Hanson & Chen, 2007). Because both the nutritional environment and substance abuse affect an adolescent's neurodevelopment (Crone & Dahl, 2012; Resnick, Catalano, Sawyer, Viner, & Patton, 2012) these new behaviors and capacities modify adolescent health trajectories over the life course (Reichelt, 2016; Viner et al., 2012).

### **Life course.**

Adolescent health is a leading stage of development that is influential in improving or diminishing an individual's health capital over the life course (United Nations Secretary-General, 2010). Adolescent health factors are highly influential into future adult health (Patton et al., 2016; Sawyer et al., 2012). For example, high adolescent physical fitness, including body composition, muscular strength, and cardiorespiratory fitness are predictive of lower rates of adult cardiovascular disease, and lower rates of all-cause mortality than adolescents with low

physical fitness (Rockwood, Song, & Mitnitski, 2011; Ruiz et al., 2009). Secondly, bone mineral density peaks in adolescence and early adulthood, and is impacted by adolescent nutrition and physical activity (Julián-Almárcegui et al., 2015; Whiting et al., 2004). Thus, an investment in adolescent health may improve future individual and population health.

This generation of adolescents, the largest in human history, is facing unprecedented social, cultural, and economic change that shapes the future of the generation's health and well-being (Patton et al., 2016). Research in this population is important because adolescence establishes the foundation for life, and influences health trajectories, across the life span (Patton et al., 2016; Sawyer et al., 2012). During adolescence, individuals establish the cultural, social, emotional, and economic resources that impact their health over the life span (Engstrom, 2008; Patton et al., 2016).

### **Female Gender**

Gender is well established as a category of analysis in health care, and remains a key driver in the social determination of health (Keane, 2014). While gender is one category, it should be noted that it intersects with other key categories of social characteristics, such as race/ethnicity and economics, to shape population health (Mahamoud, Roche, & Homer, 2013). The dynamic complexities in the relationship of gender and health highlight the role of socialization and the need for research that focuses on the social aspects of gendered identity. Female gender will be examined below in relation to experience, socialization, neurodevelopment, puberty, and health.

#### **Experience and socialization.**

Adolescents are actively adapting to cultural and social complexity, and gender differences in emotional style, social style, and gender roles begin to form (Patton et al., 2016).

The social position of the female gender fosters differences in social identity, responses, and experiences (Alcoff, 2006; Mikkola, 2016). Gender influences the way the world is experienced and affects individuals' perspectives and experiences (Beauvoir, 1989; Berghoffen, 2015). For example, Mikkola's (2016) review of femininity and socialization identifies that being a woman, or female, impacts one's affective responses when compared to males. Also, in a study of 15 – 16 year old adolescents, socialization patterns based on gender emerge (Garaigordobil, Maganto, Perez, & Sansinenea, 2009). Males had more negative social behaviors, higher levels of violence acceptance, and more aggressive coping cognitions when compared to girls. Males also demonstrated different socio-emotional responses to health program interventions (Garaigordobil et al., 2009). Contrastingly, in a longitudinal Australian study of adolescent social and emotional well-being (n = 232), no significant differences were found across genders in mental health or social well-being (Chervonsky & Hunt, 2018).

Gender in adolescence also moderates the effects of peer influence. For example, peers' attitudes influenced adolescent females use of marijuana and cigarettes, but males were not influenced by peers (Mason, Mennis, Linker, Bares, & Zaharakis, 2014). Secondly, identity formation is a key milestone in adolescence (Erikson, 1963) and peer groups are influential in this process, especially in female adolescents (MacPherson, Kerr, & Stirling, 2016).

### **Neurodevelopment.**

External factors influence male and female adolescents differently, to the point of changing neurodevelopment. For example binge drinking affects adolescent female and males differently (Squeglia et al., 2012). Adolescent females with a history of binge drinking have more cortical thickness than females who did not drink. This corresponded with decreased visual-spatial abilities, inhibition, and attention. Contrastingly, adolescent males with a history of

binge drinking had thinner cortices than male controls, and only suffered a decrease in attention (Squeglia et al., 2012). Thus, when faced with the same external influence (i.e. binge drinking), the neurodevelopment of the male and female brain differ from each other. These biological changes lead to different behaviors and capacities (i.e. inhibition, visual-spatial abilities). It is unknown if obesity influences neurodevelopment in adolescents, or if it differs based upon gender. A separate study on lead exposure to infants and children (n = 1,751) by Joo et al. (2018) demonstrated effects based upon gender differences. Prenatal exposure to lead significantly increased risk of behavioral problems in males but not in females. Postnatal lead exposure significantly increased the risk of behavioral problems in females, including attention and sleep effects (Joo et al., 2018).

### **Puberty.**

Obesity in female children is associated with early puberty (Bratke et al., 2017; Colmenares, Gunczler, & Lanes, 2013; Fu et al., 2015). Developmental psychology literature reports that early pubertal maturation is associated with more psychological, social, and emotional problems in girls than in boys (Mendle, Turkheimer, & Emery, 2007). Young girls who have undergone early puberty demonstrate higher levels of internalizing symptoms and disorders such as depression and disordered eating (Mendle et al., 2007). Early puberty associations with depression and anxiety are especially pronounced (Marceau, Neiderhiser, Lichtenstein, & Reiss, 2012). In two populations, one American sample of siblings and twins, and another Swedish sample of twins, the earlier young girls matured, the more likely they were to suffer from depression and/or anxiety. There were no significant associations in boys (Marceau et al., 2012). It is unknown if depression and anxiety in female adolescents is modified or moderated by obesity.

Neuroscience literature on the pubertal processes and the associated hormonal changes may have some relevance to understanding differences in mental and behavioral disorders in adolescents. For example, females and males have mental health disorders occurring at the same rates. However, the general type of mental health disorder they have differ: women demonstrate higher prevalence rates of internal symptoms such as depression, anxiety, greater feelings of helplessness whereas men demonstrate higher prevalence rates of external symptoms such as substance abuse and aggression (Rosenfield & Mouzon, 2013).

### **Health.**

Gender-specific medicine is an emerging area of research (Baggio et al., 2013). Differences in disease prevention, health promotion, therapeutic approach, prognosis, psychological impact of disease, and social impact are apparent between genders (Baggio et al., 2013). Adolescent females face some different health risks than male adolescents, in such areas of sexual and reproductive health, and these risks will continue to affect their health and well-being across the life course (Patton et al., 2016).

While body dissatisfaction can occur in childhood, early adolescence is often the time period of emergence or an intensity of body image concerns (Robert-McComb, 2008; Šmídová, Švancara, Andryšková, & Šimunek, 2018). Body dissatisfaction is more prevalent in adolescent females than males (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006; Šmídová et al., 2018). This is important to note because lower body satisfaction predicted higher levels of unhealthy weight control behaviors, and lower levels of physical activity (Neumark-Sztainer et al., 2006). In a five-year longitudinal study Neumark-Sztainer et al. (2006) sampled both male and female adolescents (n = 2,516). In females body dissatisfaction predicted higher levels of unhealthy binge eating and dieting, and remained statistically significant after adjusting for BMI.

Similarly Ferreiro, Seoane, and Senra (2014) evaluated a community-based sample of female adolescents (n = 882) and found that body dissatisfaction mediated the relationship between gender and disordered eating ( $p \leq 0.05$ ) and gender and depressive symptoms ( $p \leq 0.01$ ) (Ferreiro et al., 2014).

## **Obesity**

Within pediatric health care the concept of *obesity* is conceptually defined as having excess body fat. Operationally, a body mass index (BMI) at or above the 95<sup>th</sup> percentile according to gender and age, defines childhood obesity for children of the same age and gender (Centers for Disease Control and Prevention, 2014b). An adolescent and child's BMI utilizes an individual's height and weight to define his/her weight status. While not a direct measure of body fat, it does provide a reliable indication of body fatness in youth (Centers for Disease Control and Prevention, 2015).

### **Incidence and prevalence.**

The past few decades have resulted in a dramatic increase of youth obesity prevalence rates (Centers for Disease Control and Prevention, 2015). The National Health and Nutrition Examination Survey (NHANES) obtains interview and measurement data from a nationally representative sample every two years. NHANES data from 1980 to 2008 shows the prevalence rate of obesity tripled among American children and adolescents (aged 6 to 19 years old) (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). Currently, 17.8% of American youth (aged 2 – 19) are obese, 32% of youth are obese and overweight, and 5.8% are super obese (BMI  $\geq 120\%$  of 95<sup>th</sup> percentile) (Ogden et al., 2014; Ogden et al., 2018). The National Longitudinal Study of Adolescent Health (NLSAH) data also indicates that the incidence of severe obesity (BMI > 40) was greater in female adolescents (51.3% [95% CI, 44.8 – 57.8%]) than males (37.1% [CI 30.6 –

43.6%]) ( $p < 0.05$ ) (The, Suchindran, North, Popkin, & Gordon-Larsen, 2010). However, most recent calculations demonstrate that obesity prevalence rates have plateaued in youth from 2007 to 2016 (Hales, Fryar, Carroll, Freedman, & Ogden, 2018).

### **Racial disparities.**

While overall prevalence rates of obesity in youth have remained stable, the ethnic makeup of the children has changed. Prevalence rates of obesity in minority racial and ethnic groups are now significantly higher than among white children and adolescents; suggesting that significant racial disparities in youth obesity exist in the United States (Ogden et al., 2014; Ogden et al., 2018). The NLSAH data (2001-2009) showed that the majority of adolescents who are severely obese are minorities (Hazard Ratio with 95% CI: White, 21.1 [12.9 – 13.7]; Black 29.2 [17.4 – 48.8]; Hispanic 28 [15.2 – 51.8]) (The et al., 2010). Similarly, NHANES data from 2009 – 2010 reported that 24.3% of non-Hispanic black children and adolescents were obese, 21.2% of Hispanic children and adolescents, and 14% of white children and adolescents were obese (Ogden et al., 2014). Comparing NHANES data from 1999 to 2010 the odds of being obese for non-Hispanic black and Hispanic youth was significantly higher than for Caucasian youth (Ogden, Carroll, Kit, & Flegal, 2012). Non-Hispanic African American youth have the highest age-adjusted rates of obesity of 49.5%, as compared to Mexican American (40.4%), Hispanic (39.1%), and non-Hispanic white youth (34.3%) (Ogden et al., 2012).

Additionally, racial/ethnic minority adolescents are at a high risk for disordered eating behaviors. In a recent study of 2,612 early overweight or obese adolescents, racial/ethnic minority participants were more likely to report dieting and disordered eating when compared to either their white peers or peers without overweight or obesity (Rodgers et al., 2017).



Race also interacts with economics to exacerbate obesity-related disparities. An estimated 65% of ethnic disparities of obesity are correlated with lower socioeconomic status, demographic, and behavioral factors (Nelson et al., 2018; Singh, Siahpush, & Kogan, 2010). In a community-based study of 198 African American youth (ages 11 – 19 years old), increased racial discrimination and lower household education, predicted higher BMIs in youth (discrimination:  $\beta = 0.11 \pm 0.04$ ,  $p = 0.01$ ; education:  $\beta = -1.13 \pm 0.47$ ,  $p = 0.02$ ) (Nelson et al., 2018). Gender was also found to interact with both racial discrimination and low education in the household where girls had a higher BMI (Nelson et al., 2018). Across income levels and race, minority youth have higher prevalence rates of childhood obesity (Freedman, Khan, Serdula, Ogden, & Dietz, 2006; Ogden et al., 2014). Neighborhood socio-economic status is associated with higher BMI z-scores of Black and Hispanic children compared to white children (Sharifi et al., 2016). The neighborhood built food and physical activity environments have also been associated with higher BMI z-scores across minority children when compared to white counterparts (Sharifi et al., 2016). Thus, there are noteworthy and consistent differences in obesity prevalence across population groups that clinicians and researchers must be aware of.

Racial disparities in childhood obesity carry over the lifespan into adulthood (Koh, Elder, Grady, Darden, & Vojnovic, 2018), suggesting that race and/or ethnicity may influence the rate at which youth who are obese become adults who are obese. Freedman et al. (2005b) reported that for youth who are overweight, 71% of white male youth became adults who are obese, whereas 82% of African American male children became adults who are obese. Among female youth who are overweight, 65% of white girls and 84% of African American girls became adults who are obese (Freedman et al., 2005a). Thus, there is a risk that racial and ethnic disparities of

obesity in youth will continue into adulthood. Decreasing obesity rates in minority children may improve adult obesity racial disparities.

### **Causes of obesity in childhood and adolescence.**

At a fundamental level, obesity is caused by an imbalance in energy, in which energy intake exceeds energy expenditure (Basu, Seligman, & Winkleby, 2014). This conceptualization of obesity is deceptively simple, as direct causative pathways have not been fully realized (Bleich, Ku, & Wang, 2011). Instead the obesity epidemic among American youth is multifactorial. There are a plethora of genetic, biological, sociocultural, and environmental factors that contribute to the childhood obesity epidemic.

Over 50 genetic loci for obesity-related traits have been identified through human genome association tests (Loos, 2012). Each of these traits have various effects on the risk and physical development of obesity (Loos, 2012). However, direct effects of these genetic traits are not predictive of future disease as the mere presence of a genetic marker does not necessarily lead to an obese phenotype (Li & Meyre, 2013; Loos, 2012). Even if an individual has the genetic markers for obesity, he or she may not physically accumulate excess weight. Instead the interaction of an individual or population's genetics and environment interact to produce gene expression (Fernandez, Klimentidis, Dulin-Keita, & Casazza, 2012; Qi et al., 2012). For example, individuals with a genetic predisposition to obesity are more likely to physically gain excess weight when they consume a greater amount of sugar-sweetened beverages (Qi et al., 2012). Qi et al. (2012) first analyzed longitudinal data from over 10,000 adults of European ancestry from the Nurses' Health Study (NHS) and Health Professionals Follow-up Study (HPFS). The associations between 32 genetic loci that are known to be associated with BMI, individuals' sugar-sweetened beverage intake, and BMI were examined. As expected,

participants with a higher genetic predisposition to obesity had a higher BMI ( $p < 0.001$ ) (Qi et al., 2012).

While individuals begin with their own unique genetic code, during gestation biology begins exerting influence. The maternal factors of pre-pregnancy BMI, maternal diabetes, and smoking status interact with the fetus' personal biology and genetics. Certain biological pathways may become activated, increasing a child's risk for later obesity. Research demonstrates that prenatal factors influence offspring obesity development. A 2012 meta-analysis on maternal and infant risk factors for youth overweight reviewed thirty prospective studies that followed up children from birth to at least 2 years old and reported a significant association between maternal pre-pregnancy weight childhood overweight (Weng, Redsell, Swift, Yang, & Glazebrook, 2012). In an inner city African American sample of mother-child dyads ( $N = 493$ ) children (2 – 5 years old) of mothers with diabetes, either pre-gestational or gestational, were more likely to be obese than children from mothers who did not have diabetes (OR 3.13, CI 1.44 – 6.81;  $p < 0.004$ ) (Mehta, Kruger, & Sokol, 2012). Maternal smoking increases a child's risk of obesity (Behl et al., 2013; Mehta et al., 2012). A meta-analysis by Weng et al. (2012) identified that children born to mother's who smoked during pregnancy were 47% more likely to become overweight in childhood when compared to children born to mother's who did not smoke during pregnancy (AOR 1.47, 95% CI 1.26 – 1.73).

Once a child is born, the pathophysiology of obesity and energy balance is regulated via a complex network of energy intake, utilization, and storage, all incorporated within the hypothalamus. Adipose tissue is an endocrine organ involved in dynamic energy regulation (Coelho, Oliveira, & Fernandes, 2013; Hassink, 2007). Adipose tissue produces a wide array of cytokines including leptin and adiponectin. These two cytokines are important in glucose

regulation and long-term energy balance (Hassink, 2007; Klok, Jakobsdottir, & Drent, 2007; Lihn, Pederson, & Richelsen, 2005).

While the literature demonstrates a role for genetic and biological factors in obesity development in childhood and adolescence, these factors are augmented by sociocultural and environmental factors. Genetics and environments do not occur independently, but rather interact synergistically (Fernandez et al., 2012). For example, the 2007 National Survey of Children's Health (NSCH) demonstrated that approximately 70% of variation in obesity prevalence across states was accounted by the child/family SES, health behavior, health insurance, health care quality, and neighborhood characteristics (Bethell, Simpson, Stumbo, Carle, & Gombojav, 2010).

Socioeconomic status (SES) can impact childhood obesity rates, but the exact mechanisms are complex. According to the 2005 – 2008 NHANES data, the majority of obese children and adolescents are not low-income (below 130% of the poverty level) (Ogden, Lamb, Carroll, & Flegal, 2010). Of the approximately 12 million youth (age 2 - 19 years) who are obese, only 4.5 million (38%) live in households who have incomes below 130% of the poverty level. However, obesity prevalence rates increase as income levels decrease. For girls living in households with income at or above the 350%, obesity rates are 12%; for girls living in households with income below 130% of the poverty line, obesity rates increase to 19.3%. Low parental education is another socioeconomic factor that increases the risk for obesity in childhood (Nelson et al., 2018; Singh et al., 2010). In a systematic review of 20 cross-sectional studies from western developed countries from 1990-2005, parental education was inversely associated with childhood obesity in 15 studies (Shrewsbury & Wardle, 2008).

The complex and multidimensional obesogenic environment influences obesity in adolescence (Stok et al., 2015). Obesogenic environments are the summation and interaction of one's surroundings, opportunities, and behaviors, which synergistically promote obesity in both individuals and populations (Lake & Townshend, 2006). Obesogenic environments simultaneously promote excessive intake and decrease sedentary activity for individuals and communities, and are influenced by attitudes, economic, political, geographical, familial, physical, and technological aspects of the world (Hill, Wyatt, Reed, & Peters, 2003; Kirk et al., 2010). More specifically, diminished physical activity levels, urban sprawl, increased crime, lack of accessible supermarkets, high accessibility of fast-food restaurants, and a substantial presence of food advertising simultaneously influence children to increase their caloric intake and decrease their physical activity (Vartanian & Smyth, 2013). In an adolescent sample of over 11,000 European youth (10 – 17 years old), survey results showed that a higher sensitivity to the food environment was associated with unhealthy snacking ( $R^2 = 0.44$ ,  $F(7,9140) = 60.68$ ,  $p < 0.001$ ) (Stok et al., 2015). However, an adolescent's more frequent use of self-regulating behaviors interacted with this relationship, although the effect was small ( $r^2 = 0.152$ ,  $F(8,9139) = 205.59$ ,  $p < 0.001$ ) (Stok et al., 2015).

In conclusion, obesity in youth is multifactorial. Individuals begin with their own unique genetic code, which may or may not directly impact the development of obesity. During pregnancy, biology begins exerting influence; maternal factors begin to interact with the fetus' personal biology and genetics. Certain biological pathways may become activated, increasing a child's risk for later obesity. Once the infant is born and enters a larger social system, social and environmental factors are added into the complex interactions, influencing the development of nutritional habits and foods available over time. As children and adolescents grow and develop

these factors continue to interact and must all be considered during treatment and prevention of childhood obesity.

### **Consequences of obesity in childhood and adolescence.**

Obesity in youth has been associated with serious physical and psychosocial health consequences across the lifespan. When compared to youth who are not overweight or obese, youth who are obese face both increased morbidity during childhood, and increased morbidity and mortality in adulthood (Centers for Disease Control and Prevention, 2014b; Imperatore et al., 2012).

Physical consequences of obesity have been well documented. Obesity related conditions like heart disease, stroke and Type 2 Diabetes are leading causes of preventable death in American adults and prevention starts in childhood and adolescence (Centers for Disease Control and Prevention, 2016). Youth who are obese have an increased risk for insulin resistance, type 2 diabetes mellitus, cardiovascular disease, non-alcoholic fatty liver disease, metabolic syndrome, cancer, and pulmonary disorders (El-Koofy et al., 2012; Kelsey, Zaepfel, Bjornstad, & Nadeau, 2014; Robinson et al., 2011; Slyper et al., 2014; Yang et al., 2017). Furthermore, Type 2 diabetes prevalence rates are expected to rise due to obesity and changes in population demographics (Imperatore et al., 2012). Currently, over 5,000 American youth are diagnosed with type 2 diabetes each year (Centers for Disease Control and Prevention, 2014a). Based upon data from the SEARCH for Diabetes in Youth study and the United States Census Bureau population demographics and demographic projections, Imperatore et al. (2012) predicts that by 2050 the number of persons under the age of 20 with T2DM will nearly quadruple. Furthermore, racial disparities are projected to continue, with Hispanic youth characterizing 50% and non-Hispanic black youth characterizing 27% of all youth with T2DM by 2050 (Imperatore et al., 2012).

Psychosocial health is also at risk as children who are obese are often bullied, stigmatized against, and face a decreased quality of life (Puhl et al., 2011). Weight based teasing leads to emotional pain (Eisenberg, Berge, Fulkerson, & Neumark-Sztainer, 2011) and adolescents who are obese are more likely to suffer from depression and anxiety than adolescents who are not obese (Levy & Pilver, 2012). In a literature review of 34 studies measuring the social dimension of quality of life (QOL) in youth who are overweight and obese, 31 studies observed low quality of life scores (Buttitta, Iliescu, Rousseau, & Guerrien, 2014). Mühlig, Antel, Föcker, and Hebebrand (2016) systematic review of 24 longitudinal and cross-sectional studies demonstrated a significant association between depression and obesity among female participants. Of the eight correlational studies, five demonstrated a significant relationship of depression and obesity when both began in early adolescence (11 – 14 years) ( $r = 0.2$ ). However, this was not true when both obesity and a depressive disorder occurred in later adolescence (14 – 20 years) or early adulthood (21 – 24 years) (Mühlig et al., 2016).

Eitle and Eitle (2018) completed an analysis of the National Longitudinal Study of Adolescent Health found that no physical, objective measurements such as weight or BMI were significantly associated with depressive symptoms in American Indian or white youth. However, when adding the gender variable, white females subjective perspective on weight was a significant predictor of depressive symptoms (Eitle & Eitle, 2018). Additional research is needed to better understand the way obesity-related factors affect adolescents' psychosocial health before health care professionals can provide effective, holistic care.

#### **Adolescents living with obesity.**

When researching obesity in youth, age of the child has emerged as a significant factor in recent weight trends. The most noticeable difference is between preschool and adolescent

children. The prevalence of obese adolescents (age 12 – 19 years, 20.5%) is greater than school-aged children (age 6 – 11 years, 17.5%) and preschool-aged children (age 2 – 5 years, 8.9%) (Ogden et al., 2015). Preschool-aged children have seen a decline in obesity prevalence, but adolescents have not (Ogden et al., 2014; Ogden et al., 2016). According to 2011 – 2012 NHANES data, low-income preschoolers are a population that has seen a recent decrease in obesity prevalence, from 13.9% to 8.4% ( $p = 0.03$ ) (Ogden et al., 2014). In an analysis over a 25 year period (1988 – 2014) Ogden et al. (2016) found that the prevalence of obesity and extreme obesity in adolescents aged 12 – 19 years old has continually increased since 1988 ( $p < 0.001$ ). However from 2005 – 2014 no significant changes in adolescent prevalence of obesity and extreme obesity was found, suggesting any changes have been small (Ogden et al., 2016). Similarly, Pan and colleagues (2012) examined 1998 – 2010 data from the Pediatric Nutrition Surveillance System. In this study, children aged 2 – 4 years ( $n = 26.7$  million) from 30 states and the District of Columbia showed a significant downward trend in obesity rates (Pan, Blanck, Sherry, Dalenius, & Grummer-Strawn, 2012). The 2007 National Survey of Children’s Health reported that the national prevalence of obesity significantly increased from 2003, but only in children age 10 – 17 years (Bethell et al., 2010). Thus, significant differences in incidence and prevalence obesity rates are noted in children of varying ages.

Modifiable obesity risk factors change across adolescence (Patton et al., 2016).

Adolescents garner increased autonomy in food choices are more likely than children to eat outside the home and choose unhealthy nutritional choices (Niemeier, Raynor, Lloyd-Richardson, Rogers, & Wing, 2006). In a nationally representative sample of 9,919 adolescents, five year longitudinal data demonstrated decreases in breakfast consumption and a marked increase in fast food consumption as participants aged (Niemeier et al., 2006).



Sedentary behavior often increases in adolescents concurrently with a decrease in physical activity (Dumith, Gigante, Domingues, & Kohl, 2011). In a longitudinal study of 1,800 European children (age 9) and adolescents (age 15) moderate-to-vigorous activity decreased on an average of 30 minutes per day ( $p < 0.01$ ) and sedentary time increased by 2 hours and 45 minutes per day ( $p < 0.02$ ) (Ortega et al., 2013). In a systematic review and pooled analysis of 26 studies, the majority within the United States, physical activity decreased in adolescent boys and girls ( $p < 0.05$ ) (Dumith et al., 2011). In a review of NHAES data from 2007-2016, female adolescents have not been meeting the recommended guidelines for physical activity, with substantial disparities noted across race and income levels (Armstrong et al., 2018).

The power of media influence peaks in adolescence and young adulthood, making adolescents more susceptible to unhealthy processed food marketing (Jordan, Kramer-Golinkoff, & Strasburger, 2008). Patton et al. (2016) completed a review of systematic reviews on the effects of media and marketing to adolescent health, and found that point of sale advertising, movie imagery, television imagery, cartoon characters, advertising, and media use has moderate to strong evidence of effect on adolescent health risk.

#### *Across the lifespan.*

Youth of any age who are obese are more likely to become adults who are overweight or obese (Simmonds et al., 2015; Simmonds et al., 2017) and this relationship became stronger with increased age ( $r = 0.44 - 0.64$ ) (Freedman et al., 2005b). Adolescence is a critical time for intervention because adolescents who are obese are significantly more likely to become adults who are severely obese ( $BMI \geq 40$ ), when compared to adolescents who are not obese (The et al., 2010). While preschool-aged children who are obese are four-times more likely to become adults who are obese than their peers who are not obese (Freedman et al., 2005b), adolescents who are

obese are 16-times more likely to become adults who are obese when compared to their peers who are not obese (The et al., 2010). Similarly, Patton et al. (2011) followed 1,520 Australian adolescents (aged 14 years) over ten years, through 6 waves of adolescent measures and 2 waves of adult measurement. Of the total number of adolescents who were obese, 59% were overweight as young adults (Patton et al., 2011). For individuals who were persistently obese (obese at 3 or more adolescent wave measurements) nearly two-thirds went on to have a BMI  $\geq$  30 in adulthood, compared to one-third of adolescents who were obese at only 1 or 2 waves of measurement. Thus, the length of time an adolescent is obese may play a role in later adult growth and obesity. A meta-analysis investigated the association between childhood obesity, as measured by BMI, as a predictor of adulthood obesity (Simmonds et al., 2017). Reviewing 15 studies, for a combined total over 200,000 participants, Simmonds et al. (2017) found that 80% of obese adolescents live to be obese adults, as measured by BMI. Correlations of childhood obesity and adult morbidities have also revealed positive associations. In a systematic review and meta-analysis of 37 longitudinal studies there was a strong positive association between obesity in childhood and adult diabetes, coronary heart disease, and a variety of cancers (Simmonds et al., 2015). In conclusion, differences in age-based trends of obesity must be taken under consideration when clinicians and researchers are caring for and researching adolescent obesity.

#### **Females living with obesity.**

Obesity significantly affects female adolescents' physical, social, and psychological health (Morinder, Biguet, Mattsson, Marcus, & Larsson, 2011). Adolescent females who are obese have more negative psychosocial consequences than adolescent males who are obese, including increased levels of depression in young adulthood (Merten, Wickrama, & Williams, 2008).

Modifiable risk factors for obesity, such as physical activity and nutrition, have been shown to differ across genders in adolescence. For example, adolescent gender differences have been observed in physical activity (Taber, Robinson, Bleich, & Wang, 2016). The Nutritional Youth Physical Activity and Nutrition Study examined a nationally representative sample of adolescents (9<sup>th</sup> – 12<sup>th</sup> grade) and estimated that gender prevalence differences in obesity were associated with the total number of activities in the past year ( $p < 0.05$ ) and the amount of moderate to vigorous physical activity obtained in the past week ( $p < 0.05$ ) (Taber et al., 2016). Samples of female adolescents have also demonstrated differences in dietary intake between genders (Tate, Dillaway, Yarandi, Jones, & Wilson, 2015). In a cross-sectional sample of urban African American adolescents ( $n = 145$ ; age 15 – 17 years old) female adolescents ate foods higher in calories and fat than male adolescents ( $t = -2.36$ ,  $p = .019$ ) (Tate et al., 2015). Although causal attributes have not been reported, gender differences in physical activity and dietary intake remain aspects of interest in the treatment of adolescent females living with obesity.

When evaluating self-perception in youth, gender is a notable factor (Talamayan, Springer, Kelder, Gorospe, & Joye, 2006; van Vilet, Gustafsson, Duchon, & Nelson, 2015). For example, an adolescent who has a BMI signifying obesity may see herself as slightly overweight. Conversely, an adolescent with a BMI of 26 may perceive their weight as seriously obese. Talamayan et al. (2006) reported that in adolescents with a non-overweight or obese weight ( $n = 9,714$ ) 16.2% perceive themselves as overweight (Talamayan et al., 2006). Misperception of weight was more likely to occur in females (25.3%) than males (6.7%). Females (16.8%) were also more likely to engage in an unhealthy weight control behavior (i.e. fasting, using diet pills) than males (6.8%) in the last thirty days (Talamayan et al., 2006). Similarly, Van Vilet and colleagues (2015) demonstrated that girls  $\geq 13$  years old ( $p < 0.001$ ) were more likely than boys

( $p < 0.05$ ) to unrealistically view themselves as overweight. This result must be applied cautiously as the mean ages of the youth were dissimilar (girls: mean age = 15; boys: mean age = 10.4) (van Vilet et al., 2015). Perception is vital to understand because weight perception in females impacts their social lives during adolescence (Ali, Amialchuk, & Rizzo, 2012; Eaton, Lowry, Brener, Galuska, & Crosby, 2005).

In youths who are obese, an individual's gender may impact obesity development in adulthood (Aitsi-Selmi et al., 2013; Freedman et al., 2005b). In the Bogalusa Heart Study (Freedman et al., 2005b) obesity in female youth is correlated with adult BMI (Freedman et al., 2005a). This longitudinal study followed youth ( $n = 2,610$ ) through adulthood with an average of 18 years between exams. The study demonstrated that youth BMI and triceps skinfold thickness is associated with adult obesity (correlations of age groups ranging from  $r = 0.44$  to  $0.64$ ,  $p < 0.001$ ). Furthermore, for a child who is obese, the older they are, the greater their risk for living with obesity as an adult. This is evidenced by:

1. In girls aged 9 – 11 years with a BMI  $\geq 95^{\text{th}}$  percentile, 78% went on to become adults who are obese.
2. In girls aged 12 – 14 years with a BMI  $\geq 95^{\text{th}}$  percentile, 83% went on to become adults who are obese.
3. In girls aged 15 – 17 years with a BMI  $\geq 95^{\text{th}}$  percentile, 90% went on to become adults who are obese (Freedman et al., 2005b).

In a separate study of adolescent females ( $n = 400$ ; age 14 – 19 years old) adult adiposity was associated with adolescent waist circumference measures (partial  $r^2 = 30.8\%$ ) (Glueck et al., 2015). These results demonstrate how the characteristics of gender and age may play an

important role in obesity development across the lifespan in female adolescents and deserve future research.

### **Weight-related stigma.**

In the United States, obesity stigma is prevalent and harmful to individuals of all ages (Forhan & Salas, 2013; Puhl & Heuer, 2010). As rates of obesity have risen over the past few decades, weight-based stigma has also increased (Latner & Stunkard, 2003). From 1995 to 2005 stigma against children and adults who are obese increased by 66% (Andreyeva, Puhl, & Brownell, 2008) while simultaneously, the ability to recognize one's own excess weight decreased (Johnson, Cooke, Croker, & Wardle, 2008).

Obesity stigma describes the attribution of negative attitudes and beliefs to an individual based on their body weight (Forhan & Salas, 2013). Individuals who are overweight are assigned stereotypical labels, such as being lazy, having no willpower, or being less intelligent (Forhan & Salas, 2013). By age five, children have assigned negative attributes to children who are overweight when compared to children who are not overweight ( $p < 0.01$ ) (Musher-Eizenman, Holub, Miller, Goldstein, & Edwards-Leeper, 2003). Adolescents who are obese have been assigned the stereotypes of being lazy, meaner, less hygienic, less intelligent, and less attractive than adolescents who are not overweight (Griffiths & Page, 2008). Throughout childhood and adolescence, age-related increases in obesity stereotypes have been demonstrated in Caucasian and Hispanic adolescents and are most pronounced for females (as targets) (Klaczynski, Daniel, & Keller, 2009).

Obesity stigma has negative implications for the psychosocial and emotional health in youth. Children who are the victims of weight bias are faced with both physiological and psychological health consequences (Morgan et al., 2012). Weight bias and stigmatization

increases one's vulnerability to low self-esteem, depression, anxiety, poor body image, decreased quality of life, and suicidal thoughts (Brewis & Breunig, 2018; Eisenberg et al., 2011; Friedman, Ashmore, & Applegate, 2008; Hatzenbuehler, Phelan, & Link, 2013; Puhl & Latner, 2007).

Adolescents who were the victims of weight stigmatization have been shown to hold a lower quality of life in adulthood than adolescents who were not stigmatized against (Buttitta et al., 2014). In a longitudinal study of late adolescent, first-year freshman college students (n = 1443) weight shame and being overweight were correlated with increased depressive symptom levels (Brewis & Breunig, 2018). Social connection and friendships may mediate or moderate this risk, demonstrating the influential role of social and environmental factors in adolescents lives (Brewis & Breunig, 2018).

Obesity becomes a status cue and impacts social situations (Vartanian & Silverstein, 2013). In children as young as five years old, children who are overweight are less desirable as friends than children who are not overweight (Musher-Eizenman et al., 2003). This continues throughout childhood into adolescence. Adolescents who are obese are socially marginalized than their non-obese counterparts and have fewer friends (Ali et al., 2012). Stigmatizing results in friendship and status are most pronounced in white Caucasian samples, and not present in African American or Hispanic samples (Ali et al., 2012).

### **Discrimination, teasing, and bullying**

Teasing is defined as making fun of or attempting to provoke another in a positive or negative way (www.dictionary.com, accessed October 27<sup>th</sup>, 2018). Teasing about appearance is almost always considered a negative action, as it is almost always hurtful to the person being teased (PREVNet, 2018). Bullying is often conceptually defined as repetitive, hurtful, and aggressive behaviors that involves two people who have a power imbalance in their relationship

(Hellstrom, Persson, & Hagquist, 2015; PREVNet, 2018). Definitions of teasing and bullying have historically been difficult to operationalize in research and adult researchers have formulated the most commonly used definitions (Hellstrom et al., 2015). However, when adolescents have been asked to describe and define bullying they report that bullying can encompass a single incident. Furthermore, adolescents report that a victim's experience of harm and hurt is a criterion for bullying (Hellstrom et al., 2015). Thus, for the purpose of this study, bullying will be operationally defined as a verbal or physical behavior that occurs once or in repetition, is based upon the victim's weight, and causes the victim harm or hurt. This operational definition is broad and encompasses the conceptual definition of teasing as well as bullying. Of note, when reviewing the following literature, the terminology that the original authors referred to will be used.

Weight-related teasing and is prevalent throughout adolescence (Haines, Neumark-Sztainer, Hannan, van den Berg, & Eisenberg, 2008). Adolescents who are obese are discriminated against (Puhl & Luedicke, 2012; Puhl, Peterson, & Luedicke, 2013) and report higher levels of bullying based on weight than race, religion, or disability (Puhl et al., 2011). A 2014 meta-analysis indicated that both youth who are overweight and obese are more likely to be victims of bullying than peers who are not overweight or obese (Brixval, Rayce, Rasmussen, Holstein, & Due, 2011; van Geel, Vedder, & Tanilon, 2014). van Geel et al. (2014) included 14 articles (N = 55,231) on bullying in youth who are overweight and 16 articles (N = 58,520) on bullying in youth who are obese. Being overweight or obese was associated with bullying (OR = 1.19, [1.1 – 1.29]; OR = 1.51 [1.34 – 1.72]) (van Geel et al., 2014). Analysis was limited because it was unable to differentiate between age groups or different forms of bullying, such as verbal or physical.

Evidence is mixed regarding gender differences in teasing during adolescence. The above meta-analysis by van Geel et al. (2014) reported no significant differences in the levels of teasing by gender. In a separate longitudinal study Haines et al. (2008) followed 2,516 adolescents over five years to measure longitudinal trends among early adolescents (in middle school), mid-adolescence (high school), and late-adolescence (post-high school). Across age groups, approximately 25% of the female adolescents reported they had been teased about their weight and 21 – 22% of males had been teased. Among females who were overweight weight-related teasing was higher at 31.2 – 42.4%, and among males who were overweight percentages further increased to 40.8 – 44.6%. Over five years the only group that experienced a significant change in the rate of teasing was the adolescent males who were overweight, with a decrease of 20% ( $p = 0.008$ ) (Haines et al., 2008). This study was later expanded to measure longitudinal trends of weight-based teasing in adolescents over a period of eleven years (1999 – 2010) and no significant changes were noted in any group (Haines, Hannan, van den Berg, Eisenberg, & Neumark-Sztainer, 2013)

While both male and female adolescents report being teased about their weight at similar rates, when specifically asked about the *source* of weight-related teasing by peers, significant gender differences emerged. White girls reported significantly higher levels of peer teasing than Asian American girls ( $p = 0.01$ ). There were no significant differences among any other race/ethnicity. Interestingly, the degree to which girls who had been teased by their peers were *bothered* by the teasing also varied across racial subgroups. White girls were more likely to be bothered by teasing by peers than African American girls ( $p < 0.001$ ). Similarly white girls were more likely to be bothered by family-teasing than Asian American girls ( $p = 0.009$ ) (van den Berg, Neumark-Sztainer, Eisenberg, & Haines, 2008).



When researching gender differences in weight-related teasing and bullying during adolescence, results vary (Brixval et al., 2011; Gray, Simon, Janicke, & Dumont-Driscoll, 2011; Halabi Najjar, Jacob, & Evangelista, 2018). One review of the literature demonstrated girls who are overweight are teased more about their weight, verbally and physically bullied, and socially marginalized in friendships and romantic relationships (Tang-Peronard & Heitmann, 2008). However, a cross-sectional study by Wang, Li, Li, and Seo (2018) investigated the association between bullying victimization and body weight status in a nationally representative sample of adolescents (n = 11,825). A statistically significant association was found in male adolescents ( $p < 0.001$ ), but not in female adolescents ( $p = 0.838$ ). Contrastingly, when examining the literature of bullying over childhood and adolescence, Gray et al. (2011) concluded that adolescent males who were obese reported higher rates of stigmatization as children, but female youth who were obese were stigmatized at the same rate in both childhood and adolescence. Thus, female youth are subjected to greater weight-based stigma regardless of age (Gray et al., 2011). Further research is needed in this area before conclusions can be posited.

### *Consequences.*

Weight-related teasing and bullying in adolescence has consequences for social situations and behaviors. Bullied and teased children engage in more unhealthy eating patterns and are more likely to avoid physical activity than children who are not bullied (Puhl et al., 2015). Stigmatized teens have poorer school performance (Puhl & Luedicke, 2012), decreased school attendance, and more suspensions (Daniels, 2008).

Weight stigmatization also impacts mental health by increasing the risks of children and adolescents developing a poor body image and self-esteem, disordered eating, decreased quality of life, and suicidal thoughts (Eisenberg et al., 2011; Friedman et al., 2008; Hatzenbuehler et al.,

2013; He et al., 2017; Libbey, Story, Neumark-Sztainer, & Boutelle, 2008; Puhl & Latner, 2007).

In a sample of 1,419 middle-school students, students who were teased about their weight had lower scores on self-esteem and higher scores on depression, than those who were not teased (Greenleaf, Petrie, & Martin, 2014). Adolescents who were overweight had greater rates of depression, anxiety, anger, disordered eating, and lower self-esteem the more frequently they were teased by family and peers (Libbey et al., 2008). In a sample (n = 965) of high school adolescents individuals who had been bullied and perceived discrimination had higher odds of engaging in self-harm, suicidal ideation, as well as higher depressive symptoms (Garnett et al., 2014). Halabi Najjar et al. (2018) reported that in a multi-ethnic, low-income sample of adolescents, those persons who experienced the highest levels of weight-based stigmatization had the highest prevalence of disordered eating behaviors, clinically diagnosed eating disorders, and psychological distress. Similarly, a meta-analysis of 36 studies showed that disordered eating was prevalent amongst 25% of all overweight and obese adolescents (He et al., 2017).

Conversely, Ali, Fang, and Rizzo (2010) conducted an examination of a nationally representative sample of adolescents (n = 13,454, ages 11 – 18 years old). Analysis revealed no significant associations between mental health outcomes and actual weight status. But there was a significant negative association between self-perceived weight and mental health with depressive symptoms increased in females than males (Ali et al., 2010). Further research may be warranted to examine causal pathways between weight perception, weight stigmatization, and mental health outcomes.

Results of gender difference in the health consequences of stigma are mixed. Halabi Najjar et al. (2018) reported that overweight females reported higher body dissatisfaction and psychological distress than males. Mühlrig et al. (2016) conducted a systematic review on gender

differences amidst obesity and depression. Five of 17 studies evidenced an association between obesity in females and later depression, and one study evidenced an association between male gender, obesity, and depression (Mühlig et al., 2016). Among adolescent females, bullying affects participants self-confidence, anxiety, and social isolation (Griffiths & Page, 2008).

Weight based stigma, teasing, and bullying have long-term effects. Previously overweight school-age children who have become normal weight adolescents demonstrate greater body image discrepancy and a lower self-esteem compared to those who were never overweight (Mustillo, Hendrix, & Schafer, 2012). Levy and Pilver (2012) report that even when formerly obese children have lost weight, the psychological effects of early weight stigma linger. This study analyzed a sample of adults who were currently not overweight or obese, but had previously been overweight adolescents, and found they were significantly more likely to have an anxiety disorder, a depressive disorder, and have attempted suicide than adults who were not overweight and who had been children who were not overweight (Levy & Pilver, 2012). Longitudinal differences across genders have also emerged. Puhl, Wall, et al. (2017) followed 1,830 adolescents over 15 years and reported that weight-based teasing in adolescent females predicted a higher BMI and adverse eating disorders in adulthood, than when compared to adolescent males overtime.

## **Conclusion**

The patient is seen as a holistic individual who interacts with their physical and social environment. The social characteristics of adolescence, gender, and obesity are important factors to consider when providing health care. While these factors can be independently investigated, they also interact and moderate health and effects (Morinder et al., 2011; Ogden et al., 2015; Patton et al., 2016; Taber et al., 2016). Health care providers can incorporate this literature into

the care they provide to female adolescents who are obese. For youth, the primary care provider is uniquely situated to follow the individual from infancy through emerging adulthood (American Academy of Pediatrics, 2012).

### **The Health Care Provider**

Primary care is well established to diagnose and treat acute and chronic illness (American Academy of Family Practice, 2016). The HCP focuses not only on illness, but also disease prevention, health promotion, health maintenance, patient education, and counseling (American Academy of Family Practice, 2016). Through all these actions, primary health care provides comprehensive and continuous care (American Academy of Family Practice, 2016).

Historically, primary care was a physician led health care system (Young et al., 2015). Current trends show increases in the number of nurse practitioners practicing as primary care providers (Maier & Aiken, 2016). However, health care also involves ancillary services such as nutrition consults and physical therapy. Thus, for the purpose of this review, references to a HCP will be inclusive of nurse practitioners, physicians, dietitians, physical/occupational therapists, and mental health providers.

The Federation of State Medical Boards report that the average practicing physician in the U.S. is older and predominantly male (but increasingly female at the entry level) (Young et al., 2015). Age continues a significant gradual shift from younger to older age, with the average age 52 years in 2014, compared to 50 in 2010; physicians who are 60 years or older comprise the single largest age category (Young et al., 2015). Gender differences are significant, with males making up 66% of licensed physicians. However, younger cohorts of physicians under 40 years old are significantly higher in female physicians (Young et al., 2015). Physicians usually have approximately nine years of college education before becoming an independently practicing

physician in the U.S. (Thompson, 2012). Since 2010 the total number of actively licensed physicians has increased by 35%, of which more than half are American citizens (Young et al., 2015). The racial and ethnic make-up of all medical school graduates in the United States is 75% white (Association of American Medical Colleges, 2010).

The Affordable Care Act, coupled with a projected shortage of physicians, has created more opportunity for NPs and PAs to work to the full extent of their licensure (Maier, Barnes, Aiken, & Busse, 2016). The USA has the highest number of NPs per person than any other country (40.5 per 100,000). Annual growth rates of licensed NPs are high across the globe and 3 – 9 times higher than physician growth rate, with the NP growth rate in the U.S. at 6.1% (Maier et al., 2016).

As of 2012, an estimated 154,000 NPs were licensed to practice in the United States, and 127,000 of these were actively practicing (Health Resources and Services Administration, 2014). The NP workforce is largely homogenous in race/ethnicity and gender, as 86% were white and 93% female. Of the actively practicing NPs, nearly half of the work force was working in primary care (Health Resources and Services Administration, 2014). Estimates suggest that NPs can provide up to 90% of primary care health services that physicians are able to (Maier et al., 2016). The American public is open to receiving care from NP (Dill, Pankow, Erikson, & Shipman, 2013).

Nurse practitioners work in variety of collaborative practices with physicians but their practice abilities differ depending upon specific state regulations and laws (Health Resources and Services Administration, 2014). In a national, cross-sectional, longitudinal study data illustrated that over the past decade most states granted greater autonomy around prescriptive authority and decreased the need for physician involvement in assessment and treatment (Gadbois, Miller,

Tyler, & Intrator, 2015). However, states also increased barriers to entry, increasing the NP education requirements before licensure and independent practice (Gadbois et al., 2015).

## **Role**

Health care providers (HCPs) can play a key role in obesity prevention and treatment, as they have the ability to follow an individual from birth through college, providing a longitudinal, family-based, developmental based approach and relationship (American Academy of Pediatrics, 2012). In 2012 the Institute of Medicine released a report indicating health care providers are a critical component of successful weight management (Institute of Medicine, 2012). The American Academy of Pediatrics recommends HCPs use a developmentally appropriate, life course approach to the identification and management of obesity. HCPs should counsel on decreasing high caloric food, removing sugar-sweetened beverages from diet, increasing fruit and vegetable intake, reduce sedentary behavior, engage in 60 minutes of moderate to vigorous physical activity each day. (Daniels & Hassink, 2015)

While HCPs acknowledge the need for clinical practice to address obesity, they are not confident in their counseling approach or efficacy (Kolagotla & Adams, 2004). Kolagotla and Adams (2004) report that approximately 30% of general practitioners feel confident in obesity counseling, and only 10% feel their counseling is effective. This can be further examined in researching the effectiveness of primary care obesity management. Ard (2015) completed a systematic review of primary care based obesity management, and the evidence suggests there is limited effectiveness in adult populations who are obese and overweight. The effectiveness in child and adolescent populations is unknown.

In practice, the HCP may influence the HCE and subsequent patient outcomes. In a randomized control trial (n = 347) Bennett et al. (2015) evaluated the association between the

patient-provider relationship, the patient's satisfaction with the HCP, and patient weight loss in a primary care based trial. After 24 months adult individuals who perceived the provider as "helpful" had greater weight loss ( $p = 0.005$ ) than those who did not find the HCP helpful. Thus, partnering with primary HCPs in weight loss intervention programs and goal setting may augment patient satisfaction and weight loss (Bennett et al., 2015).

Yet, adolescent patient needs differ from adults (Patton et al., 2016). Youth have specific preferences in regard to their HCP (Ambresin, Bennett, Patton, Sancu, & Sawyer, 2013). In a systematic review of studies on youth perspectives on health care adolescents identified staff attitude to be highly salient to their health care needs. They identified that adolescent-friendly health care involves HCPs who are respectful, honest, supportive, trustworthy, and friendly. These characteristics of HCPs were found to be universally applicable across health care settings (i.e. clinic, hospital, low income, high income country) (Ambresin et al., 2013).

### **Beliefs and Attitudes**

As previously discussed, obesity is a visible condition and is highly stigmatized (Puhl & Brownell, 2006). Health care providers are not immune to biased beliefs and attitudes (Puhl & Heuer, 2010). Medical providers who hold a high level of weight bias are more likely to attribute obesity to individual behavioral causes and express negative attitudes about obesity treatment (Puhl et al., 2014). Weight bias of adult patients who are obese has been documented in health care providers, including nurses, physicians, physician assistants, bariatric staff, and dieticians (Brown, 2006; Budd et al., 2011; Huizinga et al., 2010; Phelan et al., 2015; Sabin et al., 2012; Sabin, Moore, Noonan, Lallemand, & Buchwald, 2015; Sikorski et al., 2013; Steele et al., 2011; Stone & Werner, 2012; Wolf, 2012). Research has also examined attitudes and beliefs of students and trainees in professional health disciplines (Blanton et al., 2016; Klos, 2014).

Negative stereotypes of adults who are obese are present in students of various health disciplines, and students are more likely to blame the individual for their excess weight and believe that individuals who are obese are deserving of derogatory humor (Pantenburg et al., 2012; Poon & Tarrant, 2009; Wear, Aultman, Varley, & Zarconi, 2006).

While there is ample evidence of weight bias in health care settings among adult populations, there is limited research on weight bias within pediatric populations. Snethen et al. (2014) found that nursing students and undergraduate pre-nursing students hold some negative perceptions of children who are overweight and obese. Similarly, a systematic review of pediatric providers reported that physicians held negative attitudes towards obesity management (Van Gerwen et al., 2009). Health care students also have been shown to demonstrate weight bias towards children (Swift, Hanlon, El-Redy, Puhl, & Glazebrook, 2012). In a survey study of primary care providers of the Indian Health Services, strong implicit bias against overweight children was detected (Cohen's  $d = 1.44$ ) (Sabin et al., 2015). It is unknown how the adolescent patient perceives providers' attitudes and actions, and if the provider's attitude affects the health care encounter or subsequent patient weight loss.

### **The Health Care Encounter**

Patient-centered practice has been recognized as a fundamental domain of quality care (Institute of Medicine, 2001). Patient-centeredness is an approach to care that views the provider and patient as partners within the health care system, and subsequently affects the planning, delivery, and evaluation of health care (Epstein & Street, 2011; Institute for Patient- and Family-Centered Care, 2016). Efforts to promote patient-centered care should involve quality relationships between patients, clinicians, and health care organizations (Epstein & Street, 2011). To make a health care encounter more responsive to patients' needs, values, and preferences an



examination of how patients view the care they receive is required (Davis, Schoenbaum, & Audet, 2005).

Adolescents have specific health care needs that differ from adults and adolescent health care serves several essential roles (Patton et al., 2016). First, there are acute health care needs of adolescents (i.e. viral/bacterial illness, bone fractures) and then there are health services that respond to the emerging, developmental, and normative needs, such as puberty, contraception, STI/HIV education and treatment, mental disorders, and substance abuse (Andersen & Teicher, 2008; Crone & Dahl, 2012; Mason et al., 2014; Mendle et al., 2007; Patel, Flisher, Hetrick, & McGorry, 2007; Patton et al., 2016). Communication and emotional needs within the health care encounter may differ in adolescent patients than in adults (Ambresin et al., 2013; Byczkowski, Kollar, & Britto, 2010; Pfeifer et al., 2011).

The adolescent health care provider must be attuned to the development of their patient and should incorporate these age-specific needs into their training and teaching initiatives (Ambresin et al., 2013; Patton et al., 2016). Ambresin et al. (2013) conducted a systematic review on young people's (age 10 – 24 years old) experiences of health care and satisfaction (Ambresin et al., 2013). Young people desired clinicians to listen to them, and a clinician's listening skill was the most frequently reported factor in making the adolescent feel good about the HCE (Ambresin et al., 2013; Byczkowski et al., 2010).

Gender also influences the patient's perspective of the health care encounter. One's conceptions of masculinity and femininity affect major health risk factors, impact stressors they face, social relationships they engage in, coping strategies they use, and development of personal resources (Rosenfield & Mouzon, 2013). Strategies in responding to health needs may be

effective and appropriate for young females but not young men (Patton et al., 2016; Viner et al., 2012).

HCPs enter the HCE with their own perspective regarding childhood obesity, causation, and best treatment options. Adolescents and families enter the HCE with their own perspective. Normative practices vary extensively across cultures, ethnicities, neighborhoods, generations, and history, and must be recognized and respected in nursing practice (Dudek, 2013). For example, when working with female African American adolescents, providers and policy makers must be cognizant of cultural perceptions of body image norms, the influencing perspectives of early food scarcity, and a mother's authoritarian position (Wilson, Musham, & McLellan, 2004). Perspectives of which foods constitute love, security, and hospitality exist, and differences in food patterns, preferences, the social meaning of food, and practice of family meals must be taken under consideration (Anderson, 2014). Japanese adolescent girls and boys demonstrate significantly different eating pathology and food meaning compared to adolescents in Western cultures (Nakai, Noma, Nin, Teramukai, & Wonderlich, 2015). In some areas of the U.S. "soul food," or traditional foods eaten by African Americans, are woven into their everyday life and experiences (Harmon, Blake, Armstead, & Hebert, 2013). Health care providers report that cultural barriers exist in the health care encounter that present a barrier to addressing pediatric obesity in the HCE (Shreve, Scott, & Vowell Johnson, 2017). With improved understanding of the adolescents' perspective, HCPs will be better prepared to offer wider range of treatment and prevention options.

Social and cultural meanings of weight, health, and obesity vary across populations. Patients and HCPs enter the health care encounter from divergent backgrounds and may hold different values. HCPs can no longer assume that all patients accord obesity with negative

connotations, or associate it as unhealthy. For example, various perceptions of obesity exist amongst African American, Caucasian, and Latino populations (Davidson & Knafl, 2006). African Americans demonstrate a positive correlation between obesity with attractiveness. Contrastingly Caucasian Americans demonstrated a negative relationship between attractiveness and obesity while Latino Americans have a neutral attitude of attractiveness and obesity (Davidson & Knafl). Pacific Islanders view thinness, especially in children, negatively (Bruss et al., 2005). These examples demonstrate the wide variety individuals bring with them into the health care encounter.

### **Obesity Management**

International consensus in the management and treatment of obesity in youth, along with primary care management recommendations, consistently support a combination of physical activity, diet, and behavioral changes (Barlow, 2007; Richardson et al., 2013). Dietary intake and lack of physical activity are parts of a child's environment and have been prime targets of clinical practice and individual behavioral change within the health care encounter (Richardson et al., 2013). Yet, the evidence on the effectiveness of this management approach is not strong. Frerichs, Ataga, Corbie-Smith, and Tessler Lindau (2017) conducted a systematic review of 18 studies, examining the impact of youth participatory interventions. Results revealed that while participatory approaches have potential to impact physical activity, dietary change, or weight change, process and outcome measures vary (Frerichs et al., 2017). In a meta-analysis of 44 randomized-control-trials on diet, physical activity and behavioral interventions for obese and overweight adolescents, low-quality evidence demonstrated that a multi-disciplinary approach to weight management changes BMI by  $-1.18 \text{ kg/m}^2$  [95% CI (-1.67 to -0.69)] when compared to controls (Al-Khudairy et al., 2017). Moderate-quality of evidence demonstrated that it reduces

weight -3.67 kg [95% CI (-5.21 to -2.13)], when compared to control adolescents (Al-Khudairy et al., 2017). Questions remain about the youth contribution and what specific mechanisms truly impact behavior change, weight loss, and BMI change.

Expert committee recommendations (ECRs) for clinical practice in obesity in youth are well-known yet remain poorly implemented (Tanda & Salsberry, 2014). To evaluate the impact of the ECRs on direct clinical practice, Tanda & Salsberry conducted a review of the 2006 – 2009 National Ambulatory Medical Care Survey and National Hospital Ambulatory Care Survey, exercise and diet counseling frequencies were examined during well-child visits in children aged 2 – 18 years. Prior to the ECRs publication (2006 – 2007) only 37% of children were provided with nutrition counseling and 22% provided with exercise counseling. After the ECRs publication (2008 – 2009) counseling frequencies for obese children did not change (33% of children received nutrition counseling and 18% received exercise counseling). Despite ECRs based upon available evidence and clinical judgment, systematic approaches in primary care have not improved the frequency on the delivery of obesity prevention, assessment, and treatment and remains between 33 – 38% (Tanda & Salsberry, 2014).

When looking specifically at obesity in adolescents' the efficacy of primary care-based childhood obesity treatment interventions for adolescents is limited (Seburg et al., 2015). In a systematic review of childhood obesity primary prevention programs Haynos and O'Donahue (2012) reviewed 29 randomized control trials. Only one study included young adolescents in the sample: Singh and colleagues (2009) implemented a primary care intervention that lasted 8 months. The study followed dietary intake, physical activity, and sedentary behavior in 1,108 Dutch children, aged 12 – 14, over one year. Adolescent girls from the intervention group had a

significant decrease in skinfold thickness following the intervention, which was maintained through the 12-month follow-up (Singh, Chin, Paw, Brug, & van Mechelen, 2009).

More recently, Stoner et al. (2016) completed a meta-analysis on exercise interventions for weight loss in obese and overweight adolescents. Exercise interventions moderately reduced BMI (mean 2 kg/m<sup>2</sup>, 95% CI 1.5-2.5) and had small associations with reduced body fat percentage, body weight, and waist circumference (Stoner et al., 2016). However, it should be noted that there were a small number of randomized control trials available so results must be interpreted with caution.

Motivational interviewing is a communication technique that has gained traction in the health care encounter when dealing with teenagers. It focuses on individual choice, partnership and mutual goal setting, and has been used with success in weight management. In a randomized control study of predominantly African-American female adolescents (n = 99), groups either received an education control teaching session, or two MI sessions (Bean et al., 2018). At 3 and 6 month follow-ups, both groups had a significant increase in physical activity and significant decreases in BMI z-scores and energy intake ( $p < 0.05$ ) (Bean et al., 2018). MI participants did have greater reductions in decreased caloric intake at 3 months when compared to controls, suggesting that MI may improve adherence to dietary recommendations, as supported in the literature (Bean et al., 2018).

There are significant social factors to consider during a health care encounters with adolescents living with obesity. In weight management programs, a qualitative study reported that the program facilitators and peers were primary supporters of weight loss, and all adolescents expressed appreciation for this. Interviews highlighted the fact that adolescents wanted to change, but had high levels of uncertainty about how to change their health

practices/behaviors (Reece, Bissell, & Copeland, 2015). A meta-synthesis of 30 qualitative studies examined adolescent perceptions (n = 1,400 participants, aged 12 – 18 years old) of individuals living with overweight or obesity (Rees, Caird, Dickson, Vigurs, & Thomas, 2016). The participants placed considerable emphasis on personal responsibility and the social implications of living with increased weight. Young people of all sizes described a difficult, stigmatizing social world and were less concerned about the health effects of obesity (Rees et al., 2016).

### **Stigmatization**

In health care stigmatization of individuals who are obese is an ineffective treatment method and actually causes more harm than benefit (Lewis et al., 2010). Perceived discrimination in health care is associated with underutilization of medical and mental health care across ethnicities (Burgess, Ding, Hargreaves, van Ryn, & Phelan, 2008). Children who experience obesity stigma engage in more unhealthy eating patterns and are more likely to avoid physical activity (Puhl et al., 2015).

The majority of research into weight stigma has been done in adult samples. Results of these studies will be reviewed but must be interpreted cautiously in relation to adolescent samples. A systematic review on obesity, stigma, and health care encounters reported obesity negatively impacted health care interactions in all 30 studies (Mold & Forbes, 2013). In a study of adult patients who were obese (n = 6,628) they reported experiencing decreased levels of patient-provider communication and provider show of respect ( $p < 0.05$ ) than adults who were not obese (Richard, Ferguson, Lara, Leonard, & Younis, 2014). Another study in adult samples supported this finding; patients who perceived discrimination within the health care encounter had decreased patient-provider communication (Hausmann et al., 2011).

Weight stigma in the health care encounter affects subsequent weight loss in adult samples. In a sample of 600 adults who were overweight, 21% of them felt judged by their PCP about their weight (Gudzune, Bennett, Cooper, & Bleich, 2014). Over the next 12 months, 13.5% of the individuals who perceived judgment lost  $\geq 10\%$  of their weight, as compared to 20.1% of the individuals who did not perceive judgment (Gudzune et al., 2014). Research has also shown that obesity stigma is associated with weight gain. In a longitudinal study with English adults perceived weight stigma was associated with increases in weight (+1.66 kg,  $p < 0.001$ ) and weight circumference (+1.12,  $p < 0.05$ ) (Jackson, Beeken, & Wardle, 2014).

Interestingly, in a randomized control study ( $n = 415$ ) the quality of adults' patient-provider relationship was not associated with weight loss, but the amount a PCP was perceived as "helpful" was associated with greater weight loss ( $p = 0.005$ ) (Bennett et al., 2015). These results demonstrate that while there is an effect on weight loss, the specific factors of the HCP within the health care encounter remain unknown. It is difficult to find evidence that stigmatizing children or adults can lead to effective and positive behavior change.

Recently, the American Academy of Pediatrics released a policy statement aimed to raise awareness of weight stigma in health care on pediatric patients and their parents (Pont et al., 2017). The policy statement also provides four advocacy recommendations and six clinical practice guidelines for use in the health care encounter to address weight stigma in health care. Examples of these include expressing empathy through counseling techniques that also empower the adolescent, such as motivational interviewing; modeling of nonbiased language and behaviors; and encouraging training and education about weight stigma in medical education (Pont et al., 2017).

### **Patient Perceptions**

Research into “youth-friendly” health care or clinics has emerged in the literature over the past decade (Mauerhofer, Berchtold, Akre, Michaud, & Suris, 2010), yet a very limited number use a sample of adolescents living with obesity. Recently, research has begun to examine experiences of youth who are overweight or obese experiences within the health care encounter. Morinder et al. (2011) conducted a phenomenological study to describe adolescents’ perceptions of weight management treatment. Interviews with 40 adolescents (22 female and 18 male) revealed a wide variation in adolescent perceptions of the aims of weight management treatment, how they responded to the treatment process, and how they related to staff. For example, if the treatment program was perceived as focusing on the individual, adolescents reported feelings of self-empowerment and acceptance. In contrast, if treatment was perceived as focusing on weight, adolescents reported feelings of disappointment, ambivalence, shame and guilt (Morinder et al., 2011).

Self-perception of weight can also influence the health care encounter and an adolescent’s attempts at weight loss. Fan and Jin (2015) surveyed adolescents who perceive themselves overweight, irrespective of their actual weight status. While adolescents who perceive themselves as overweight have a stronger intention to lose weight than those who perceive themselves as counterparts, they do not develop improved eating or physical activity habits (Fan & Jin, 2015).

During the health care encounter, adolescent females who are obese preferred that the HCPs sensitively explore appearance and psychosocial distress and help identify the adolescents’ motivations for weight loss (Chung, Sherman, Goodman, Bickham, & Rich, 2013). Taylor et al. (2013) completed a study with Mexican-American adolescent females who were obese on weight management practice. Results revealed that adolescents fluctuated between concrete and abstract



thinking, which affected their perceptions of obesity. For example, the adolescents could verbalize the need for action, but simultaneously minimized the barriers to weight management and were unable to move from thought to action (Taylor et al., 2013).

### **Conclusion**

Within the health care encounter, patients and providers interact. The health care encounter can positively or negatively impact the health outcomes of adolescent patients (Patton et al., 2016). Research into which aspects of the health care encounter are beneficial and effective for female adolescents who are obese is missing (Patton et al., 2016), especially from the adolescents' point of view. There is research into the HCE focused on obesity from the perspective of the HCP, adult patients who are obese, and the parents of children living with obesity (Phelan et al., 2014; Richard et al., 2014; Turner et al., 2012), but none from the female adolescent's point of view. In efforts to enhance health services for this population an examination of the HCE from the perspective of the female adolescent who is obese is needed. Insight and understanding a female adolescent's perspective on weight management in the HCE may assist HCPs in effectively promoting behavior change and long-term weight loss (Teixeira et al., 2012) It is unknown how female adolescents living with obesity perceive their current health care encounters. The following study will attempt to fill this gap in the literature.

## CHAPTER 3: METHODS AND PROCEDURES

This study uses a qualitative design to explore the health care experiences of female adolescents living with overweight and obesity. Little information is available in current literature regarding female adolescents who are living with increased weight and their perception of the health care encounter. Therefore qualitative methodology was used in this study which allows researchers to examine issues based on human experiences in detail (Anderson, 2010). In-depth interviews were conducted between the Principal Investigator (PI) and each participant. Interviews were analyzed using Braun and Clarke (2006) method of thematic analysis. This study was carefully designed and attention was given to participant selection, setting and recruitment, data collection procedures, ethical considerations, data analysis, and rigor.

### **Research Design**

A qualitative research study using thematic analysis was conducted to explore the perspectives and experiences of female adolescents who are overweight or obese within health care encounters (HCEs). Qualitative inquiry is beneficial when studying abstract concepts, lived experiences, and interpersonal relationships where a detailed and complex understanding of the topic within context is needed (Creswell, 2007). Qualitative methodologies gain detailed accounts from participants in efforts to explore, understand, and represent participants' experiences and associated meaning. As an interactive and emergent form of inquiry the Principal Investigator (PI) and Major Professor (MP) made decisions together throughout the process of inquiry. This inquiry was grounded in knowledge gained from earlier studies, clinical experience, a thorough literature review, and from the interviews as they were completed (Polit & Beck, 2012).

Semi-structured interviews with female adolescents who were obese or overweight were used to develop a greater insight into how female adolescents understand health concepts and weight, and their experiences with health care. Interviews can be beneficial for participants as they can facilitate a sense of purpose and promote empowerment, healing, and self-acknowledgement (Hutchinson, Wilson, & Wilson, 1004). Throughout the interview process the PI sensitively listened and engaged with the participants (Riesman, 2008). As a methodological tool, individual interviews appropriately fulfill this study's purpose to describe how female adolescents who are obese or overweight perceive the health care encounter with a particular focus on weight.

### **Research Aims**

1. Describe types of issues discussed during health care encounters of female adolescents who are living with increased weight.
2. Describe how well female adolescents who are living with increased weight perceive their health needs being met within the health care encounter.
3. Explore views of weight from a female adolescent perspective, within the context of the health care system.
4. Identify suggestions from participants on how to improve the health care system in addressing needs of female adolescents who are living with increased weight.

### **Setting and Recruitment**

The setting for this study was mainly in south-central Wisconsin representing moderate-sized urban areas, multiple suburban communities, and surrounding rural communities. Convenience, purposive sampling was used in this study because it permitted selection of individuals who have knowledge and experience with the phenomena. The goal was to interview

30 adolescents. Participants were recruited from weight clinics and public flyers. Efforts were made to recruit individuals from diverse ethnic and racial groups in effort to encompass various cultural perspectives. The terms *obesity* and *overweight* were purposefully avoided in recruitment materials because the terms have been found offensive and adolescents respond better to positive communication surrounding weight (St. George, Wilson, Schneider, & Alia, 2013).

Clinic based recruitment occurred in various clinics within the University of Wisconsin Hospital and Clinics system and included the *Pediatric Fitness Clinic*, *Pediatric Endocrine Clinic*, and the *Adolescent Polycystic Ovarian Syndrome Clinic*. These clinics were chosen because youth living with obesity often receive care within these clinics. A clinic nurse introduced the study using the *Nurse Recruitment Script* (Appendix A) and provided a copy of the *Clinic Recruitment Flyer* (Appendix B) to prospective participants. If the adolescent was interested and the parent agreed the *Permission to Contact* (Appendix C) form was completed by the parent (for participants under the age of 18 years old) or the participant (if she was 18 or 19 years old). The forms were stored in locked offices at the clinics. On a weekly basis the PI retrieved the forms and called potential participants for eligibility screening. *Public Recruitment Flyers* (Appendix D) were placed in coffee shops, churches, community posting boards, and libraries around South-central Wisconsin. Snowball sampling did occur.

### **Participant Selection**

The PI used the *Telephone Screening Script* (Appendix E) when she called potential participants. During the screening process the participants and guardians were provided verbal information regarding the purpose of this study. The adolescents were then asked for their age, height, and weight. Participants eligible for this study had to be obese or overweight females

between the ages of 13 and 19 years old. The BMI criterion for inclusion was BMI  $\geq$  85<sup>th</sup> percentile as determined by the CDC growth charts for age, height, and weight.

Potential participants were also asked about their ability to read and speak English, as the interviews and consent materials would be in the English language. Lastly, the adolescents were asked if they had a history of diagnosed eating disorder. Persons who had a history of a diagnosed eating disorder were excluded from the study because talk of weight can exacerbate disordered eating and thought and contribute to emotional overload (Hutchinson & Rapee, 2007; Leonidas & dos Santos, 2014).

If the adolescent met the criteria for participation, and she was under 18 years old, the PI spoke with a parent/guardian regarding the purpose of the study. The parent was informed that the individual interviews would be conducted with audio recording and answered any questions they had. Adolescents as well as their parents/guardian were informed that the adolescents could withdraw from the study at any time without any consequences. The interview date, time and location of their choice were arranged. The PI completed the *Participant and Interview Information Form* (Appendix F) over the phone.

### **Protection of Human Rights**

Approval for the study was obtained from the University of Wisconsin-Milwaukee Institutional Review Board (IRB) prior to subject recruitment. For any changes to the research process, recruitment criteria, or official forms, amendments were filed and approved by the IRB before any changes were implemented.

For participants under the age of 18 years old, a parent was required to be present at the start of the interview. Before each interview a verbal explanation of the study was provided to each participant and her parent/guardian. Then the PI reviewed the informed consent and assent

forms. Informed consent was verbally obtained from the parents if the adolescent was under 18 years old at the time of the interview (Appendix G), or from the adolescent if she was 18 or 19 years old (Appendix H). Because the assent and consent forms would be the only record linking the participant and the research, the principal risk in this study would be potential harm resulting from a breach in confidentiality. Thus, documentation of informed assent and consent were be waived in efforts to protect the identity of the participant. A copy of the consent and assent forms was available if the participant or parent desired a copy for their personal records.

Consent and assent documents included written information on the benefits and the risks of participating in the study. Participants were informed that there might be no direct benefits to them; however, the opportunity to have their voice heard and describe their perspective may be viewed as a positive experience. The adolescent was informed that she is not required to respond to any questions that make her feel uncomfortable, and if she is asked a question she does not want to answer, she does not have to answer that question. Additionally, the adolescent was assured that she could stop the interview at any time throughout the interview process.

Participants were also informed that weight could be a sensitive topic for some adolescents to talk about (Morrison, Gregory, Thibodeau, & Copeland, 2012). There was a possibility that the participant may feel uncomfortable sharing her opinions or become emotionally upset during the interview. The participant and parent were informed that if the adolescent became emotionally distressed during the interview the PI would stop the interview and provide emotional support for the adolescent. A research interview and distress protocol was ready to be utilized (Draucker, Martsof, & Poole, 2009):

1. If a participant's distress reflected an acute emotional response reflective of what would be expected in an interview about a sensitive topic, the investigator offered support and the opportunity to: (a) stop the interview; (b) regroup; (c) continue with interview.
2. If a participant's distress reflected acute emotional distress or a safety concern beyond what was expected in an interview about a sensitive topic but NOT in imminent danger, the investigator would have taken the following actions: (a) encouraged the adult participant, or minor participant's parents to contact the participant's primary care provider for follow-up; (b) provided the participant with the address and phone number to the local emergency room and encourage the participant and/or parents to call if she experiences increased distress in the hours/days following the interview.
3. If participant's distress reflected imminent danger, the investigator would have arranged for (a) the minor participant to be transported to the emergency room by a parent/guardian; (b) the adult participant to be transported to the emergency room by a friend or family member. For all participants, if no family member was available, local law authorities would have been contacted to assist in transportation.

If at any time the minor participant expressed a desire or intent to harm herself or another person, the investigator would have stopped the interview and explained the need to speak with the participant's parent or guardian. The parent/guardian would have been informed of the minor's expression of harm to self or others. The investigator would have instructed the parent to call the adolescent's primary care provider and to head to a local urgent care or emergency department. If at any time the adult adolescent participant expressed a desire or intent to harm herself or another person, the investigator planned to stop the interview and assist the participant

in contacting her primary care provider, or assisting her in getting care from a local urgent care or emergency room.

### **Data Collection Procedures**

Interviews occurred in participant homes, coffee shops, churches, and local restaurants, based upon the participant's request. Participants were offered a \$25 gift card to Wal-Mart in appreciation for their time. After the consent process the parent or guardian left the area to afford privacy to the participant and PI. The PI is a pediatric nurse with over 14 years of nursing experience and six years of working the target population and she conducted all the interviews. A *Semi-structured Interview Guide* (Appendix I) was developed for this study based on the literature review to gain insight into the adolescents' experiences and perceptions. Based upon feedback from the MP, a content expert in obesity and qualitative research methods, the interview guide was edited and finalized.

Interview questions focused on the participant's experiences in health care, with a particular focus on weight. Interviews began with more general questions about health and health care. This was done in efforts to provide time for rapport to develop between the participant and the PI. Questions then proceeded to more specific questions regarding weight and experiences in the HCE when addressing weight. The questions are as follows:

1. What does health mean to you?
  - a. How do you view your own health?
  - b. How is health important in your daily life?
  - c. What does it mean for a person to be healthy?
2. Would you share with me what happens during visits with your doctor or nurse?
  - a. How often have you seen a doctor or nurse in the past year?



3. What are some issues you discuss with your doctor or nurse?
  - a. What topics are helpful to discuss?
  - b. What topics are not helpful to discuss?
  - c. What topics are uncomfortable to discuss?
4. How are you treated during these visits?
  - a. Could you share an example of how your visits go?
5. What does weight mean to you?
  - a. Discuss what weight means to you in your day-to-day life?
  - b. How do you view your own weight?
6. Some teens have told me that they prefer doctors and nurses to use certain words, and avoid certain words when discussing weight with teenage girls. What preferences, if any, do you have in how doctors and nurses address weight during doctor's appointments?
  - a. What do you think would be the best way to talk to teenage girls about their weight?
7. What changes would you make in the health care system to better help teenage girls?
8. What else would you like to share with me regarding your health care experiences?

At the end of the interview, participants were asked, but not required, to complete the *Data Demographic Form* (Appendix J). Participants were asked to self-report items on age, ethnicity, grade in school, number of years living with excess weight, current health problems, what types of HCPs they have seen in the past year, and estimated height and weight.

Immediately after the interview, the PI recorded observations and field notes. These included a reflection on the interview, notes on the participants' body language, a rich description of the interview setting, as well as any other thoughts and insights she gleaned from

the interview experience. The digital recorder was transported from the interview site via a lockbox until it was downloaded onto a password-protected computer. All written data was kept in a locked file cabinet in the PIs office.

Data from audiotapes were transcribed verbatim by the PI, including utterances, pauses, and background noises. Once the interview was transcribed, with all identifying information removed, the written transcription was entered into the password-protected Dedoose software program to assist in management and organization of the data. Once the study is completed and disseminated, the records will be confidentially destroyed.

### **Rigor**

To establish rigor, steps were taken throughout the research process to achieve credibility, confirmability, and authenticity. The PI documented the sources and trail of evidence as well as decisions made throughout the research process. From this cumulative evidence the PI constructed an interpretive account of the findings (Riessman, 2008).

*Credibility* is a criterion that refers to the confidence of the truth of the data and interpretations (Lincoln, 1995; Polit & Beck, 2012). To achieve credibility, the researchers engaged with the data for a prolonged period which allowed for an in-depth understanding of participants and ensured data saturation (Polit & Beck, 2012). The PI also maintained comprehensive field notes that involved rich description of the interview setting, the participants' demeanor, and the researcher's reactions to help provide context to the data (Polit & Beck, 2012). A detailed audit trail was maintained by the PI and documented the various sources of data, the schedule of the study, methodological decisions, and the rationale for these decisions. This documentation serves as a transparent account of the research process for future reference and independent researchers to come to the same conclusions (Polit & Beck, 2012).

*Confirmability* is the degree of objectivity involved, which occurs when two or more independent researchers agree about the data's accuracy and research findings (Lincoln & Guba, 1985; Polit & Beck, 2012). To achieve confirmability, conversations between the PI and MP occurred bi-weekly during the eight months of analysis. During this time the independent analyses of codes, meanings, themes, and findings by each the PI and MP were discussed, compared and mutually agreed upon. Establishing inter-coder agreement ensures that the interpretations of data reflect the participants' voice and do not reflect the researchers' point of view (Lincoln & Guba, 1985; Polit & Beck, 2012). Due to confidentiality, the PI was unable to take the findings back to the participants for feedback.

In efforts to achieve *authenticity*, a researcher asks if all voices are heard and represented (Creswell, 2007). The PI strove to demonstrate the range of participants involved, conveying their tone and feelings (Polit & Beck, 2012). Direct quotes from multiple participants are used in the written manuscript, providing readers with a sense of the mood, experience, language, and context of the participants' lives (Creswell, 2007; Polit & Beck, 2012).

### **Conclusion**

The methodology of this qualitative study was provided in detail. Individual interviews with adolescents living with increased weight were interviewed following IRB procedures. Efforts were taken to establish rigor throughout the research process.

## CHAPTER 4: FINDINGS

A number of predominant themes emerged that coherently reflected ideas and perspectives beyond the specific interview questions. The main themes were: *Mental and Physical Wellness, The Impact of Weight, 'Cause I'm a Teenager, Talking About Weight Affects Me, and Helping Me*. Each theme had various sub-themes that will be identified and described in detail.

### **Interviews**

A total of 28 interviews were completed and lasted approximately 45-60 minutes. The PI conducted interviews from April 2017 through May 2018. Data saturation was reached after 22 interviews in (December 2017) based upon the following criteria: new interviews produced redundant data, the researcher's ability to gain new information was attained, and further coding was no longer realizable (Guest, Bunce, & Johnson, 2006; Polit & Beck, 2012). In efforts to ensure full depth and breadth was achieved, six more interviews were completed.

Three participants became emotionally distressed during the interview. Two of the adolescents became distressed when talking about peer bullying. The other participant became distressed when talking about how obesity makes her feel. During these times the PI stopped the interview and provided support for the adolescent, with tissues and empathy. When the participants became distressed they were offered the chance to stop and/or for the researcher to notify a parent to help support the adolescent. Each of the adolescents declined to end the interview or contact a parent; they each composed themselves within five minutes and continued with the interview.

### **Descriptive Statistics of Participants**

Participants' ages ranged from 13 to 19 years old, with a mean age of 15.8 years (SD = 1.86). The adolescent's grades in school ranged from 7<sup>th</sup> grade through 1<sup>st</sup> year college, with a mean of 10<sup>th</sup> grade (SD = 0.3). Height of participants ranged from 59 inches to 72 inches, mean of 65.18 inches (SD = 0.13). The weight of participants ranged from 135 to 361 pounds, mean of 204.78 pounds (SD = 10.45). One participant did not report her height and weight. Based upon CDC classifications 64% of participants were categorically "obese" and 36% categorically "overweight." All participants had BMIs at or above the 85<sup>th</sup> percentile for age and gender, using the Centers for Disease Control guidelines, based upon participants self-reported current height and weight. BMIs ranged from 24 to 50, with a mean of 33.56 (SD = 0.89); and ranged from the 85<sup>th</sup> percentile to greater than the 99<sup>th</sup> percentile, with a mean of 94<sup>th</sup> percentile (SD = 0.8). The adolescents reported they had been living with increased weight for an average of 5 – 6 years.

Adolescents in the sample represented a variety of ethnicities and cultural groups: Caucasian (64%), Mixed ethnicity (14%) (including a combination of African American, Caucasian, Hispanic, and/or Native American), African-American (11%), and Hispanic (11%). All the adolescents were able to read and speak English. The participants (100%) reported visiting a HCP two or more times in the past year. Participants were recruited from a public venue (47%), a Pediatric Fitness Clinic (39%), and an Adolescent Polycystic Ovarian Syndrome Clinic (14%).

Participants were asked to identify which types of providers they frequented in the past year. Participants had visited a variety of providers including: (a) physician (93%), (b) nurse (70%), (c) nurse practitioner (63%), (d) dietician (59%), (e) medical assistant/nursing assistant (41%), and (f) a physician assistant (30%). One participant abstained from identifying their HCP during the HCE.

Table 1.

Participant Characteristics

Participant ID #	Age	BMI Percentile	Weight Category	Recruited From
1	16	98	Obese	Clinic
2	15	93	Overweight	Clinic
3	15	98	Obese	Clinic
4	13	96	Obese	Clinic
5	15	>99	Obese	Clinic
6	15	98	Obese	Clinic
7	19	>98	Obese	Public
8	19	>98	Obese	Public
9	19	96	Obese	Public
10	16	99	Obese	Clinic
11	14	97	Obese	Clinic
12	17	89	Overweight	Public
13	15	93	Overweight	Public
14	14	98	Obese	Public
15	19	96	Obese	Public
16	13	88	Overweight	Public
17	15	91	Overweight	Public
18	16	98	Obese	Public
19	17	91	Overweight	Public
20	14	85	Overweight	Public
21	17	91	Overweight	Public
22	18	>99	Obese	Clinic
23	15	98	Obese	Clinic
24	17	94	Overweight	Clinic
25	16	94	Overweight	Clinic
26	15	>99	Obese	Clinic
27	14	>99	Obese	Clinic
28	13	95	Obese	Clinic

## Analysis

Braun and Clarke's (2006) five-step method of analysis was utilized. Phase One began with data familiarization as the PI was conducting and transcribing the interviews. The transcription process itself served as a method of familiarization (Riessman, 1993) and included verbatim account of all verbal pauses and utterances. After transcription, the audio recording was replayed a minimum of one time and each transcript was read an additional three times. The PI kept a journal to take notes of thoughts, feelings, and initial impressions.

Phase two involved generating initial codes. The PI first viewed each participant's interview singularly. Line-by-line coding led to a potential list of 41 codes and 891 interesting excerpts. The PI reflectively journaled about these codes and excerpts, attempting to bracket any preconceived ideas or personal influence. Transcripts were read multiple times by the PI and MP, taking notes, identifying emerging themes. Both the PI and the MP coded the transcripts individually. The PI and MP compared and contrasted individual codes every 1-2 weeks. Through discussion and consensus building, codes were grouped to develop a set of themes.

For phase three the analysis moved to a broader level across participants. Through an iterative process the PI and MP compared interviews to other interviews. During each subsequent reading comments were added, understandings were clarified, and codes were adjusted and confirmed. As an interactive and recursive process, the 41 codes were consolidated into 29 codes and sorted into various themes and subthemes. Ongoing analysis was conducted between PI and MP viewing the data individually and across participants. Themes and sub-themes became more defined as analysis continued. Following multiple discussions between investigators, the extracted data that emerged was arranged into the identified major themes. The codes were organized into 17 sub-themes, which were organized under five themes.

Phase four of the analysis focused on the refinement of themes. Reorganization and delineation of sub-themes helped clarify the major themes. Detailed descriptions of each theme and sub-theme were discussed and refined. Phase five consisted of defining and naming themes. The final five themes were defined and named through an iterative process of re-reading and honing the description. Twelve sub-themes that were common to many participants and reflected their perception on weight, health, and the health care encounter had emerged. All themes and sub-themes are illustrated in Table 2.



Table 2.

*Themes and Sub-themes*

Thematic Category	Sub-Theme Categories
Mental and physical wellness	Food and physical activity ideals Health is like a physical, mental, social, and emotional stance I can be healthy but bigger
The impact of weight	Weight is more than a number Weight is lived and seen
'Cause I'm a teenager	See me as an individual Check-ups, drinking, and stuff like that Talk to me, not my parents
Talking about weight affects me	It sucks being told you're overweight Be nice
Helping me	Tell me how to change Support and guidance is helpful

**Theme One: Mental and Physical Wellness**

Participants strongly articulated the importance of diet and physical activity on a person's health. Teenage participants were able to verbalize the need for healthy foods and physical activity in their daily lives. Food and exercise were described as impacting their body and health over the lifespan. Additionally, the participants articulated a holistic view of health that went beyond the scope of one's body and physical activity. The adolescents shared that health also involved components of mental and socio-emotional health. Health descriptions included an aspect of self-perception; one must *feel* healthy to *be* healthy.

Within the theme of Mental and Physical Wellness, there were three sub-themes: (a) *Food and physical activity ideals*, (b) *Health is like a physical, mental, social, and emotional stance*, and (c) *I can be healthy but bigger*.

### **Food and physical activity ideals.**

When talking about health and being healthy, participants discussed aspects of physical health, including both diet and physical activity. Health was described as:

*Just like what kind of activities you do that get you through your day, and like how it contributes to like if you are eating well. It will help how you are doing with your health and what kind of activities you are doing that will help your health in general*  
(Participant #1, age 16).

Participants' ideas regarding diet and physical activity were often melded together in their descriptions, addressing both topics together. For example, a participant described being healthy as, *"Like exercising, having good food in your body, not trying to eat all that junk every day"* (Participant #14, age 14). The participants also separately talked about diet and physical activity; the majority of the participants discussed both diet (96%) and physical activity (93%) in relation to health. Adolescents' discussions about food and diet were more in depth and detail than discussions on physical activity. An adolescent stated, *"I guess being healthy is like working out, eating healthy, like eating right, eating vegetables, not drinking a lot of soda and juice"* (Participant #15, age 19). Participants provided greater descriptive details regarding positive and negative food choices, than they did when discussing exercise. As one participant explained, *"Like sometimes, when my health isn't the greatest, [it's] because I've had a bunch of ice cream or cake or something"* (Participant #6, age 15). Another participant mentioned,

*I feel like a big part of being healthy is not sitting around eating a bunch of junk food and putting junk into your body, but instead using or eating healthier foods or um and not having too much sugar and watching what you're eating (Participant #7, age 19).*

Participants would talk about making better food choices. As a participant shared:

*I feel like [health] is important like all the time. Like... making sure I eat good, and stuff, and making better choices, and stuff. Like 'Oh I could have this cupcake but I could also have this like apple or something.' And just making better choices (Participant #23, age 15).*

When participants mentioned specific high-caloric food choices, the descriptions were very detailed, such as the cupcake or a bag of Flaming Hot Cheetos. An adolescent shared, *"I like flaming hot Cheetos. But those are not healthy for you at all"* (Participant #5, age 15). In contrast, the healthier food choices were described in more vague terms. When asked about being healthy, one participant said, *"Eating healthy foods and not always like a lot of processed and stuff like that. Like fruits and vegetables, and um, like healthy grains. Where it isn't a bag of chips or something like that"* (Participant #4, age 13).

Interestingly, only a few adolescents talked about how they actually made decisions about food. The adolescents could communicate the general content of healthy foods, but not specifically how to achieve intake of healthy foods. Only a handful of participants spoke in the present tense, of actions they were actively engaged in such as, *"I try to eat better, like carrots, drinking more milk, water, apples, fruits, vegetables"* (Participant #5, age 15). Similarly, the participants provided limited details regarding physical activity and exercise. A majority of participants (93%) reported that engaging in physical activity and exercise is beneficial in their life. One adolescent commented, *"I think it is important to exercise"* (Participant #16, age 13).

The participants perceived that taking part in physical exercise improved life-span expectancy, as reflected in the statement,

*Well, I think you know everybody should be in like some sort of physical activity. It might not mean much to us at our age, but as we get older, you know, I want to be healthy, and you know, like not die an early death. And I think exercise plays a part in that*  
*(Participant #18, age 16).*

Alternatively, participants would share how physical activity makes them feel, as another participant stated,

*I might just like get a gym membership and start like going, just because it like, working out – it does make you feel better and stuff. Whenever I work out I just feel like happier, and more motivated to do stuff* (Participant #23, age 15).

Another participant recalled,

*When I was younger I use to work out a lot. Like I would run, I did triathlons, like I was in it to win it all the time. Like I loved it. And like I weight lifted and stuff and like, I felt great* (Participant #19, age 17).

Regardless of the ability to identify both dietary and physical healthy choices participants reported roadblocks to being healthy.

*Well when I was really young I was outside all the time but as I got older I had all these alternatives, you know like being inside and watching TV. And you know, like, there is no need to be in front of a TV or on your phone the whole day or the whole afternoon*  
*(Participant #7, age 19).*

A variety of participants reported having busy schedules that altered their ability to maintain healthy ideals in diet and exercise. Participants shared that work, home responsibilities, and homework filled up their day. As a participant explained,

*I get access to a lot of stuff at the school like the fitness center, the pool, and things like that. And so um, it helps in a lot of ways but I like never have time to use those resources because um I am in class Monday [through Fridays] ... Um the other days I'm usually at my house but like I'm still working. Like I have to do stuff for the business, or I have a lot of homework to do, because the days I go to work I can't really do my homework. And so by the time I get home it's like 10 or 11 o'clock, so I'm tired. And I still have to do my chores at home (Participant #22, age 18).*

Another adolescent explained that due to her extracurricular activities in the evenings she missed her mother's home cooked meals.

*And like it somewhat is with like my mom because she cooks pretty much every night, but I am not there for it so it is like back to like Taco Bell. Like obviously I feel like crap when I eat it because it's not good for you. And so I just kind of have accepted feeling like crap. But I gotta eat in five minutes. Its either that or not eating (Participant #19, age 17).*

While these scheduling barriers were important, there was also a personal choice involved. Many adolescents could speak to what they *should* be doing differently:

*I feel like I could be more active than I am, but most of the time I'm inside doing my homework or I just choose to be inside. But I feel like I should do more things and like, take the time to go on a walk, or like – just simple things like that (Participant #28, age 13).*

Participants could identify that they should be doing exercise and that it made them feel good, but there were barriers to achieving this exercise.

**Health is like a physical, mental, social, and emotional stance.**

The majority of the participants (82%) illustrated a holistic view of health that includes physical, mental, social, and emotional health. A participant shared, *“I feel like [health] is not just a physical or a mental like standpoint. I feel like its... um, health to me is a stance of emotional, physical, mental stances”* (Participant #22, age 18). Mental health was repeatedly a focus of participant conversations. As one participant said, *“I think it means like just in general um like activity wise like physical activity, mental activity and how you are just doing over well, over in, over all in general”* (Participant #1, age 16). Another participant explained, *“[Health is] my physical and mental well-being and how I’m feeling or reacting to like experiences”* (Participant #17, age 15). Another participant stressed,

*I mean mental health for me is, just like, it is really big. Sometimes you just don’t have the energy or the motivation to kind of do things sometimes. So that’s like really big, keeping up with your mental health so you can you know feel confident and you know, enjoy things, and you know, that kind of stuff* (Participant #24, age 17).

Social and emotional factors of health also emerged from the interviews. Participants shared that how you feel about yourself are important aspects of holistic health. As one participant communicated,

*Like [health] is not always physical... like how do you feel about yourself? Like, um, are you good at coping with stress, are you good with emotional struggles? Because that is a part of health as well that is often ignored* (Participant #19, age 17).

Another participant explained, *“I guess being emotionally healthy too. It is like being in a good relationship, you know just treating people well, being around people that treat you well”* (Participant #15, age 19).

To achieve a state of health, one must have a balance of physical, mental, and socio-emotional health. A participant shared,

*Well, health is kinda how, if there’s like physical health and then there is mental/emotional health. There’s one more health, um... (pause) social health! Um physical health is obviously physical- so like what you look like on the outside. And then like emotional health is how you feel and, like, if you’re stressed. And then social health is kinda like how you act socially with friends and family. I think it’s a good balance of all three of them. So you can’t just be like really good at one of them and horrible at the other two* (Participant #13, age 15).

The adolescents perceived interplay between physical, mental, and emotional health that affected their health status. A participant shared,

*Um well, [health] is kinda like an emotional, but also physical, thing. Like if you have physical health then you’re probably gonna have some good mental health. And if you have like good mental health then you’re probably gonna have good physical health. So I feel like it’s just, like it has to do with your brain a lot and like how you think. And its also has to do with healthy eating and just taking care of yourself* (Participant #23, age 15).

The participants perceived that physical and emotional health are interconnected with what they eat, what they do for exercise, and how they feel. This is reflected in the statement, *“What I eat and what I do for exercise I think all contributes to how my overall health is and how I’m feeling*

emotionally” (Participant #1, age 16). To be healthy required more than just eating healthy foods and ensuring they exercise.

The participant’s holistic view of health was reflected in the descriptions of self-care behaviors, as evidenced by the statement:

*Like um, like stress management is you know taking care of yourself. You know, making sure you’re eating properly. You know hygiene is also a part of staying healthy. Exercise.*

*Um just kind of managing I guess you know the different aspects (Participant #24, age 17).*

Participants described how food and exercise was part of taking care of themselves, but also discussed their awareness of the need to mentally take care of themselves. For example, an adolescent stated,

*Like of course I think of like exercise and like food I guess, or being active. I guess just like taking care of your self. And then I also think of like the mental part of it – so like making sure that you take time, uh, like, for yourself and like, not get too overwhelmed with like everything that is going on I guess (Participant #10, age 16).*

The participants viewed health from a holistic stance, which impacted their perceptions of health care. Health care was not just about physical complaints, infectious disease, or medication. Instead, health care involved mental health care because it affects a person’s day-to-day life. This is reflected in the statement,

*Um, well I don’t know, like a lot of people I think consider like health care primarily in like, physical. So like, you know, I don’t know, they think about like diseases, stuff, and medications. But um, I don’t know, at least for me it’s really important, like mental health care. Because I mean like that’s, I don’t know, like anything that affects a person’s like*



*day-to-day life I think could be could fall under health care, whether it is physical or mentally (Participant #21, age 17).*

**I can be healthy but bigger.**

Although the adolescents reported increased weight, participants shared that they viewed themselves to be healthy. As an adolescent stated, *“I think you can be healthy but still be bigger” (Participant #7, age 19).* Health was not defined by one’s weight. If there were no major health issues, then the participants felt they were not unhealthy. As an adolescent explained,

*Cause it’s like my weight, like, I’m not, like unhealthy. You know like, yeah, I could probably make healthier choices ya’ know - like exercise more, ya’ know eat a more balanced diet. But it’s like, ya’ know but, like my weight’s not causing any, like, other major, like, health issues so I don’t know (Participant #21, age 17).*

Increased weight was present but did not the adolescent’s perceptions of a healthy lifestyle. If adolescents were exercising and eating healthy foods, then they considered themselves living a healthy lifestyle. Another participant stated,

*Um, in my opinion if you are like 180 [pounds] or something you’re not that unhealthy. I mean when you start getting to 200 [pounds] and over that then yeah maybe there is, even [at] 200 [pounds] sometimes people can be healthy. Um, so if you’re living the healthy lifestyle and your exercising and eating right and you’re drinking water and not feeding your body with all this garbage then you’re living a healthy lifestyle. Though you may be 200 [pounds] you’re still living a healthy lifestyle (Participant #8, age 19).*

An aspect of self-perception emerged from the data that unless one has major health issues, then they are healthy. The perceptions participants shared suggested that they did not view excess weight as a major health issue.

Regardless of one's physical size or weight, health is a state of mind. This is reflected in the statement, *"I don't really think about health as like a body. I feel like health as in a state of mind"* (Participant #22, age 18). This state of mind was something the adolescents expressed as a feeling; a person has to *feel* they are healthy to be healthy. These feelings can impact your confidence and friendships. As a participant explained,

*It's the way like, it's the way you feel more. You have to have confidence to go out and be who you are. And have happiness and be friends and like, you can't be down all the time, or go around and be like "Oh I don't want to be friends with you." You have to enjoy life the way it is* (Participant #26, age 15).

Another adolescent described, *"I think [being healthy] starts with being happy with yourself... If you're not happy with yourself than you are not gonna be the healthiest that you can be"*

(Participant #8, age 19). Adolescents strived to communicate that this feeling of health comes from within the self, more like an opinion of oneself. A participant explained,

*I feel [health] is more of a personal opinion other than someone perceives you as being like, healthy or physically fit. It is more of how you see yourself, and if you're feeling good, with like your physical health, and how you feel about yourself. Like, if you have like mindfulness and stuff, so you can handle situations not completely on your own, but with a little bit of help and you feel like you are [an] okay person* (Participant #17, age 15).

Conversely, due to the visibility of weight, the adolescents recognized that physical weight impacted the way other people viewed their health. One adolescent said, *"And I really do consider myself healthy but I don't consider myself healthy when looking at myself, how the world considers healthy"* (Participant #25, age 16). Adolescents expressed the belief that they

felt healthy. However, the adolescents' perception is inconsistent with how people think they look. As a participant shared, "*People could say I look unhealthy and I am unhealthy – but I feel like the healthiest person in the world*" (Participant #22, age 18). Another adolescent commented on the discord between the way she felt healthy and the way the outside world said she was not healthy:

*Um well I think that like me as a person, I'm fairly confident with who I am. But the outside world, I have like voices around me saying I'm not healthy, and I have to be a certain size to be accepted and to be pretty. But I don't feel that way. I think that who I am is fine and I'm satisfied with that* (Participant #7, age 19).

Though the participants reported feeling healthy, people did not think they looked healthy. HCPs did not even listen to the adolescent's perception of their health. A participant disclosed:

*It was like my doctor before that, wouldn't listen to me. And I'm like trying to tell him constantly "Hey, I'm pretty healthy. If you followed me around the whole day and saw what I ate you'd be surprised at how big I am, cause I eat like a very small healthy person and, like, the right size of the meal"* (Participant #27, age 14).

## **Theme Two: The Impact of Weight**

Participants talked about how the concept of weight is not simply a number on the scale, but encompasses more than the number of pounds on a scale. Weight impacted the way participants *felt* that number inside their bodies and minds. These adolescents didn't want a number or label to define them as individuals. The number on the scale evoked feelings of negativity for them as individuals. Participants struggled to not let the number reflect or identify their self-worth. Weight was also a visible characteristic that is *seen* by others and affects social relationships and daily interactions. Due to the daily interactions with others, participants

appeared to internalize their weight. Two sub-themes emerged during analysis: *Weight is more than a number* and *Weight is lived and seen*.

### **Weight is more than a number.**

The majority of participants explained that weight is a number on a scale, a scientific term used to categorize and label. As an adolescent stated, *“I feel like weight’s just a number. Weight is just a label”* (Participant #22, age 18). Another participant further commented, *“This is like a science question. Weight means to me like how heavy or, to pull out a science term – how dense something is”* (Participant #28, age 13). Participants recognized that the number on the scale represented an objective form of measurement that was often used to categorize a size. The participants stressed that the number should not have any effect on your life. One teen shared, *“I feel like it’s mostly a number cause I mean, it shouldn’t really have that big of an effect on your life I don’t think”* (Participant #4, age 13).” Another adolescent shared further that the number should not define people,

*The number doesn’t matter I guess. That’s what weight is, but that doesn’t define you, like it shouldn’t be, like, people don’t like you because you weigh a certain amount or like you’re a certain height or whatever. Like I think that’s really stupid. But yeah, I don’t know. I’m just... of course it’s a number but it doesn’t like define you”* (Participant #10, age 16).

Unfortunately, participants found that accepting weight as only a number could weigh them down. A participant revealed, *“Some days weight is just a number and then some other days weight is something that is weighing me down”* (Participant #1, age 16).” The adolescents concurrently described weight as a number and then went on to explain how upsetting that number was. *“I was always focused on the number. I used to be so upset about the number and I*

would focus on it” (Participant #10, age 16). The number on the scale stimulated awareness in the adolescent of their size, and made them question if they were doing something wrong and needed to change. Another adolescent asked,

*Weight, um, to me it means like, on the inside I want to believe that it’s just a number, like it shouldn’t define who you are. But when people talk about weight it kind of makes me feel like, like I’m bigger than that person or I weigh more, so I’m fat... That makes me feel like I’ve been doing something wrong or like I need to change. (Participant #17, age 15).*

Another adolescent explained, “*In the past it’s made me feel sad, I’ve gotten sad about how much I weigh and why aren’t I... what did I do to make it bigger?*” (Participant #3, age 15)

Participants described an internal relationship with the number on the scale. The number invoked meaning and feelings, and though weight was identified as a number, the participants had a negative association with the number. Another adolescent expressed,

*I do think it’s been so ingrained into my mind, to everyone’s mind, like the number on the scale should be this; it shouldn’t be higher than this number. So every time I step on the scale... I know what the number is going to be, but still, it’s just kind of like weird. Like I wish I didn’t have that, like that negative association with it because... I feel like [weight] is a number that has so many different things that go into it (Participant #19, age 17).*

The concept of weight was more than just a number to these adolescents. As one participant explained, “*Well, I think weight means two numbers. Like the one on the scale. And then I think [there] is a part of it about whether we like it or not*” (Participant #25, age 16). The number on the scale elicited emotions, both positive and negative. As an adolescent explained,

*The idea of weight - some people would say it's more like percentage of fat and stuff like that, but I feel like weight is just something that you can have as well. Something you can think positive or negative about it. Sometimes thinking negative about it isn't going to help you, but at the same time sometimes thinking positive might not help you also. But I feel like you could be a certain weight and not be mostly fat. Like me - I'm in 200's but my body is mostly muscle. I had a whole body scan and they said that I have more muscle mass than fat. So it's more like how you see it and what you think it is*  
*(Participant #27, age 14).*

When the teens did not like the number, they were self-conscious over their weight. The number on the scale was associated with undesirable characteristics of themselves. *"I use to really fuss, like, and get really, um, self-conscious when I stepped on a scale... I don't know why a weight or a scale should make me feel less confident and less beautiful"* (Participant #7, age 19). Several participants expressed this internal struggle between the negative associations with their weight, and not allowing the number on the scale to define them. This is reflected in the following participant's statement:

*I guess as someone who is self conscious about my weight I think a lot of times I've let it define me. And um, because the number's significantly bigger on the scale I think that means something, I won't say wrong because I know nothing is wrong with me, in that sense. But um, I'd like to think that it's just a number and it doesn't define who I am*  
*(Participant #3, age 15).*

Additionally, participants reported feeling that weight or number was a type of negative label. Weight related labels or classifications had an effect on the adolescents' feelings, as reflected in the following thoughts of an adolescent: *"I hate the term plus size. I think it is just, I*

*think it is horrible that we have to classify someone's weight. Like why can't, why does a store have to have a regular section and a plus size section? Its rude and hurtful"* (Participant #8, age 19). The classification of their body size left the adolescents feeling unfairly minimized to a number. For instance, one young woman mentioned,

*I'm not a number. I'm a human being. And again going back to the fact that everyone's body is made up of different percent of fat and muscle. And um, to tell me that I've been reduced to this statistic, or this number on a chart, is not fair because I'm a lot more than that* (Participant #19, age 17).

The struggle between weight as two numbers and an objective measurement versus the internal feelings it evoked was a strong theme within the data.

### **Weight is lived and seen.**

The participants indicated that weight, as the size of their body, is visible. A participant defined weight as, *"How much you weigh. How heavy you are. What you look like"* (Participant #20, age 14). Since weight impacted the way others viewed them, weight thereby impacted social interactions. Participants discussed avoiding certain places, as evidenced by one participant who stated, *"It's hard because you think people are looking at you with different opinions and it just doesn't make you want to go places and communicate with other people"* (Participant #5, age 15). This avoidance was based on the premise that people were judging them based upon their weight and finding them lacking. As a participant exclaimed, *"Ugh the world is a cruel place and really judgey place. So I feel like people judge you on your weight as well. Which I don't think is a very good thing"* (Participant #28, age 13).

Participants felt that weight was seen and judged. Felt judgment was incorporated into their lived experience of weight. To avoid this judgment the teens often sheltered themselves from others, as evidenced by,

*I felt like because of my weight I didn't have as many friends, or because um because I wasn't as pretty as the skinny girls. Um and I think I let that really affect me and um kind of like sheltered myself because of that because I didn't want to feel the judgment. And um, and so, I really sheltered myself from everyone and didn't let them, didn't let them come in (Participant #7, age 19).*

Contrastingly, there were a few participants who held the same judgmental view of them and other people living with increased weight, as communicated by this participant:

*I feel like a lot of people think being overweight is like a sign of being unhealthy and stuff. And I kinda agree with that, because I don't know. Like most overweight people I see – and when I see myself - like a lot of people, they just don't look that good, and they don't really take care of themselves. Maybe they don't exercise enough (Participant #23, age 15).*

Adolescents felt like being overweight or obese was a visible cue that made them less socially acceptable. A participant expressed, “Like you go around and like people will just look at you, like you're disgusting or you're not who they want you to be, or you're not anybody that they should care about” (Participant #26, age 15). Another participant declared,

*And people only judge you by you like how you look. I mean that's the first thing people see is how you look and I, I sometimes feel like because of my size, people didn't want to be friends with me. Because why would they want to be friends with a fat girl? (Participant #9, age 19).*



The participants perceived that others looked down on them because of their weight. For instance, a participant imparted,

*Sometimes I felt like I was being looked at in a different way. And I don't really know why. I don't really know why, but nobody has ever told me that, like come up to me and made rude comments to me because of my weight, but I just always had this feeling that I was being looked down on. Or looked at differently because of my weight (Participant #7, age, 19).*

Another adolescent acknowledged,

*You know like I try not to judge but you know like the world judges every day and so I do think people might look at me, you know and think I'm fat and stuff like that. Like weight is something people see. And so they can judge it and judge me or like another person (Participant #18, age 16).*

Participants supported the experience of peers' bullying, some of them were extremely detailed.

An adolescent shared,

*A lot of people have stuff to say about it. Like my weight and stuff. One of my friends, she showed me this picture of a like a puffer fish while it was still like puffed up. And she was like, 'Oh my gosh, this is you!' (Participant #23, age 15).*

Other times the bullying was discussed without specific examples, as evidenced by the following statement:

*It's been hard for me because like I was bullied for how I was like looked and my weight. And I think people were like always make fun of me and always tell me like I was so fat. And it did, I felt bad about that so much (Participant #13, age 15).*

The bullying affected the adolescents' view of themselves, especially in their younger adolescence and middle school years. When combined with mental health concerns such as depression, the bullying could be extremely intense. As one adolescent shared,

*Y' know me personally, like, I went through a lot in my life regarding my weight, like, just really – for years (sigh). I've like lived through such depressive stages and like, I was literally bullied to the point in middle school where, like, I tried to kill myself (Participant #22, age 18).*

School was described as a stressful place to navigate, and teachers were also sources of stigma.

An adolescent portrayed one such example:

*And one of my teachers – I was eating an orange in my class and I like came in 'cause, I don't know, I had this meeting with a club that I'm in and they had like a pizza party. So I brought in my piece of pizza because I didn't eat it at the party. And I ate it, and then I was eating my orange. And my teacher was like 'Oh are you having a second lunch?' And I was like 'Umm, okay... no.' (Participant #23, age 15).*

The study participants talked about school as a difficult place to live with increased weight. Adolescents in the study also spoke about how their weight led to some embarrassing social situations. Shopping for clothes was one social situation where the adolescents reported feeling embarrassed due to their size. A participant shared,

*I have to shop in like a different section of the store and like that gets really embarrassing. Or [my friends will] want to get the same shirt and they'll be like "Oh, what size are you?" And I'm just like, "Oh, like, can I just find it myself?" (Participant #25, age 16).*

Eating with friends was a social experience that was also impacted by weight. As one adolescent explained, “*So, I think a lot, a big part of socialization as a teenager is eating*” (Participant #25, age 16). Adolescent socialization was also challenging because it involves food. As one adolescent explained, “*So, I think a lot, a big part of socialization as a teenager is eating*” (Participant #25, age 16). Adolescents described the experience of eating out with friends as “sucky.” The participants did not want to be different than their friends, yet following their diet around their friends made them feel isolated. One participant explained,

*Okay, well I felt like after [the appointment] I tried to do, like, diet. But after I tried to change the way I eat, it feels like you can't do anything with anyone. And it feels like you're really isolated. Because often times when I'm out with friends we'll be like, "Oh let's go get something to eat." And they eat crap – holy cow. And you don't want to seem like that one person who's like ordering a salad or whatever. Like you don't wanna be that or like "Oh, I already ate." It's just sucky (Participant #25, age 16).*

The participants expressed dismay that their weight impacts their personal and social lives. The adolescents traversed across various social situations, always aware they were overweight or obese.

### **Theme Three: ‘Cause I’m a Teenager**

Participants wanted providers to become acquainted with them as individuals. Adolescents had developmentally relevant health concerns because that they wanted to discuss with their HCPs. The teens wanted to be engaged in conversations with HCP and make their own decisions regarding their health. Participants did not appreciate it when the HCP talked with their parents and excluded them from the conversation. Three sub-themes emerged from the data: *See me as an individual, Check-ups, drinking, and stuff like that, and Talk to me, not my parents.*

### **See me as an individual.**

The adolescents expressed a desire for HCPs to interact with them as unique individuals with diverse interests and hobbies. The girls in this study discussed feeling positive when the HCP listened and expressed interest in their lives outside the clinic. For instance, after one girl expressed her interest in basketball and football she reflected, *“The doctor was nice. I think we talked about something else - like not related to being a doctor. I think we talked about sports again”* (Participant #20, age 14).

Participants expressed the view that sharing non-health topics with HCPs is a way to ease into the appointment. Talking about “something else” assisting the adolescent to prepare for the rest of the appointment. This is evident in the assertions made by an adolescent, who said,

*And she'd let me talk about things I'd like. Like I used to mention horses and she would be like “Oh, like, that sounds like a good idea, like, a great thing that you're interested in.” And she would listen to some stories and stuff. And she would be like, “Okay, now let's get to the appointment.” And I'm like “Okay, let's go!” I'll be all excited. So I like it when they listen to you* (Participant #5, age 15).

Participants expressed that it was nice to talk about their lives outside of the clinic with their HCPs. This made the HCE “better” for the adolescents. As one participant shared,

*You know asking me how I'm feeling outside of, you know, like, “What's going on? Like how's school?” you know? Just stuff like that. It just makes it a little bit better for me instead of you know sitting ah, “Now we have to talk about what's going on with me and the sucky stuff.” And so its kind of good to um talk about nice things, you know, make it a little bit friendlier, you know? It makes it good for me* (Participant #24, age 17).

Health care providers who asked the girls about their lives, not just their weight, made them feel like the HCP cared about them. As one participant stated, *“I think that is just so cool and doctors that actually do care about you and like care about your life instead of just focusing on like the number - I think that is like really cool”* (Participant #10, age 16). Feeling cared about also made the participants more willing to talk to the HCP. A participant illustrated this and explained,

*I guess I like it at [this clinic] because they talk to me about life I guess. Like they're interested in what I am doing, or like what I've been involved in, and they always ask me like “What's new?” And they talk about different things like that. So, they know like what's goin' on in my life and that makes me feel a lot more wanting to talk to them instead of just like, “Oh great, they're just going to bother me about my weight.” Like they actually care about other things in my life. So I think that's helpful too. You're not just another like customer or patient that they just have to make sure is fine (Participant #1, age 16).*

Participants who felt their HCPs “get to know them,” were more comfortable in sharing their concerns with the HCP. According to one adolescent,

*“So like it helps because like if you spend like the first like ten to fifteen minutes just to get to know the kid as a girl, boy, whatever, it doesn't matter who they are, if you spent the first like ten minutes to get to know them, they'll feel a lot more comfortable about coming to you about problems and different things that are going on”* (Participant #6, age 15).

HCPs, who engage the adolescents in discussions about their lives, also promote the development of a trusting relationship together.

*[HCPs] can like slowly get [adolescents'] trust. It's hard when the doctor or nurse practitioner like jumps right into it like "Okay so can you tell me?" Sometimes you're not ready to tell [the HCP] yet. [Providers] have to slowly let [the adolescents] open up and tell you what they think and stuff like that (Participant #27, age 14).*

With this trust, adolescents are more apt to disclose information. The issue of trust is evident when a participant discussed sharing information with her HCP. *"I think [trust is] necessary. Because if you have something happening in your life... like you need to have that trust, that foundation, so you have somebody to go to if things aren't going well" (Participant #19, age 17).*

### **Check-ups, drinking, and stuff like that.**

The teenagers shared that they scheduled health care encounters for a variety of general health care needs such as ear infections, attention-deficit/hyperactivity disorder (ADHD), depression, or anxiety. One adolescent said she goes to the doctor, *"Like if I am experiencing pain, like maybe what's causing this, or like what can I do to get rid of that? Like sometimes physical therapy" (Participant #17, age 15).* Participants visited HCPs for physical and mental health care concerns. A teen explained that she went to the HCPs for, *"Just your checkup and like physicals and stuff like that. I would have to go just to make sure I am still doing good. And um, for my depression and anxiety" (Participant #24, age 17).*

Participants had curiosity and questions about their development that they wanted to discuss with their HCPs. As one adolescent expressed,

*Obviously a lot of things are happening in your teenage years and um there can be a lot of curiosity and a lot of you know questions of why is this happening and you know people don't always have parents that are great at explaining why (Participant #11, age 14).*

Another adolescent responded,

*Um, like um like what kind of like for hair removal, like what kind of stuff I should use, you know. Because [the HCP will] tell me like “You shouldn’t shave it, you know, it’s better to get it waxed,” those kind of stuff. Um yeah, kind of stuff like that (Participant #24, age 17).*

Several participants spoke about changes in their body that they did not understand related to puberty and menstruation. As evidenced by the comments of one teenager regarding questions they would like to ask their HCP:

*Something is going on or why your body is changing or you know and you should be like your doctor is, can be that person to talk to and ask why. Um, why this is happening or why did I start my period or you know stuff like that (Participant #16, age 13).*

Another teen shared, “*Um, well we usually talk about like stuff, cause like the [menstrual] cramps can get really bad so they’ll tell me, like you know, different like stretches and stuff. Like taking hot baths and stuff is like really helpful*” (Participant #2, age 15).

The adolescents wanted anticipatory guidance on puberty and sex, to help them know what to expect, as well as detailed knowledge on the subjects. One adolescent explained their interests in talking to the HCP as:

*Um as a woman I find it helpful for, like if [HCPs] talk to more about um what potential things, like with my family history, what potential things could happen to say like my reproductive system because [my family has] a history of like endometriosis. And it would be really helpful to know like what can I do to help prevent that or what can I do like if I start like noticing symptoms – like what am I supposed to do? (Participant #18, age 16).*

Another teen shared,

*Talking about things before they happen but, you know, um just kind of, you know making like girls a little bit more knowledgeable about you know things that happen like during puberty. Like you know talking about like sex and like stuff like that. Like you know doctors do talk about sex but um talking a little more in depth about it (Participant #22, age 18).*

Participants explained that they visited HCPs to discuss issues “very present” in their lives, like sex and drinking. As a participant mentioned, *“Like all of those like because sex, mental health, drugs, like drinking - those are all things that are very present in like the teenage life” (Participant #19, age 17).* Another adolescent imparted,

*Like [the doctors] give you like this kind of little miniature sex-ed talk. And they’re like well if you are sexually active like you might want to see a gynecologist, get checked out for these things. Do you want to get tested for this and this and this, like if you are being sexually active? Or like drugs can do this to you, and like cigarettes can give you like lung disease and lung cancer and stuff. And if you are doing that like, [they] kind of like advise you about it (Participant #17, age 15).*

Conversely, there were adolescents who were disinterested in talking with providers about “awkward” topics. An adolescent explained, *“I don’t like really talking about like shots, or like, um, diseases like STD’s or HIV. Um, I don’t like talking about the whole sex thing either. Cause its just awkward” (Participant #13, age 15).* Thus, while many adolescents desire conversations about these subjects in the HCE, individual differences do exist.

**Talk to me, not my parents.**



The subtheme of *Talk to me, not my parents* represents participants' emerging autonomy and desire to be engaged in their health care encounters. Adolescents desired HCPs to talk directly with them and to listen to their thoughts and opinions. Adolescents expressed a preference to be involved in the conversation and have their voices and opinions heard. A participant explained that, “[The HCP talks] usually just me now that I’m older. It’s fine. That’s how it should be. Only I know what’s going on with me” (Participant 25#, age 16). Participants appreciated when the HCP engaged them in conversations and asked them about their views on their own body and life. This is reflected in the statement,

*I like that. I like that they talk to the patient instead of like just their parent or something... Like with teenagers I feel like it is important to talk to them because you know it is their body and it is their life so telling them what’s going on with it is important (Participant #18, age 16).*

The participants explained that they want to be treated as an adult and involved in the HCE. For instance, one participant responded, “I feel like um [HCPs] talk to me more like an adult, even though I still see my pediatrician. So I think they talk to me more as an adult than before. And give me more options and are like more straightforward with me” (Participant #15, age 19). Another older participant explained that she has always been involved in her own health care. “I’ve always been involved in my health care and I’ve always tried to advocate for myself with my health care. So like I’ve always been vocal about the things that I want and need” (Participant #19, age 17).

Although the adolescents demonstrated a desire to advocate for themselves, this was not always possible. The teens acknowledged that while they want to make their own choices, as a

minor, they have limited ability to make their own choices. Consequently, they knew their parents had to be involved in the consent process within the HCE. An adolescent explained,

*You know we are both in the room and I think they kind of talk to both of us. Especially like, I don't know, I mean I might have been like 14 at that point so it's like you know my mom still had a lot of, you know, kind of pull over, you know like my health care. And like she still does because I'm still like on her [insurance] plan and stuff. But um I feel like they talk to me as well as her (Participant #21, age 17).*

Being a minor also came with limited decision-making power. Yet the participants wanted to still be involved in the HCE conversations.

*I think that they should talk to like the actual patient first because it's ultimately should be the patient's choice. Even though they are a minor it should be their choice whether or not they want something done to their body. And that they should still educate the parents about like yes these are the risk factors, this is why they should, this is why they shouldn't, and like this is what could happen if we don't do this or talk to this about your child (Participant #17, age 15).*

Participants were aware when their HCP ignored them and instead, talked directly to their parents, excluding them from conversations. One adolescent stated, “*And [the doctor] would often talk directly to my mom and just kind of ignore me. Very nice lady. She just wouldn't really talk to me*” (Participant #1, age 16). When HCPs did not talk with the participants about their health issues, the teens became upset, as this comment indicates:

*So like it gets me sort of upset because it seems like they [HCPs] don't trust me enough to actually like talk to me about it, because it's going on with my body, it's gonna bother*

*me longer than its going to bother my mom. So like, I guess it gets me upset (Participant #6, age 15).*

Participants who's HCP "talked over" the teen and discussed issues with parents left the adolescents feeling "small". Trust was an issue several adolescents questioned, as there was a perception that the teens were not talked to because the HCP did not trust them. The adolescents' sentiments are reflected in the following comment:

*And it was just like they talk over you sometimes. Um, and they don't always think that what you're saying is... I don't know. They just kind of write you off as being like a kid or teenager. They don't really take what you're saying to heart. And they always just kind of like look at your parent and like say, "Now tell me what you think." But it's like they're not me. It makes me feel small. Like why don't they trust me? (Participant #19, age 17).*

Communicating with the adolescents during the HCE was seen as a sign of respect by the HCP. HCPs who addressed the parent instead of the adolescent, were perceived as disrespectful, as evidenced by a participant who said,

*I don't know, it's like I feel like I'm not being listened to. Just I don't know, its kind of disrespectful to me I think. So um [then] I definitely like talk to um my mom about like trying to see different doctors. Because I felt like they weren't listening to what I had to say (Participant #21, age 17).*

Participants expressed a desire to make their own decision. At the same time, the adolescents appreciated their parent's willingness to step in as needed during HCE. Adolescents referred the HCP to their parents when they did not want to discuss a topic, or didn't understand the HCP. The adolescents view is reflected in the following comment:

*I think [HCPs] seem to like understand that I like making most of the decisions myself, so they'll talk to me. And if, and if some things, like depending on the things, I'll tell them to talk to my mom 'cause I don't understand and I don't want to answer it (Participant #6, age 15).*

Younger participants were more comfortable having their parents talk with the HCP, as one young person explained:

*As a teenager, you might feel a little more uncomfortable. Cause you don't know your doctors as well as you might wish you would, as like your parents, where you have known them like your whole life (Participant #28, age 13).*

#### **Theme Four: Talking About Weight Affects Me**

The fourth major theme focuses on communication about weight between a HCP and patient. Participants acknowledged that talking about weight within the HCE was not helpful. The adolescents were aware of their weight, and did not want the HCP telling them they were overweight or obese. If weight was addressed in a HCE, the teens wanted the HCPs to treat them respectfully and be kind. Two sub-themes support this theme, including *It sucks being told you are overweight*, and *Be nice*.

##### **It sucks being told you're overweight.**

Participants acknowledged they were overweight or obese. Yet the girls did not want to be told they were overweight or obese, as one participant emphasized, *"Like nobody wants to be told their overweight"* (Participant #11, age 14). It was not helpful for the adolescents to be told by the HCP that they were overweight or obese. An adolescent stated, *"[The HCPs] are just going to tell you 'You are obese and you need to something about it.' Well, that is not helpful because that is something I already know"* (Participant #8, age 19).

Since weight is an emotionally laden concept, girls had subsequent feelings evoked when weight was brought up. Participants reported that it “sucks” being told you are overweight by the HCP. As one adolescent described,

*When I got my first physical I remember a doctor like showing me the scale saying “Well, this is how much you weigh and it’s this far past being overweight and this far.” So that is the only time I really remember ever being talked to by a professional.... I mean it sucks being told that you’re overweight (Participant #7, age 19).*

Participants asserted that talking about weight with HCPs makes them feel upset. This is exemplified as one girl stated, “I knew my weight was a problem, but I didn’t know how to change it and so by [the HCPs] just telling me stuff over and over, it just upset me even more” (Participant #22, age 18).

Another teenager stated she felt not only upset, but insecure as well:

*When I was talking to a dietician (this was like, probably like 2 or 3 years ago), and, um, I think she was like talking, asking me like, you know, about my weight - and like, um if I, if I was “heavier” or something like that. And I was like kind of like “heavy” is a strong word – why would you say that? So it was kind of, it kind of took me back a little bit... I was a little upset, you know and like, I just felt kind of like, like insecure I think (Participant #2, age 15).*

In addition to a sense of security, the adolescents also described an increase in self-consciousness and worry. A participant referred to talking about weight within the HCE as, “It just makes [teenagers] like self-conscious and makes them worry more you know?” (Participant #24, age 17). When talking about weight within the health care encounter, adolescents’ became more stressed and felt bad about themselves. An adolescent exclaimed,

*Don't [talk about weight]! It just makes [teenagers] like self-conscious and makes them worry more you know... I just don't think its something that needs to be brought up in your teenage years... I don't think it's helpful. It just stresses you out and makes you feel crappy about yourself (Participant #9, age 19).*

The participants did not want to talk about their weight, disliked being told they were overweight or obese, and disliked the emotions associated with these conversations.

Participants expressed the belief that that telling an adolescent that she was overweight or obese will lead to disordered eating. Some adolescents believed that talking about increased weight would cause a person to eat more food and gain weight. A participant explained,

*I read something that calling fat people 'fat' will only make them fatter. Because a lot of your stuff to do with health has to do with, um, what you think. Like, I don't know if you're an emotional eater - so if you call someone fat they're going to be upset and eat more food. And it's going to get worse (Participant #25, age 16).*

Disordered eating could emerge as over-eating or under-eating. Another participant explained that when a HCP tells an adolescent she is overweight or obese, that could contribute to anorexia:

*You can go from one extreme to the next where you know. Maybe they're just living their life and having fun and they are overweight. Where when a doctor talks to them and um, then they start not eating, and get anorexic or start having an eating disorder (Participant #9, age 19).*

Another participant described that talking about weight with a doctor, "... makes you think more about what you are eating, if you should be eating, you know?" (Participant #14, age 14). Thus,

participants felt disordered eating was a significant possibility that could occur when weight was discussed within the HCE.

Talking about weight with HCPs made adolescents uncomfortable, like the teens were doing something wrong. For instance, one adolescent explained,

*Um... I find it just hard to talk about it. I guess it can just be uncomfortable talking about weight because it's something, like I said, that I've been dealing with, and sometimes the way doctors present it to me can be in a way that makes me feel like I'm doing something wrong... But yeah, I definitely think weight is something that has been like a hard topic to discuss with health care providers (Participant #3, age 15).*

Talking with HCPs about their increased weight made the participants question themselves and feel they were doing something wrong. After conversations about weight during the HCE, a participant asked, “*Sometimes I can just feel like, is it me personally that is doing something wrong? Like am I not trying enough, or is there something I didn't realize I should change?*” (Participant #27, age 14). The adolescents indicated that health care encounters can negatively influence their perceptions of themselves. For instance, one participant explained, “*And I'm like and I try not to think that I'm overweight or whatever. But when you're having people, like medical people, tell you that you are - it starts to influence how you see yourself*” (Participant #19, age 17). The adolescents were frustrated by their weight, and they felt a lot of pressure on them because they were not thin. As one teen shared,

*So, it's sucks when I'm sitting in a doctor's office and I'm being told that I'm overweight, and it's not okay... It's uncomfortable and it's really frustrating to be told that I'm overweight and I'm like not healthy. Sometimes I feel stupid. I think that because I feel all*

*this pressure on me, I just feel dumb that I'm not a size zero – that I'm plus size. I just feel like I'm, I'm looked down on because I'm not skinny (Participant #7, age 19).*

A majority of participant (64%) did not like being told they were overweight by HCPs. Conversely, several participants recognized the need to talk about weight within the HCE and appreciated the HCP. Adolescents discussed the shame and stigma around conversation about weight, but it was necessary, as one adolescent commented:

*Sometimes I kind of feel like almost ashamed to like share this with other people. Um, it's like I don't know. There's just a stigma around talking about like mental illnesses, and about weight, and stuff like that. But it's like, I think that even if the conversation is uncomfortable, it's a good one to have (Participant #21, age 17).*

### **Be nice.**

The subtheme of *Be nice* focuses on the tone of communication between health care providers and the adolescents. The adolescents in this study reported that health care providers significantly influence the health care encounter with their communication style. Participants perceived that HCPs should recognize that weight is a sensitive topic. The way a HCP comes across during a HCE can influence how the adolescents' feel inside. A participant warned, “*I don't know just be cautious in how you come across. As gentle as possible. You don't want to make the person feel worse than they already do inside*” (Participant #8, age 19). Similarly, when participants were asked for advice when caring for an adolescent living with increased weight, a teen shared:

*Like that's not having the word or term "fat" or "skinny" or "overweight" or anything like that. Use something else. Like to change that to make at least more nicer and softer at least – not to hurt anyone's feelings (Participant #14, age 14).*



Another participant asked that HCPs be mindful of the words they use when talking about weight. The words used could affect the way adolescents handle the HCE, as evidenced by the following statement:

*Girls be kinda like, “Well I don’t really talk about my weight” and “I don’t really want to like talk about certain things about my weight.” So [providers] like just be kinda like mindful of what you ask them and how it like, might affect how they handle the situation (Participant #28, age 13).*

Another participant warned about the sensitivity of adolescents to discussions about weight. She shared, *“Teenage minds are very sensitive I would say, and take things harshly” (Participant #9, age 19).*

The term “nice” was frequently used and used by the majority of participants (68%).

Appointments were fun when the adolescents’ HCPs were nice. For instance, a teen said,

*And they just they make the appointments very light and just fun but also like getting to the point so that is what I really like about it. They are very open and they are very kind and they just, they almost treat like you like nice, like family. They are just very nice to you. And it is not something you would expect like of how nice and how welcoming they are (Participant #1, age 16).*

Similarly, another participant talked about how having a nice HCP made the HCE comfortable as she explained, *“They’re all really nice. I feel like if they were rude and stuff then I would feel uncomfortable. And just like it would be a bad experience. But they’re really nice people”*

*(Participant #23, age 15).* Participants suggested that when HCPs are gentle and encouraging, the adolescents felt cared for. For example, a participant stated, *“And [the HCPs] are gentle in the way they say things. They help you, they encourage you, and show that they’re gonna help*

*support you through it. I mean it just shows that they care and they're not just there to tell you the information"* (Participant #26, age 15). The manner in which HCPs communicated could make the adolescents feel respected and honored as individuals; the adolescents felt listened to and not rushed in the appointments. Having a nice HCP made patients feel good about themselves, as illustrated by the following statement: *"They are sooo nice there. They like make me feel good about myself even when I don't feel good about myself"* (Participant #10, age 16).

Several adolescents stated that when providers were not nice, they stopped talking to the HCP. An adolescent reflected on this and commented,

*Sometimes I think the nurse like is not so nice, she makes me feel like I am a bother... like just her attitude towards me. Like you can tell she's in a huge hurry and she, you know, will ask me a question but she doesn't wait until I answer it. She's already on to the next thing. So I've just started saying that I'm fine, and you know, not giving her any further information (Participant #18, age 16).*

This idea of not talking to the HCP, or shutting down, emerged when participants talked about negative experiences within the HCEs. When HCPs came across "strong" then adolescents felt worse about themselves and "shut down."

*So if you come across strong you are just going to make them feel worse and worse... if you come across strong you're just going to make them mad and they're not really gonna want to talk to you much about it. And the more you come across strong, the more they're gonna shut down (Participant #8, age 19).*

Participants thought the HCPs opinion was helpful, but they wished the recommendations were not so brutal. As one participant described, *"And it is helpful to have a doctor's opinion*

*[about weight]. I just wish it wasn't so brutal"* (Participant #7, age 19). The tone of voice during the appointment was as important as what was actually said, as a teen explained:

*Like I usually if someone would use that tone with me talking about my weight, I would like take it like on myself. Be like okay is this my fault? Like did I do this to myself, and if I did, how? (Participant #3, age 15).*

A strong, forceful tone of voice by the HCP was to be avoided, as conveyed by this participant:

*Just [do] not come across forceful and don't try and push it on someone. [Don't say] "You're fat, you need to change" ya' know. Maybe if you word it a little nicer, ya' know? (Participant #22, age 18).*

Conversely, there were a few adolescents who respected a firmer tone of voice when HCPs talked about weight. As an adolescent explained,

*Like don't sugar coat it. Just tell me what's wrong, or like things I need to work on in order to be a healthier human being. Like the doctors at the clinic would kinda like kinda sugar coat it so I understand, but they also like gave it to me straight up in a way that I would understand, which was I felt like a good thing so then I could clearly understand them what like, what they were trying to like tell me (Participant #28, age 13).*

### **Theme Five: Helping Me**

Participants voiced frustration when HCPs used vague statements about weight management such as "Eat better and exercise more." Vague instructions were not found to be beneficial or contribute to the adolescents' behavior or attitude change. Instead, the participants expressed a desire for individualized and specific strategies that they could accomplish to improve their health. As participants attempted to implement healthy lifestyles changes, they described ways that family and friends could either help or hinder their efforts. Girls with

increased weight require support from health care providers, family and friends, and the school environment to achieve their health goals. Two subthemes emerged from the data: *Tell me how to change* and *Support and guidance is helpful*.

### **Tell me how to change.**

*Tell me how to change* focuses on how teenage girls want to be advised on effective change strategies. Participants did not appreciate general recommendations about eating better and engaging in physical exercise. For instance, one participant stated,

*I have never had a physician tell me how to lose weight. Just more exercise. But never like got into the specifics of how. It's was just mainly been, "Lose weight. Eat better." I have never had any guidance on how to eat better. Just, "You need to eat better." Um, well it's dumb kinda. Because I mean if they're not gonna give me ways or tell me what I can improve on, then nothing is going to change, because I have no idea how to do it on my own so, so yeah. Yeah, it's just... its kind of in one ear out the other because, um, I don't know how (Participant #7, age 19).*

Participants understood that vague recommendations were intended to help them become healthier. However, HCPs provided no practical strategies to the adolescent so they could accomplish the recommendation. An adolescent complained, "[HCPs] just tell me that you have to eat healthier and that is apparently that's the only thing they will say about it" (Participant #13, age 15). Generalized statements did not lead to any individual change. As one participant explained, "They just ask if I ate junk food and stuff and if I say yeah, they'll tell me it's bad for me and stuff like that... So I just eat it" (Participant #16, age 13).

Participants expressed the desire for HCPs to assist adolescents in taking positive steps toward healthy living. When asked what advice the participant would give to a new doctor or

nurse, she stated, “Just ways to be like proactive about things and um like helping me fix things, instead of just saying like ‘This is not good’ and stuff like that and making me feel like worse about it” (Participant #4, age 13). Another participant described what she liked best about her nurse, stating:

*And she never focused on my weight or told me like “Don’t eat this, don’t eat that, like you could never have sugar again.” But it was always about like “Try one food a week, or try this on the weekend instead of like a sweet every day.” ...So I think that was a good one, a really good approach I guess (Participant #10, age 16).*

Adolescents appreciated learning specific changes they could make to improve their health and setting small goals were helpful. For instance, several participants mentioned mutual support from dietitians and nutritionists who helped them learn to eat healthier foods. As one girl stated, “And at the doctor’s office we, I learned a lot about juices and like the brand Naked juice – like how much sugar that has. So [I learned] a lot from dieticians and nutritionist from the doctor’s office” (Participant 3, age 15). Similarly, an adolescent’s favorite snack was Flaming Hot Cheetos© and a nutritionist gave her an alternative to try. She explained,

*So she had a way - she said popcorn. And she said the way to make it a little spicy is to put chili powder on it. It’s actually pretty good (Participant #5, age 15).*

Besides specific food choices, adolescents found advice about meals to be helpful. A participant described the individualized changes her dietician helped her set:

*[The dietician] mentioned like eating more protein for breakfast. Because I used to miss breakfast a lot, so they said to make sure you get breakfast and lunch and don’t miss any of your meals. So those were ways that they said to do it and that is how I did that (Participant #23, age 15).*

Setting goals for mealtimes was another strategy that the participants shared from meeting with dieticians. As one participant commented,

*We're very busy, very busy people. We eat out a lot. And when we eat out, [the dieticians are] like, "Well we understand you're busy and know it's kind of hard." So like when [my family] eats out we said our goal is to make sure that everybody gets a vegetable. So make sure that you always have a vegetable (Participant #11, age 14).*

The adolescents also discussed specific strategies to increase physical activity.

Participants did not find it helpful to be told to join a gym as they did not know how to work out at a gym.

*You can't just tell someone to work out because there are so many other factors... like do they know how? Like um, you can't just walk into a gym and set someone loose that doesn't know what to do, and just like tell them to go on the treadmill. Like, no. Tell them how. Teach them how (Participant #19, age 17).*

Joining a gym is one way to increase physical activity. It is not clear whether the adolescents would know what to do once inside a gym. Participants expressed the desire to learn about specific activities that were tailored to their interests. For example, one adolescent said,

*Like I know my [doctor] said that there is like yoga on you-tube, because I like going on you-tube a lot, so he's like just work out for something for 30 minutes and do that. So I tried doing that (Participant #5, age 15).*

The adolescents expressed that they wanted HCPs to assist in providing ideas and then leave the choice of activity to the adolescent. A participant who was happy with her current HCP expressed that, "[They're] giving me the choice to do what I want and trying to work with me instead of just lecturing at me and telling me that I suck or I need to change this" (Participant

#10, age 16). The participants expressed appreciation and enthusiasm when HCPs suggested small changes and allowed the girls a choice in the matter. As one participant explained,

*And then I'll kinda like list a few ideas, and then we'll probably like, the nutritionist likes writes things down on a little goal sheet, of things I can work on, and then I'll like paste it up in my mirror so I can look at it every day and then know I'm supposed to be working on those things (Participant #28, age 13).*

According to the participants, there were HCPs who provided support and encouragement provided by the HCPs. An adolescent shared, “[The providers] understand about my weight. They kind of help me. Like they will be supportive, try to give me ideas” (Participant #5, age 15). Support from the HCPs was seen as helpful to the participants. An older participant explained that she wished she had a HCP during early adolescence that helped her instead of just telling her she was obese. She explains,

*So I just think if teenage girls were supported more and shown how to live a better lifestyle instead of just always being said ya know, ‘This is when you are considered obese, and this is how it happens, and here are a few suggestions’ – but we are not going to help you (Participant #8, age 19).*

### **Support and guidance is helpful.**

Interviews demonstrated that participants appreciate support outside the HCE. There were things that parents, families, and friends could do to help or hinder healthy behaviors and the adolescent’s health goals. An adolescent reflected, “But um I really think that like your closest friends and family - to have their support and their guidance is helpful” (Participant #7, age 19). When participants went home after the HCEs regarding weight, they expressed a desire for familial guidance and support. An adolescent stated,

*I think, I think it's okay to have a doctor's opinion but I also think that its really important like within your own family to really have their support, and um their guidance. Because ultimately you are with them all the time. So, to have, um, almost like a support system. And that to get their opinion I think is helpful. Obviously they're not experts, but I think it's also helpful (Participant #17, age 15).*

Parental support could help the adolescents improve their eating habits in the home environment. The adolescents explained that when HCPs presented new food ideas, their parents provided additional support for implementing the change.

*My mom does the grocery shopping and if I need something, like, I can ask her "Can you get some fruit?" And she'll go and pick up some fruit while she's out there, if we have the money for it. Or she'll pick healthier things for meals (Participant #5, age).*

Other adolescents found support when their parents were willing to switch up meals in the home, purchasing and trying new foods. An adolescent explained,

*Like if I want to try some different, like you know, foods and like, you know, stuff like that. If I want to try making shakes in the morning, or if you know, adding different vegetables or trying different stuff – [my parents] will be open to it and we'll go to the grocery store... You know, we will switch up what we cook in the house and stuff like that (Participant #24, age 17).*

Conversely, when parents were not supportive of providing good food at home, adolescents found it hard to make healthier food choices. One teen explained,

*My parents are not the most supportive. Well, they don't really go out of their way to, you know, to make certain that I have good food in the house. They are okay eating a lot of*



*really fattening foods and so even if I wanted to eat good sometimes, I can't. It's hard (Participant #18, age 16).*

Another participant explained, *“When you have that food, the bad stuff coming into your house, it is hard to change” (Participant #8, age 19).* Adolescents found it difficult to make healthy choices when the entire family was not included in the recommended dietary changes. As one participant described,

*Well, sometimes like we don't even take the advice home [from the HCE] because we can't make like just one change for one person. Like it would have to be the whole family and it'd affect everybody. Cause I know, like drinking soda like at a dinner would be like usual for my dad or my mom. Like they will drink soda and we would have to drink water. And usually my brother doesn't like that (Participant #14, age 14).*

Having the support and participation of a parent helped the adolescent feel encouraged. Mothers were mentioned as being more supportive more frequently than fathers regarding dietary change. As one young participant describes,

*My mom has also been like a huge participant in this. Like she's been on it, she's been getting snacks and stuff for me that are going to be like more healthier than like, I don't know, like gold fish or something. So she's been getting like apples, and like she's been on me about trying vegetables every night for dinner, and she's been having me try like new veggies. It feels really good because I know that she's encouraging me (Participant #28, age 13).*

Having family members participate with the adolescent in the change at home helped make healthy choices easier. *“[My mom] will do the diets with me. Because I have another person doing it with me so it's not as hard” (Participant #16, age 13).* There were also several fathers

who inspired the youth to eat healthy food. A teen shared, *“My dad, um, he loves to work out and he loves to eat good food. So I think he’s someone else who has pushed me, not pushed me, but like inspired me to eat better”* (Participant #3, age 15).

Participants discussed parental support around food as well as parental encouragement for physical activity. An adolescent revealed, *“And so, you know I think it’s important to be active. I either have to be in a sport or be in a play or music or something you know. My parents like, you know, make me”* (Participant #20, age 14). Parents were often relied on for encouragement to be active. Parents were often positive sources of encouragement for physical activity:

*Well, sometimes [my parents] tell me I should like go out more, like you know, exercise or like try to get fresh air cause I usually like coop up in my room and just lay in bed and they’ll like say like go outside* (Participant #14, age 14).

Having a friend or family member participate in the activity with the adolescent helped the participant be active. An adolescent shared, *“I have started going on walks in the morning with my dad but otherwise, like, I never did exercise”* (Participant #9, age 19). When an adolescent had someone to jog or stay active with, they enjoyed themselves, as a participant recalled,

*Like, when I spend the weekends with my auntie, we’ll go on a morning jog with my cousin. Or if we’re at my other auntie’s place she’ll have us walk to places, just to make sure our heart rate stays up... It’s really nice to have that positive energy around me and help me get through these things* (Participant #27, age 14).

Another adolescent stated,

*I guess I started running with a friend and we go to the weight room... I don't like it but um I am just glad I have friends that are doing exercise with me and are getting me out there. And I did not ever think I would say that I ran a mile today! (Participant #1, age 16).*

Adolescents were more willing to initiate physical activity if they have someone to talk to, as being active without another person was boring. *"I'll ask a friend [to go on a walk] but she has to work... Otherwise I'll go on a small walk by myself but it kind of gets boring cause you have no one to talk to" (Participant #5, age 15).*

Parental support and encouragement was reported by the adolescents to have some downsides. Participants expressed the need for a balance between parents being helpful and encouraging, and having parents force the adolescents to be healthy. As one participant shared,

*I love the fact that [my parents] that they like, they've tried to help me, you know what I mean? They like give me advice, and like tell me to eat healthy. But I don't like it when like parents will like force you to do that stuff (Participant #2, age 15).*

Teens became upset when their autonomy was threatened, or they felt they didn't have a choice. Adolescents expressed anger when they felt they didn't have a choice. As a participant stated, *"I don't like a lot of vegetables, so like when it comes to vegetables my mom's always trying to get me to eat a bunch of vegetables that I don't like and it gets me sort of really mad" (Participant #6, age 15).* Similarly, another participant explained that parents' ideas of support could be interpreted as an added pressure. She expressed,

*I don't think that watching fitness videos and doing like workouts on a DVD – I think that is just ridiculous. I did [try it], mainly because my mom wanted me to... But I just don't feel like, I just don't need that added pressure from her, I guess (Participant #7, age 19).*

## **Conclusion**

Five salient themes and twelve sub-themes emerged from the data using Braun and Clarke's (2006) thematic analysis techniques. Adolescent females who are obese or overweight provided a unique perspective to the concepts of health and weight. Teens viewed health holistically. Thus, they desired health care that was also holistic. The adolescents desired individualized, health focused advice that would be supported by their parents.

## CHAPTER 5: DISCUSSION

The purpose of this study is to describe how female adolescents who are obese or overweight perceive the health care encounter with a particular focus on obesity. This study revealed that adolescents' views of health encompasses physical, mental, emotional, and social health dimensions. Furthermore, many female adolescents who were overweight or obese *felt* they were healthy, despite their increased weight. Discussing weight with adolescents can stimulate negative self-perceptions. Adolescents desired HCPs who were kind and friendly and who did not judge them based upon their weight. In this study the participants expressed concern regarding the way HCPs treat them because of their weight. Within the health care encounter (HCE) the adolescents desired respect and autonomy. It was important to the adolescents that they were an essential part of the decision-making process. Conversely, the adolescents did not feel their health care needs were being met when they received impersonal and vague advice on weight loss. Small, individualized, and achievable goals were the most beneficial recommendations the HCPs could make to help the teens succeed. This chapter includes a detailed discussion of the findings in relationship to the research aims of the study (see Table 3). Nursing implications in policy, research, education, and practice will be discussed as well as study limitations.

Table 3.

*Application of sub-themes to research aims*

<b>Research Aim</b>	<b>Sub-theme</b>
1. Describe types of issues discussed during HCEs of female adolescents who are overweight or obese	<ul style="list-style-type: none"> <li>• Health is like a physical, mental, social, and emotional stance</li> <li>• Check-ups, drinking, and stuff like that</li> <li>• It sucks being told your overweight</li> </ul>
2. Describe how well adolescent females who are obese or overweight perceive their health needs being met within the health care encounter	<ul style="list-style-type: none"> <li>• See me as an individual</li> <li>• Food and physical activity ideals</li> </ul>
3. Explore views of weight from a female adolescent perspective, within the context of the health care system	<ul style="list-style-type: none"> <li>• I can be healthy but bigger</li> <li>• Weight is more than a number</li> <li>• Weight is lived and seen</li> </ul>
4. Identify suggestions from participants on how to improve the health care system in addressing needs of obese and overweight adolescent females	<ul style="list-style-type: none"> <li>• Be nice</li> <li>• Talk to me, not my parents</li> <li>• Tell me how to change</li> <li>• Support and guidance is helpful</li> </ul>

## Discussion of Findings

### Research Aim One

*Describe types of issues discussed during health care encounters of female adolescents who are living with increased weight.*

During the HCE the participants desired conversations covering various aspects of holistic health with their HCP. The adolescents' concept of health included mental, physical, social, and emotional factors. Similarly, a literature review by Parvizi and Hamzehgardeshi (2014) found that adolescents conceptualize health to include mental and psychosocial

dimensions. According to Parvizi and Hamzehgardeshi (2014) adolescents demonstrated they cared about and valued psychosocial health more than physical health. Rees et al. (2016) conducted a meta-synthesis of 30 qualitative studies examining adolescent perceptions of individuals living with overweight or obesity. Overall, participants in the qualitative studies were more concerned about the psychosocial effects of living with obesity than about the physical health effects (Rees et al., 2016). The adolescents in this study highlighted both the physical and psychosocial aspects of health.

Teenagers in this study sought health assistance from HCPs regarding depression, anxiety, puberty, sexual activity, and substance use. Similar recommendations were made by the international Commission on Adolescent Health and Wellbeing (Patton et al., 2016). The Commission advises HCPs to address developmentally relevant health care needs of adolescents. According to Patton et al. (2016) adolescent health needs include the use of contraception, sexuality, infectious diseases, mental health, and substance use. It is essential that HCPs address classic developmental issues while working with adolescents who are overweight or obese to achieve health objectives beyond weight management (Katzenellenbogen, 2005; Patton et al., 2016).

Participants in this study did not want to be told they were overweight or obese during the HCE. The adolescents were aware of their increased weight and did not want to hear their weight category from their HCP. Limited information has been reported in the literature regarding HCPs sharing with patients their weight category. Sonnevile, Plegue, Nichols, and Chang (2018) conducted a study on adolescent and young adults' (14 – 24 years old; N = 241) weight-related conversations in the HCE. The investigators found that the majority of weight discussions included the HCP notifying the patient of their weight status. Yet, only 13% of the same HCPs

provided advice about how to achieve weight loss. Furber and McGowan (2011) conducted interviews with 19 women who were pregnant and obese (BMI  $\geq 35$  kg/m<sup>2</sup>). The women participating in the interviews reported they were aware they were obese, as did the adolescents in this study. When the HCPs told the pregnant women they were obese, the participants reported feelings of guilt and embarrassment (Furber & McGowan, 2011). Adolescents in the current study expressed similar feelings when the HCP shared their weight category with them.

Adolescents in this study expressed apprehension that they would be judged by HCPs due to their weight. Merrill and Grassley (2008) found that overweight women were concerned that HCPs would scold, demean, or embarrass them due to their weight.

### **Research Aim Two**

*Describe how well adolescent females who are living with increased weight perceive their health needs being met within the health care encounter.*

Teens in this study discussed that they were felt listened to when HCPs demonstrated an interest in their life outside of the HCE. Participants wanted HCPs to discuss early in their appointment non-health related topics such as their interests, hobbies, and school. Adolescents felt a stronger relationship with their HCP when they expressed interest in the adolescent as an individual. The teens' perceptions from this study provided support for the current national practice guidelines for adolescent clinical care (White & Viner, 2012). The guidelines encourage HCPs to engage in problem-free talk during the first 2 minutes of an appointment. HCPs who discuss adolescents' outside interests help build a trusting relationship between the HCP and adolescent (White & Viner, 2012). During the HCE, HCPs can become aware of adolescents interests that can later be used to encourage or motivate health management. Mills, Schmied, and Dahlen (2013) interviewed adult women who were obese. The investigators found that



participants preferred interactions with HCPs who are respectful of their individual needs, care, and expectations. A systematic review and meta-synthesis of 45 qualitative studies was conducted by Lachal et al. (2013). The investigators examined obesity from the perspective of parents, HCPs, and children and adolescents with obesity. The researchers found that increasing the effectiveness of treatment requires HCPs to incorporate personal interests of youth who are obese (Lachal et al., 2013).

The current study illustrates that adolescents understand the need to eat healthier foods and increase physical activity. However, the teens report they are unable to synthesize this knowledge into their lifestyle without assistance from a professional. The findings are consistent with a qualitative study conducted by Reece et al. (2015) with overweight and obese adolescents. Reece et al. conducted focus groups and individual interviews, which revealed that adolescents desired to improve their health practices and behaviors. However, the adolescents reported high levels of uncertainty about how to acquire stronger health behaviors (Reece et al., 2015).

Participants in this study who received vague advice on increasing healthy eating and physical activity from HCPs did not feel their health care needs were met. Kelishadi and Azizi-Soleiman (2014) conducted a systematic review of childhood obesity randomized-controlled-trials and observed that details on healthy eating were vague overall. The investigators found that the dietary interventions reported consisted of generalizations, including “hypo-caloric diet,” “diet education,” or “dietary advice” (Kelishadi & Azizi-Soleiman, 2014). As the researchers discovered, the dietary interventions were unclear and lacked sufficient details for them to be followed by the participants (Kelishadi & Azizi-Soleiman, 2014). Adolescents may have the maturity to understand the required components of a healthy life. However, the teens are unable to implement general knowledge into specific dietary practices and physical activities. HCPs

provision of specific details with their interventions might improve the adolescent's ability to implement the recommendations.

### **Research Aim Three**

*Explore views of weight from a female adolescent perspective, within the context of the health care system.*

In this study the idea of *feeling healthy* was identified as a key element of the adolescents' concept of health. Despite having increased weight, obese and overweight adolescents overwhelmingly expressed that they feel healthy. Williams, Taylor, Wolf, Lawson, and Crespo (2008) had similar findings in their study with 9<sup>th</sup> grade adolescents and their parents or guardians. The investigators conducted interviews with the teens and their parents/guardians regarding a healthy weight. Based upon the thematic analysis of focus groups, adolescents placed a great value on "feeling healthy" (Williams et al., 2008). The current study's results were also consistent with a phenomenological study of 26 obese women by Buxton and Snethen (2013). The women clearly expressed feeling healthy, even though they were obese (Buxton & Snethen, 2013). Participants in our study expressed the view that an individual can be overweight and healthy.

Although the adolescent's weight did not appear to impact their perception of their health, it did impact their psychosocial wellbeing. The youth in this study reported that the number displayed on the scale caused them to have an internalized emotional response. The perception of an internalized emotional response is consistent with interviews conducted with adult women living with excess weight (Merrill & Grassley, 2008). According to the investigators, women reported that the number on the scale influenced their emotions and lead to feelings of blame and shame (Merrill & Grassley, 2008). Similarly, the perceptions of parents,

adolescents, and HCPs regarding obesity was explored by Pagnini, King, Booth, Wilkenfeld, and Booth (2009). In the large Australian study, the investigators conducted 26 focus groups and 17 individual interviews. Thematic analysis of the data identified that weight was not as a quantitative measure, but a complex, social and emotional issue. All participant groups reported that the emotionality of weight led to avoiding the discussion of weight at times during the HCE.

Results from the current study demonstrated that adolescents experienced an emotional response to their own weight. Participants were aware of the visibility of their increased weight within their various social environments and discussed others' responses to their weight. HCPs need to evaluate and address the adolescent's lived experience of weight and the impact it has on their psychosocial health.

The adolescents in this study reported that peers from school bullied them, and contributed to their feeling judged. This finding aligns with reports in the literature that teens who are overweight and obese are more likely to be bullied than their normal weight peers (Griffiths, Wolke, Page, & Horwood, 2006; van Geel et al., 2014). Haines et al. (2008) completed a five-year longitudinal study of 2,500 adolescents. The investigators found that approximately 25% of all female teens had been subjected to teasing regarding their weight. Puhl et al. (2011) surveyed nearly 1,500 American adolescents regarding bullying in high-schools. Eighty-four percent of the respondents had witnessed peer bullying of adolescents who were overweight or obese at their high schools. The investigators also found that teens are more often bullied about their weight, than race, religion, or disability. The current study did not aim to investigate participants' experiences with bullying. However, bullying was an aspect of their experiences that emerged from the data. Bullying experiences can negatively impact adolescent's mental and psychosocial health (Benedict, Vivier, & Gjelsvik, 2015; Lereya,

Copeland, Zammit, & Wolke, 2015). HCPs should ask female adolescents about bullying during the HCE, especially those who are overweight or obese.

It was noted that several participants in our study ( $n = 7$ ) expressed negative internalized weight bias. Internal weight bias occurs when persons with obesity apply negative stereotypes (based upon weight) to themselves and others living with increased weight. Although this study did not aim to investigate internalized weight bias, it did emerge from the data and has been reported in the literature (Schwartz, Vartanian, Nosek, & Brownell, 2006; Wang, Brownell, & Wadden, 2004). Research conducted with adults reported that overweight individuals hold negative stereotypical beliefs and attitudes towards other overweight people (Schwartz et al., 2006; Wang et al., 2004). Internalized weight bias has been found to impact health behaviors. Puhl, Moss-Racusin, and Schwartz (2007) examined adult women in the U.S. who were overweight or obese ( $N = 1,013$ ). The investigators found that participants who internalized negative weight-based stereotypes more frequently binge eat than women without internalized weight bias. Based on the findings from this study, the female adolescent perspective on in-group weight bias warrants future investigation.

#### **Research Aim Four**

*Identify suggestions from participants on how to improve the health care system in addressing needs of female adolescents who are living with increased weight.*

Adolescents desired a relationship with their HCPs that incorporated compassionate and supportive communication. The teens in this study wanted HCPs to be nice. Similarly, a randomized controlled trial by Epstein et al. (2016) explored HCPs behaviors during patient consultations. Patients' perceived that HCPs who smiled more had greater measures of trustworthiness and friendliness. Bardgett, Darling, Webster, and Kime (2016) conducted a study

to identify “attributes” school-aged children (8-10 years old) believed made a good physician. Children valued physicians with a friendly and kind approach. HCPs cannot presume to know what adolescents desire within the HCE (Darling & Bardgett, 2013; McLaughlin, Gregor, Jones, & Coderre, 2006).

Findings from this study support the literature reports indicating that adolescents experience the phenomenon of *connectedness* (Phillips, Haase, Broome, Carpenter, & Frankel, 2017). Recent research on adolescent and young adult cancer survivors has demonstrated that teens appreciate connectedness with their HCP (Phillips et al., 2017). Phillips and Haase (2018) conducted a phenomenological study where they interviewed nine cancer survivors, aged 20-23, diagnosed with cancer during adolescence. Participants reported that connectedness with their HCPs led to a sense of being cared for and respected as unique individuals. Adolescent’s ongoing evaluation of the HCPs actions, words, and tone of voice, enable them to determine if they can trust and connect with the HCP (Phillips et al., 2017).

In our study there was no preference for the weight-related language HCPs used during the HCEs. Several participants didn’t like being labeled as “obese.” Limited research was found on adolescent populations preferred weight-related language. Puhl and Himmelstein (2018) assessed adolescents (13 – 18 years old; N = 148) regarding the preferred words HCPs use when talking about weight. Adolescents preferred the terms “weight problem”, “BMI”, and “plus size.” The words “fat”, “large”, “obese”, and “extremely obese” were not preferred. Hunger and Tomiyama (2018) conducted an investigation of 14-year-old girls and weight labels (N = 2,036). One group was labeled “too fat” by their family members and the second group was not labeled. Girls that were labeled “too fat” had more disordered eating cognition and engaged in unhealthy weight control behaviors than teens who were not labeled. Puhl, Himmelstein, Armstrong, and

Kingsford (2017) conducted another study among U.S. adolescents (N = 50). Teens were asked about their weight-related terminology preferences that family members use in reference to their weight. Neutral terminology such as “body mass index” or “weight” was most preferred. Differences amongst gender did emerge. Girls preferred having their weight referred to as “curvy” and boys preferred the words “overweight” and “heavy.” In the current study the adolescents were ambivalent regarding weight-related terminology preferences. Given the limited and contrasting evidence in this study and the literature, further exploration of weight-related language in adolescents is warranted.

Adolescents in this study reported that HCPs are helpful when they suggest individualized and specific recommendations to improve health. Teens who had a tangible, or achievable goal to incorporate into their daily lives expressed positivity about weight management in the HCE. Kebbe, Byrne, Damanhoury, and Ball (2017) conducted a retrospective review of children and adolescents medical charts. The investigators found that goal setting was identified as a motivating factor for successful weight loss across all ages and most socio-demographic characteristics ( $p < 0.05$ ). Fruh (2017) completed a narrative review of the literature. According to the investigator realistic goal setting within the HCE promotes successful weight management for individuals who are obese. The findings from this study also align with national guidelines for HCPs working with patients who are obese (National Institute of Diabetes and Digestive and Kidney Diseases, 2016). The National Institute of Diabetes and Digestive and Kidney Diseases guidelines advises HCPs to help patients identify several concrete actions or changes they can make that are measurable and achievable.

Adolescents in this study wanted to be provided with individualized and specific changes to effectively manage their weight. At the same time, the participants also wanted to be involved

in the decision-making process. Loman (2008) interviewed female adolescents (N = 28; 12 – 18 years old) regarding physical activity and how nurses could help promote physical activity. In the interviews the adolescents emphasized that they did not want providers to tell them *what to do* to increase physical activity. Rather, the teens preferred to be offered choices about activities they could select to partake in (Loman, 2008).

Adolescence is a critical time for the development of individual autonomy. During adolescence, teens improve their ability to make decisions, act independently, and be self-reliant (Patton et al., 2016; Russell & Bakken, 2002). Participants in this study wanted their autonomy acknowledged and to engage in discussions about their healthcare with the provider. The adolescents wanted to make their own choices regarding healthy eating and physical activities. Participants became upset when they were not included in discussions during the HCE. It frustrated the teens when HCPs would only speak to the teen's parents. However, the adolescents in this study also recognized the need for parental involvement in the HCE. Teens in this study acknowledged that their parents' choices impacted their personal ability to make healthy food choices. For example, parents often do the grocery shopping and meal preparation. When HCPs and the participants talked about dietary changes, adolescents acknowledged the important role of parents making changes at home.

The current study demonstrates that adolescents struggle between wanting to exert autonomy, yet also want their parents to be present and supportive at the HCE. This struggle represents the stage of adolescence where teens explore independence, discover their identity, and negotiate their place in the world (Patton et al., 2016). Findings from this study support the literature reports on adolescents' struggles for autonomy in promoting their health management. Hanna and Guthrie (2003) investigated the role of parental involvement in the HCE and

adolescent decision-making. The investigators found that HCPs can encourage parental involvement that facilitates teens' independent decision making. The researchers found that older adolescents with type 1 diabetes could engage in independent decision-making. However, they could not independently function in the daily management of their diabetes management. Metabolic control was improved when HCPs encouraged parental involvement that facilitated the participants' independent decision making. Similarly, the current study's participants were a) knowledgeable about the general principles of healthy eating, b) knowledgeable about the need to be physically active, and c) wanted to be involved and make decisions about diet and activity behaviors. Yet, the teens required support and guidance to achieve these dietary and physical activity behavioral changes. When parents and/or peers provided support and guidance to the adolescents, the teens were able to incorporate HCP recommendations into their daily activities.

Parental involvement in youth weight management has been investigated in the literature. van der Kruk, Kortekaas, Lucas, and Jager-Wittenaar (2013) completed a systematic review of 24 studies. The investigators determined that an increase in parental involvement is correlated with effective childhood weight management interventions. However Kim, Park, Park, Lee, and Kyung Ham (2016) reported contrasting results in an investigation of 55 obese children (7 – 12 years old) and their parents. The investigators found that increasing parental involvement in weight loss management did lead to significant changes in the children's weight measurements.

### **Implications for Nursing**

#### **Practice**

This study offers insight on how to best meet the needs of female adolescents who are overweight and obese within the HCE. Understanding the adolescent's perceptions of the HCE may help the HCP tailor the care provided and interventions offered. HCPs can sensitively ask



patients how they feel about their health and weight, and ask about what goals a patient would like to achieve (Hum, Robinson, Jackson, & Ali, 2011). HCPs should possess an understanding of what motivates and facilitates behavioral change in their adolescent clients. HCPs can offer specific individualized goals during the HCE for dietary change or physical activity. Goals should focus on health management and not on weight loss (Institute of Medicine, 2005) to help improve the adolescent experience within the HCE.

HCPs should follow evidence-based guidelines when communicating about weight with patients in the HCE. Conversations about weight can be difficult because weight is a complex and emotional issue. Health care organizations can adopt communication guidelines for discussions about weight. Using guidelines can facilitate a caring and nonjudgmental approach to initiating effective conversations about health and weight (National Institute of Diabetes and Digestive and Kidney Diseases, 2016; Strategies to Overcome and Prevent Obesity Alliance, 2014).

HCPs can help foster connectedness in the provider-patient relationship by expressing genuine interest in the adolescent outside the HCE (Phillips & Haase, 2018). Rapport between a provider and an adolescent patient can be achieved by asking non-intrusive, open-ended questions about the adolescent's concerns, interests, and hobbies (American Academy of Pediatrics, 2010). As the adolescents' trust in their HCP increases, it makes the teen more likely to share their health concerns with the health care team (Phillips et al., 2017). Trusting relationships with the HCP and teen allow more sensitive topics to be addressed. Topics that should be part of every assessment within the HCE include stressors such as school, friends, drugs, sex, and bullying (Goldenring & Rosen, 2004; Katzenellenbogen, 2005).

The results from this study can also inform future weight management and health promotion programs for female teens. Skelton, Irby, and Geiger (2013) completed a systematic review of the literature on childhood obesity programs. The investigators reported attrition rates improved by enhancing participant and family satisfaction in the weight programs. HCPs who adopted a friendly demeanor and acknowledged the adolescent's autonomy had a decrease in attrition rates from weight management programs. However, there is little research on the correlation between HCP friendliness, patient attrition, and adolescent health outcomes. Brittain et al. (2015) conducted a systematic review of adolescent health care and reproductive health. The investigators found limited evidence that youth-friendly health services impacted reproductive health outcomes. Further research should investigate which provider characteristics are beneficial to adolescents' health and weight management outcomes.

### **Policy**

While HCPs can focus on changing individual behavior, policy change in health care organizations and schools offer an opportunity for larger scale change. This study demonstrates that weight-based bullying is a salient issue to teens who are overweight and obese. All states should pass legislation that aims to stop weight-based bullying by adopting anti-bullying programs. Parents of children who are categorically obese, overweight, or normal weight support policies to minimize weight-based victimization in schools (Puhl & Luedicke, 2013). Some states (e.g. Wisconsin, Colorado, and Illinois) have passed legislation that mandates schools to adopt bullying prevention plans (Limber & Small, 2003). However, this legislation must extend nationwide. Legislation can provide schools the tools and resources needed to eliminate weight-based bullying. Bullying prevention plans should also include conditions to prohibit weight-based bullying and describe anti-bullying expectations (Berg, Buechner, & Parham, 2003).

Parents also support statewide legislation to eliminate weight-based bullying in schools (Puhl et al., 2013). HCPs need to advocate for weight-based bullying prevention programs at the state and local levels.

Policies are needed to address weight-bias in health care providers. Across health disciplines, providers have demonstrated weight bias against individuals who are overweight or obese (Brown, 2006; Budd et al., 2011; Huizinga et al., 2010; Phelan et al., 2015; Sabin et al., 2012; Sikorski et al., 2013; Steele et al., 2011; Stone & Werner, 2012; Wolf, 2012). Current practitioners would benefit from learning how to address their implicit and/or explicit weight-bias. Recognition of biases is the first step to eliminating weight bias in the health care system (Fruh et al., 2016; Ward-Smith & Peterson, 2016). HCPs who recognize their bias are better positioned to ensure that biased thinking does not impact the care provided to patients living with increased weight (Fruh et al., 2016). Therefore, policy that requires health care organizations to screen their staff for weight-biased thought should be introduced. This policy should also include the tools and resources available for organizations to implement weight sensitivity training. Weight sensitivity training programs have been shown to effectively improve patient care (Gujral, Tea, & Sheridan, 2011). Health care organizations should establish multidisciplinary education to assist in understanding, managing, and eliminating weight bias in patient care.

In the past decade, several health campaigns have actively stigmatized obese individuals as a public health strategy (Vartanian & Smyth, 2013). Attempts to stigmatize obesity are ineffective in achieving weight loss and actually cause more harm than benefit (Lewis et al., 2010). When youth feel stigmatized by media sources, they engage in more unhealthy eating patterns and are more likely to avoid physical activity (Pearl, Dovidio, Puhl, & Brownell, 2015).

Our study results demonstrate that adolescents do not appreciate judgment by HCPs. HCPs across all disciplines should advocate for non-biased language in health campaigns.

Policy is needed that more accurately determines adolescent decision-making capabilities. Decision-making competence in adolescents is determined by a variety of factors such as age, maturity, context, and neurodevelopment (Grootens-Wiegers, Hein, van den Broek, & de Vries, 2017). Yet, there is no consensus on the exact age, or when in adolescent development, this capability emerges. Similarly, there is no universal agreement on when adolescents are capable to make meaningful decisions about research participation (Kuther & Posada, 2004). Even when adolescents possess the capacities needed to make informed decisions, they may still need extraneous support from parents (Grootens-Wiegers et al., 2017). Policy can provide guidance to HCPs who work with adolescents on how to facilitate their autonomy.

## **Education**

Colleges and universities should incorporate weight bias information into their HCP curriculum. HCP trainees and students have reported weight bias towards overweight and obese children and adults (Klos, 2014; Snethen et al., 2014; Swift et al., 2012). Berman and Hegel (2017) demonstrated that medical students hold more biased thought about obese patients than practicing physicians. Medical students are more likely to blame obese and overweight patients for their increased weight than physicians in practice (Berman & Hegel, 2017). Miller et al. (2013) reported that over one-third of medical students sampled were unaware of their own weight bias (Miller et al., 2013). As students advanced through their medical program, the presence of weight bias increased (Miller et al., 2013). Thus, weight bias interventions may be

more beneficial if they are provided earlier in the HCPs education (Khandalavala, Rojanala, Geske, Koran-Scholl, & Guck, 2014).

To reduce weight bias in HCP trainees, curriculums should address the complexity of obesity. Students can learn about the environmental and biological causative factors of obesity that are outside a person's control (Berman & Hegel, 2017). When HCP students have learned about the intersectional causative factors of obesity, weight bias has decreased (O'Brien, Puhl, Latner, Mir, & Hunter, 2010; Swift et al., 2013).

This study highlights the centrality of the adolescent within health care communication. Current and future HCPs could benefit from education in best practices of communication when caring for adolescents. Hardoff and Schonmann (2001) investigated an innovative educational strategy to focus on adolescent communication in health care. The investigators used simulation methodology with teenage actors. This active learning strategy facilitated the acquisition of developmental knowledge and simultaneously advanced the HCPs communication skills when working with adolescents. Building upon these communication skills, providers can also apply organizational protocols when dealing with sensitive issues such as weight. Communication protocols have been beneficial in guiding HCPs communication with adolescent clients (Kelly, Kratz, Bielski, & Rinehart, 2002; Kim & White, 2017; Krasner et al., 2009).

## **Research**

Several questions arose in this study that will guide future research. During the analysis process, the word "nice" occurred frequently when describing positive experiences with HCPs. The researcher began to wonder; don't all people want nice health care providers who treat them respectfully? What makes these adolescents different than adolescents of a normalized weight?

Future studies can evaluate the HCE experiences of adolescents living within various weight ranges for similarities or differences.

Another question arose regarding gender. Does gender influence the way the HCE is experienced? How would male adolescents who are overweight or obese perceive the HCE? Research demonstrates that men also experience weight stigma from peers, family members, and strangers (Himmelstein, Puhl, & Quinn, 2018). Future research can examine adolescent males who are overweight or obese and their perceptions of the HCE. Understanding gender differences may help HCPs more effectively support and care for their patients who are overweight and obese.

When developing programs that target adolescents living with increased weight. An essential understanding of adolescent preferences and concerns is required. The results from this study can provide guidance for the creation of adolescent-patient satisfaction tools. Currently, there are few tools designed to obtain the adolescent's perspective of health care. One tool designed specifically for adolescents is a dentistry questionnaire (Okullo, Astøm, & Haugejorden, 2004). This questionnaire measures the interactions between adolescent patients and their dental provider during appointments (Okullo et al., 2004). Another instrument that measures adolescent perceptions is the *Weight and its Relationship to Adolescent Perceptions of their Providers Survey* (WRAPPS) (Cohen, Tanofsky-Kraff, Young-Hyman, & Yanovski, 2005). WRAPPS examines adolescent preferences on weight-related medical care. However, since its publication in 2005 the WRAPPS has not been used in other published research.

It should be noted that when discussing the HCE, none of our participants brought up concerns about being weighed while at clinic appointments. Concerns about the weighing

process has emerged in research with adult patients (Brownfoot, Davey, & Komman, 2016). Adolescent perceptions of being weighed during clinic visits may warrant future research.

### **Strengths and Limitations**

A strength of this study was the large number of participants (N = 28). Data saturation provides both depth and breadth for the research results and can occur at samples as small as twelve (Guest et al., 2006). Two coders who have experience working with adolescents analyzed the data. The MP has extensive experience with qualitative research methods, including thematic analysis.

There were a few limitations of this study. First, only the perceptions of female adolescents who are obese or overweight from Wisconsin were explored. Adolescents from Wisconsin may have different perceptions and experiences than other adolescents. Therefore, the results of this study may not be generalizable to other regions of the U.S. or globally. However, the study was also never intended for broad generalizability.

Second, the sampling techniques used in this study could have limited the participants included. Convenience, purposive, and snowball sampling techniques were used and could have influenced inclusion and exclusion of possible participants. A convenience sample may not adequately represent the population in question (Anderson, 2010). Convenience sampling can also contribute to bias when selecting the participants due to differences in health insurance coverage, income, and ethnicity (Polit & Beck, 2012). The participants also volunteered for this study. Adolescents with a positive experience and perspective may have been more willing to enroll in the study because they knew they were going to talk about HCEs. Adolescents with a more negative experience and perspective may have chosen not to participate. However, this

study did use purposive sampling to ensure that the participants had recent HCEs and could articulate what it is like to have lived through the experience under question.

Due to concerns over confidentiality, participants' names and contact information was destroyed after the interview was completed. Thus, the PI was unable to return to the participants to verify the results. Verifying findings and interpretations with the participants could have increased the credibility of the findings (Polit & Beck, 2012). Future investigations should consider verifying results with participant to strengthen study findings.

Participants who were overweight and obese were included in this study. Differences in perception and experiences between these two weight categories may exist. For example, individuals with a BMI at the 86<sup>th</sup> percentile may have different perceptions than those at the 99<sup>th</sup> percentile. Youth perceptions of weight have been significantly different across BMI classifications and gender differences (Talamayan et al., 2006; van Vilet et al., 2015).

Self-reported heights and weights were collected in this study, and may be a limitation. Women who are overweight or obese have been shown to under-report weight and over-report height (Merrill & Richardson, 2009). Analyses of National Health and Nutrition Examination Survey (NHANES) data included information on 8,600 women aged 16 years or older. Women of all ages underreported their weight; underreporting of weight was more frequent in the youngest of ages (Merrill & Richardson, 2009). However, Quick et al. (2015) reported contradictory results in a sample of nearly 1,700 young adult participants (average age 19 years old). The investigators found that the adolescent and young adults self-reported weights and measured BMIs were significantly correlated ( $r = .97$ ;  $P < .001$ ) (Quick et al., 2015). There may be improved reporting in young adult females, than in middle-aged woman. .



Participants in this study were minors and were responsible for answering the demographic details so household income data was not collected. Future research may benefit from collecting this data to see if differences in experiences exist across various socio-economic strata. When researching weight or dietary choices, data on socioeconomic status may be particularly important to assess because economics and geography can influence food choices (Nelson et al., 2018; Sharifi et al., 2016).

A strength of this study is that participants in this study ranged from 13 – 19 years old, encompassing a wide range experiences across the adolescence stage. Yet, this range could also be limiting. Differences between the younger and older participant’s HCE experiences could exist For example, participants aged 13 – 14 could be classified as “early adolescence” and participants 18 – 19 could be classified as “late adolescence.” Variability in the data may have been hindered if participant’s perceptions differentiated across these subsamples.

Lastly, interviews would often veer off topic and the participants did not stay focused on the exact question asked. Some of the topics discussed were not part of the research aims, such as bullying. However, these topics were what the adolescents reported, and felt was important to share with the interviewer.

### **Conclusion**

During adolescence, individuals lay the foundation for lifelong health and wellbeing. Choices made during adolescence can influence the trajectory of one’s health across the lifespan (Patton et al., 2016). Understanding adolescent perspectives on health, weight, and health care can assist providers and researchers to develop successful weight programs and interventions for adolescents. It is vital that HCPs learn to effectively communicate with female adolescents who are living with increased weight.

This qualitative study explored the lived experiences of female adolescent's with increased weight and provided many insights into health perspectives, experiences with HCPs, and weight-related perceptions of themselves and health care interactions. Themes identified include *Mental and Physical Wellness*, *The Impact of Weight*, *Cause I'm 13!*, *Talking About Weight Sucks*, and *Help Me Instead of Just Telling Me*. Support of these themes can be found within the existing literature, although some sub-themes were new and unique to this group of adolescents.

Weight and health are complex concepts for female adolescents who are overweight or obese. Adolescent perceptions of health and weight intersect with developmental and psychosocial challenges unique to adolescence. HCPs have the opportunity to influence how female adolescents approach their health goals through respectful and kind interactions, active listening, and genuine interest. HCPs can foster the adolescent's autonomy in the HCE, while simultaneously encouraging the parent to support the adolescent.

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## APPENDIX A:

### Guided Nurse Recruitment Script

#### Health, Wellness, and Health Care Experiences of Teenage Girls

*This serves as a guide to introducing the study for clinical staff.*

The research study consists of a single one-hour interview focused on your experiences in the health care setting. This would be done at a time and location that is convenient for you. Ms. Yerges is a doctoral student at the University of Wisconsin – Milwaukee, College of Nursing. She is interested hearing about your experiences in health care in efforts to improve the care provider's deliver to teenage girls living with increased weight.

This handout will provide you with some information about the study (give *Appendix B*). If this sounds like something you may be interested in, please let me know and I will gather your name and phone number for Ms. Yerges to contact you at a later date.

## APPENDIX B:

### Clinic Recruitment Flyer

**Please help us improve your health care experience!**



#### What

- Participate in a 45 – 60 minute interview with a researcher
- Discuss your experiences during clinic appointments about topics such as health and weight
- This interview is voluntary and totally confidential
- Get paid \$25 for your time

#### Why

- The goal of this research study is to help doctors and nurses understand how to improve the care they provide to teenage girls

#### Who

- Teenage girls, ages 13 – 19 years old

#### When

- If you are interested in participating, we will call you to set an interview time that works for you

#### Where

- We will arrange to meet somewhere convenient for you (like a library, coffee shop, or in your home)

#### How

- Please fill out the attached form and hand it back to one of the clinic staff before you leave today. You can also contact the lead researcher, Ms. April Yerges at 608-772-2821
- If you say you are interested, we will be in touch with you in the next week!



## APPENDIX C:

### Permission to Contact Form

We are interested in learning more about the study titled “Health, Wellness, and Health Care Experiences of Teenage Girls”, approved through the University of Wisconsin – Milwaukee.

I give permission for the investigators of this study to contact my daughter and parent(s) and/or guardian(s).

Daughter’s Name: \_\_\_\_\_

Parent/Guardian Name(s): \_\_\_\_\_

Phone Number(s): \_\_\_\_\_

\_\_\_\_\_

Parent Signature: \_\_\_\_\_

Date: \_\_\_\_\_

*This form will be confidentially destroyed once contact has been made.*

## APPENDIX D:

### Public Recruitment Flyer

**Please help us improve your health care experience!**



#### What

- Participate in a 45 – 60 minute interview with a researcher
- Discuss your experiences during clinic appointments about topics such as health and weight
- This interview is voluntary and totally confidential
- Get paid \$25 for your time

#### Why

- The goal of this research study is to help doctors and nurses understand how to improve the care they provide to teenage girls

#### Who

- Teenage girls, ages 13 – 19 years old, living with increased weight

#### When

- If you are interested in participating, we will call you to set an interview time that works for you

#### Where

- We will arrange to meet somewhere convenient for you (like a library, coffee shop, or in your home)

#### How

- Parent/guardian consent required for teenagers 13 – 17 years old
- Please call **608-556-3066** to see if you are eligible for the study



## APPENDIX E:

### Guided Telephone Screening Script

*This template serves as a guide to screening*

Hello, my name is April Yerges and I am a pediatric nurse and a doctoral candidate at the University of Wisconsin – Milwaukee College of Nursing. You have indicated you were interested in learning more about a study on your health care experiences. Thank you for your interest in this study.

1. Is this a good time to talk?

a. No – When would be a better time for me to call back? \_\_\_\_\_  
and *end call*.

b. Yes – *Proceed to #2*

2. Are you a female between 13 and 19 years of age? \_\_\_\_\_ *Document age.*

a. No – You are not eligible for this study. Thank you for your time and consideration. *End call*

b. Yes –

i. If 13 – 17 years old, *Proceed to #3*

ii. If 18 – 19 years old, *Proceed to #4*

3. Since you are underage, I need to ask if your parent or guardian is home?

a. No – When is a good time to call back to speak with both of you?

\_\_\_\_\_ and *end call*.

b. Yes – Later, I will need to speak with them regarding this study. Is this okay with you?

- i. No –*End call.*
  - ii. Yes – Then, let me first tell you about the study.
4. The purpose of this study is to explore the perceptions of health and experiences of health care as held by teenage girls who are living with increased weight. Participation in this study involves a confidential interview, lasting approximately 45 - 60 minutes, to be conducted at a convenient location that is safe and private, either at your home or in your community. All interviews are confidential. I will ask questions about yourself, your health, your weight, and your health care experiences. You may answer the questions you wish and can stop the interview at any point.

Are you interested in participating in this study?

- a. No – Thank you for your time. *End call.*
- b. **Yes** - I now need to ask you a few questions to see if you are eligible for this study. *Proceed to #4.*

#### **Screen for Eligibility – Inclusion Criteria**

5. Are you fluent in reading and speaking English?
  - a. No – You are not eligible for this study. Thank you for your time and consideration. *End call*
  - b. Yes – *Proceed to #7*
6. What is your height \_\_\_\_\_ and weight \_\_\_\_\_? *Calculate BMI*
  - a.  $BMI \geq 85^{\text{th}}$  percentile – You are not eligible for this study. Thank you for your time and consideration. *End call*
  - b.  $BMI \geq 85^{\text{th}}$  percentile – *Proceed to #8*



7. Will you be available to meet with me for approximately 45 - 60 minutes to talk about your health care experiences?
- a. No –Thank you for your time and consideration.
  - b. Yes – You meet the study criteria. Before we schedule a time and date for the interview, I will need to speak with your parent and/or guardian to discuss informed consent. Please put them on the phone. *Proceed to #8*

### **Informed Consent Information**

8. Hello, my name is April Yerges. I am a nursing doctoral candidate at the University of Wisconsin Milwaukee. Your child has expressed interest in a research study regarding the health care experiences of teenage girls living with increased weight. Participation in this study involves a confidential interview between her and myself, to be conducted at a convenient location that is safe and private, either in the home or community. I will ask your daughter questions about her health, weight, and health care experiences. The interview will last approximately 60 minutes. Your daughter may choose to answer or not answer any questions throughout the interview. She can also stop the interview at any point.

Do you have any questions about the study at this time?

- a. No – *Proceed to #10*
  - b. Yes – I will address any questions the parent has.
9. Your child meets the study criteria. We request that you are present at the start of our meeting to review informed consent and assent. When we meet for the interview we will verbally discuss informed consent and assent and you will be provided with written

information regarding the study and informed consent; both you and your daughter must consent to participation in this study.

*Schedule interview and complete Interview and Participant Information*

## APPENDIX F:

### Participant and Interview Information Form

Participant's Name: \_\_\_\_\_ ID# \_\_\_\_\_

Phone Number(s): \_\_\_\_\_

\_\_\_\_\_

Participant's Age: \_\_\_\_\_

*For participant's 13 – 17 years old:*

Parent/Guardian Name: \_\_\_\_\_

\_\_\_\_\_ Parent/Guardian will accompany child to interview and consent forms will be signed prior to participant interview.

#### Schedule Interview:

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Site: Home Other: \_\_\_\_\_

Address of Interview Location: \_\_\_\_\_

*This form will be confidentially destroyed once the interview has been completed.*

## APPENDIX G:

### Informed Consent/Assent for Minors

# UNIVERSITY OF WISCONSIN – MILWAUKEE PARENT CONSENT AND CHILD ASSENT TO PARTICIPATE IN RESEARCH MINOR ADOLESCENT (AGE 13 – 17 YEARS)

## 1. General Information

### Study title:

- Health, Wellness, and Health Care Experiences of Teenage Girls

### Person in Charge of Study (Principal Investigator):

- Dr. Julia Snethen PhD, RN
  - Associate Professor, College of Nursing
- April L. Yerges BSN, RN, CPN
  - Student Investigator
  - Doctoral Student, College of Nursing

## 2. Study Description

You are being asked to participate in a research study. Your participation is completely voluntary. You do not have to participate if you do not want to.

The purpose of this study is to describe how female teenage girls living with increased weight perceive their experiences during doctor appointments and when interacting with medical staff such as nurses, doctors, and dieticians. This study will describe the types of issues discussed during these clinic appointments from your point of view. The study results can offer insight to doctors and nurses can improve their care for teenage girls living with increased weight.

This study is being conducted through the University of Wisconsin-Milwaukee. Data recruitment will occur primarily within Madison, Wisconsin, at local health clinics. Approximately 35 adolescents, aged 13 – 19, will be recruited to participate. You will be asked to commit to a single interview lasting approximately 45-60 minutes, depending on how much you wish to share with me.

## 3. Study Procedures

### **What will I be asked to do if I participate in the study?**

- If you agree to participate you will be asked to engage in a confidential interview at a location of your choice. This interview will last approximately 45-60 minutes depending on how much you wish to share with me.
- This interview will be anonymously audio-recorded so the research team can transcribe verbatim what information is being shared. If you do not consent to audio-recording you may not participate in this study.
- You will also be asked to fill out a demographic information sheet. This should take 5 – 10 minutes to complete and asks your age, ethnicity, current year of education, any current health problems, how many years you have lived with increased weight, estimated height and weight, and which types of health care providers you have interacted with in the past year. If you do not want to complete this form you may still participate in this study.

## **4. Risks and Minimizing Risks**

### **What risks will I face by participating in this study?**

There is a possibility you may feel uncomfortable sharing your thoughts and experiences. You are not required to respond to any questions that make you uncomfortable. You can stop the interview at any time throughout the interview process. There are no foreseeable physical or mental risks for participating in this research study.

If at anytime you become emotionally distressed during the interview, we will stop the interview and provide time for you to regroup. You may choose to resume the interview or stop at this time. If you remain emotionally upset, but are not in any imminent danger to yourself or others, I will recommend to your parents and/or guardians to contact your primary care provider for follow-up care.

If at anytime you express the desire to harm yourself or others, the interview will be stopped. We will contact your parent/guardian and inform them of your expression to harm yourself or another. The investigator will instruct your parents/guardians to contact your primary care provider, or take you to the nearest urgent care or emergency department for medical management.

## **5. Benefits**

### **Will I receive any benefit from my participation in this study?**

Participants are afforded the opportunity to share their perspective and experiences to help health care providers improve the delivery of care to teenage girls.

## 6. Study Costs and Compensation

### Will I be charged anything for participating in this study?

- You will not be charged anything by taking part in this research study.

### Are subjects paid or given anything for being in the study?

- You will be given a \$25 gift card to Target or Wal-Mart for participating in this research study.

## 7. Confidentiality

### What happens to the information collected?

All information collected about you during the course of this study will be kept confidential to the extent permitted by law. We may decide to present what we find to others, or publish our results in scientific journals or at scientific conferences, and this information will be de-identified or about the group in general. Only the PI, Ms. Yerges, and statistician will have access to the information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review your records.

There will be no forms with your personal information retained upon interview completion.

Data that you provide will be de-identified, stored in a locked office, and on a password protected computer. This data may be used in future studies, such as a secondary analysis, and will be confidentially destroyed once the results have been reported.

## 8. Alternatives

### Are there alternatives to participating in the study?

You may choose to not participate in this study.

## 9. Voluntary Participation and Withdrawal

By participating in this audio-recorded interview and completing the demographic information sheet, you are consenting to participate in this research study.

### **What happens if I decide not to be in this study?**

Your participation in this study is entirely voluntary. You may choose not to take part in this study. If you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision not to participate or to withdraw at any time will not change any present or future relationships with the University of Wisconsin Milwaukee, your health care clinics, or health care providers or health care providers. If you withdraw from the study, we will use the information collected to that point.

## **10. Questions**

### **Who do I contact for questions about this study?**

For more information about the study or the study procedures or treatments, or to withdraw from the study, contact:

April L. Yerges BSN, RN, CPN  
Doctoral Candidate  
University of Wisconsin – Milwaukee  
College of Nursing  
608-556-3066

### **Who do I contact for questions about my rights or complaints towards my treatment as a research subject?**

The Institutional Review Board may ask your name, but all complaints are kept in confidence.

Institutional Review Board  
Human Research Protection Program  
Department of University Safety and Assurances  
University of Wisconsin – Milwaukee  
P.O. Box 413  
Milwaukee, WI 53201  
(414) 229-3173

By participating in the audiotaped interview and completing the demographic form, the adolescent is assenting to the research study, and the parent/guardian is consenting to their child's participation in the research study.

## **11. Audio or Video recording or Photographs**

### **Research Subject's Consent to Audio/Video/Photo Recording:**

The anonymous interview will be audio-recorded. It okay to audiotape me while I am in this study and use my audiotaped data in the research.



## APPENDIX H:

### Informed Consent, Adult

# UNIVERSITY OF WISCONSIN – MILWAUKEE CONSENT TO PARTICIPATE IN RESEARCH ADULT ADOLESCENT (AGE ≥ 18 YEARS)

## 1. General Information

### Study title:

- Health, Wellness, and Health Care Experiences of Teenage Girls

### Person in Charge of Study (Principal Investigator):

- Dr. Julia Snethen PhD, RN
  - Associate Professor, College of Nursing
- April L. Yerges BSN, RN, CPN
  - Student Investigator
  - Doctoral Student, College of Nursing

## 2. Study Description

You are being asked to participate in a research study. Your participation is completely voluntary. You do not have to participate if you do not want to.

The purpose of this study is to describe how teenage girls living with increased weight perceive their experiences during doctor appointments and when interacting with medical staff such as nurses, doctors, and dieticians. This study will describe the types of issues discussed during these clinic appointments from your point of view. The study results can offer insight to doctors and nurses can improve their care for teenage girls.

This study is being conducted through the University of Wisconsin-Milwaukee. Data recruitment will occur primarily within Madison, Wisconsin, at local health clinics. Approximately 35 adolescents, aged 13 – 19, will be recruited to participate. You will be asked to commit to a single interview lasting approximately 45-60 minutes, depending on how much you wish to share with me.

## 3. Study Procedures

What will I be asked to do if I participate in the study?

- If you agree to participate you will be asked to engage in a confidential interview at a location of your choice. This interview will last approximately 45-60 minutes depending on how much you wish to share with me.
- This interview will be anonymously audio-recorded so the research team can transcribe verbatim what information is being shared. If you do not consent to audio-recording you may not participate in this study.
- You will also be asked to fill out a demographic information sheet. This should take 5 – 10 minutes to complete and asks your age, ethnicity, current year of education, any current health problems, how many years you have lived with increased weight, estimated height and weight, and which types of health care providers you have interacted with in the past year. If you do not want to complete this form you may still participate in this study.

#### 4. Risks and Minimizing Risks

##### What risks will I face by participating in this study?

There is a possibility you may feel uncomfortable sharing their thoughts and experiences. You are not required to respond to any questions that make you uncomfortable. You can stop the interview at any time throughout the interview process. There are no foreseeable physical or mental risks for participating in this research study.

If at anytime you become emotionally distressed during the interview, we will stop the interview and provide time for you to regroup. You may choose to resume the interview or stop at this time. If you remain emotionally upset, but are not in any imminent danger to yourself or others, the investigator will recommend that you contact your primary care provider for follow-up care.

If at anytime you express the desire to harm yourself or others, the interview will be stopped. The investigator will assist you in contacting your primary care provider, or assist you to the nearest urgent care or emergency room.

#### 5. Benefits

##### Will I receive any benefit from my participation in this study?

Participants are afforded the opportunity to share their perspective and experiences to help doctors and nurses improve the delivery of care to teenage girls.

#### 6. Study Costs and Compensation

##### Will I be charged anything for participating in this study?

- You will not be charged anything by taking part in this research study.

#### **Are subjects paid or given anything for being in the study?**

- You will be given a \$25 gift card to Target or Wal-Mart for participating in this research study.

### **7. Confidentiality**

#### **What happens to the information collected?**

All information collected about you during the course of this study will be kept confidential to the extent permitted by law. We may decide to present what we find to others, or publish our results in scientific journals or at scientific conferences, and this information will be de-identified or about the group in general. Only the PI, Ms. Yerges, and statistician will have access to the information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review your records.

There will be no forms with your personal information retained upon interview completion.

Data that you provide will be de-identified, stored in a locked office, and on a password protected computer. This data may be used in used in future studies, such as a secondary analysis, and will be confidentially destroyed once the results have been reported.

### **8. Alternatives**

#### **Are there alternatives to participating in the study?**

You may choose to not participate in this study.

### **9. Voluntary Participation and Withdrawal**

By participating in this audio-recorded interview and completing the demographic information sheet, you are consenting to participate in this research study.

#### **What happens if I decide not to be in this study?**

Your participation in this study is entirely voluntary. You may choose not to take part in this study. If you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision not to participate or to withdraw at any time will not change any present or future relationships with the University of Wisconsin Milwaukee, your health care clinics, or health care providers. If you withdraw from the study, we will use the information collected to that point.

## 10. Questions

### **Who do I contact for questions about this study?**

For more information about the study or the study procedures or treatments, or to withdraw from the study, contact:

April L. Yerges BSN, RN, CPN  
Doctoral Candidate  
University of Wisconsin – Milwaukee  
College of Nursing  
608-556-3066

### **Who do I contact for questions about my rights or complaints towards my treatment as a research subject?**

The Institutional Review Board may ask your name, but all complaints are kept in confidence.

Institutional Review Board  
Human Research Protection Program  
Department of University Safety and Assurances  
University of Wisconsin – Milwaukee  
P.O. Box 413  
Milwaukee, WI 53201  
(414) 229-3173

By participating in the audiotaped interview and completing the demographic form, I am consenting to my participation in this research study.

## 11. Audio or Video recording or Photographs

### **Research Subject's Consent to Audio/Video/Photo Recording:**

The anonymous interview will be audio-recorded. It okay to audiotape me while I am in this study and use my audiotaped data in the research.

## APPENDIX I:

### Interview Guide

This is (date)\_\_\_\_\_ and I am interviewing participant ID#\_\_\_\_\_.

I am interested in learning about your health care experiences. We are going to record our talk on this recorder to help remember our time together. If at any time you want to ask skip a question, ask me for a break, or stop the interview altogether, please let me know.

The questions are as follows:

1. What does health mean to you?
  - a. How do you view your own health?
  - b. How is health important in your daily life?
2. Would you share with me what happens during visits with your doctor?
  - a. How often have you seen a doctor or nurse in the past year?
3. What are some issues you discuss with your doctor or nurse?
  - a. What topics are helpful to discuss?
  - b. What topics are not helpful to discuss?
  - c. What topics are uncomfortable to discuss?
4. How are you treated during these visits?
  - a. Could you share an example of how your visits go?
5. What does weight mean to you?
  - a. Discuss what weight means to you in your day-to-day life?
  - b. How do you view your own weight?

6. Some teens have told me that they prefer doctors and nurses to use certain words, and avoid certain words when discussing weight with teenage girls. What preferences, if any, do you have in how doctors and nurses address weight during doctor's appointments?
  - a. What do you think would be the best way to talk to teenage girls about their weight?
7. What changes would you make in the health care system to better help teenage girls?
8. What else would you like to share with me regarding your health care experiences?

**APPENDIX J:**

**Demographic Data Form**

Demographic Data Form ID # \_\_\_\_\_

**Please Circle Your responses**

1. Age: 13 14 15 16 17 18 19

2. Ethnicity 1 – Caucasian  
2 – African American  
3 – Hispanic  
4 – Asian  
5 – Native American  
6 – Other \_\_\_\_\_

3. Current Year of Education:  
6<sup>th</sup> grade  
7<sup>th</sup> grade  
8<sup>th</sup> grade  
9<sup>th</sup> grade  
10<sup>th</sup> grade  
11<sup>th</sup> grade  
12<sup>th</sup> grade  
Other: \_\_\_\_\_

4. Current health problems (circle all that apply)  
1 – none  
2 – High blood pressure  
3 – Type 2 diabetes  
4 – High cholesterol  
5 – Other \_\_\_\_\_

5. How many years have you lived with increased weight?  
1 – one to two years  
2 – three to four years  
3 – five to six years  
4 – seven to eight years  
5 – nine to ten years  
6 – greater than ten years  
7 – all my life

6. My estimated height is: \_\_\_\_\_

7. My estimated weight is: \_\_\_\_\_

8. In the past year, which types of health care providers have you seen and interacted with? (Please circle all that apply)

Nurse

Physician

Nurse Practitioner

Physician Assistant

Medical/Nursing Assistant

Dietician

Other: \_\_\_\_\_

## APPENDIX K:

### IRB Approval



Department of University Safety & Assurances

Melody Harries  
IRB Administrator  
Institutional Review Board  
Engelmann 270  
P. O. Box 413  
Milwaukee, WI 53201-0413  
(414) 229-3182 phone  
(414) 229-6729 fax

<http://www.ih.uwm.edu>  
[harries@uwm.edu](mailto:harries@uwm.edu)

#### Continuing Review - Notice of IRB Expedited Approval

**Date:** March 7, 2018

**To:** Julia Snethen, PhD  
**Dept:** Nursing

**CC:** April Yerges

**IRB#:** 17.201

**Title:** Health, Wellness, and Health Care Experiences of Teenage Girls

After review of your research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol has received continuing approval as minimal risk Expedited under **Category 6 & 7** as governed by 45 CFR 46.110.

This protocol has been approved on **March 7, 2018** for one year. IRB approval will expire on **March 6, 2019**. If you plan to continue any research related activities (e.g., enrollment of subjects, study interventions, data analysis, etc.) past the date of IRB expiration, a Continuation for IRB Approval must be filed by the submission deadline. If the study is closed or completed before the IRB expiration date, please notify the IRB by completing and submitting the Continuing Review form found in IRBManager.

This study may be selected for a post-approval review by the IRB. The review will include an in-person meeting with members of the IRB to verify that study activities are consistent with the approved protocol and to review signed consent forms and other study-related records.

Any proposed changes to the protocol must be reviewed by the IRB before implementation, unless the change is specifically necessary to eliminate apparent immediate hazards to the subjects. The principal investigator is responsible for adhering to the policies and guidelines set forth by the UWM IRB, maintaining proper documentation of study records, and promptly reporting to the IRB any adverse events which require reporting. The Principal Investigator is also responsible for ensuring that all study staff receive appropriate training in the ethical guidelines of conducting human subjects research.

As Principal Investigator, it is also your responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities which are independent of IRB review/approval (e.g., FERPA, Radiation Safety, UWM Data Security, UW System policy on Prizes, Awards and Gifts, state gambling laws, etc.). When conducting research at institutions outside of UWM, be sure to obtain permission and/or approval as required by their policies.

Contact the IRB office if you have any further questions. Thank you for your cooperation, and best wishes for a successful project!

Respectfully,

A handwritten signature in black ink that reads "Melody Harries".

Melody Harries  
IRB Administrator



# *April L. Yerges,*

*BSN, RN, CPN*

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## EDUCATION

<b>Ph.D. in Nursing</b>	2012-present
Projected Graduation: December 2018	
University of Wisconsin – Milwaukee; GPA 4.0	
<b>B.S.N.</b>	2004
University of Wisconsin – Madison; GPA 3.9	

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## HONORS AND AWARDS

• Nursing Pathophysiology Scholarship Award	2018
◦ 2017, 2016, 2015, 2014, 2013	
• Sigma Theta Tau International – Eta Nu	2018
◦ Student Poster Award	
• Doctoral Nursing Student Organization	2016
◦ Research Promotion Award	
• Sigma Theta Tau International – Eta Nu	2015
◦ Rising Star Award	
• Chancellor’s Graduate Student Award	2015
◦ 2014, 2013, 2012	
• Sigma Theta Tau International – Eta Nu	2015
◦ Building Bridges Doctoral Student Poster Award	
• Doctoral Nursing Student Organization	2015
◦ Research Promotion Award	
• Sigma Theta Tau International – Eta Nu	2014
◦ Outstanding Graduate Student Performance Award	
• Meyerhoff Service Award Recipient	2004

## PROFESSIONAL EXPERIENCE

- Faculty**, Edgewood College, School of Nursing Fall 2016 – present
- Lecturer
  - Clinical Instructor
- Leadership Trainee**, University of Wisconsin – Madison 2018 – present
- Maternal & Child Health Bureau
  - Pediatric Pulmonary Center (through 2019)
- Registered Nurse**, Pediatric Specialty Clinic 2007 – 2017  
American Family Children’s Hospital, Madison, Wisconsin
- Family-centered care to children with special health care needs
  - Specialized care in pediatric endocrinology and surgery
  - Nurse Coordinator, Pediatric Chest Wall Deformity Clinic  
2012-2014
  - Nurse Coordinator, Adolescent Polycystic Ovarian Syndrome Clinic  
2007-2012
- Teaching Assistant**, 2015
- NURS 746 Coordinated Care of the Child with Special Health Care Needs
- Nurse Educator**, per diem 2010 – 2014  
Independent Contractor, Wisconsin and Iowa
- Provided education on Human Growth Hormone medication and administration in the home setting
- Registered Nurse**, Pediatric Inpatient Unit F4/4 & P4 2004 – 2007  
American Family Children’s Hospital, Madison, Wisconsin
- Pediatric Hematology, Oncology, & Transplant
  - Chemotherapy Certified
  - Pediatric Neurology, Med/Surg
  - Preceptor to new graduate nurses
  - Charge nurse experience
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## RESEARCH EXPERIENCE

- Student Research Assistant**, University of Wisconsin – Madison 2015 – 2016
- Pediatric Fitness Clinic, data analysis
  - PI: Dr. Aaron Carrel, MD
- Student Researcher**, University of Wisconsin – Milwaukee 2015
- Qualitative secondary analysis on polygamy in rural Malawi
  - Under guidance of Dr. Patricia E. Stevens PhD, FAAN
  - PI: Dr. Lance Weinhardt, PhD, MPH
- Student Research Assistant**, University of Wisconsin – Madison 2015
- Hyperlipidemia in Children, data cleaning & analysis
  - PI: Dr. Amy Peterson, MD
- Student Research Assistant**, University of Wisconsin – Milwaukee 2014 – 2015
- Thai Nurses Attitudes, Knowledge, and Beliefs of Childhood Obesity
  - Data collection, cleaning, and analysis
  - PI: Dr. Julia Snethen, PhD, RN
- Nursing Research Assistant**, University of Wisconsin – Madison 2007 – 2012
- Growth hormone registry, data collection
  - PI: Dr. David Allen, MD

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### LICENSURE & CERTIFICATION

Certified Pediatric Nurse	2012-present
State of Wisconsin – Registered Nurse	2004-present
CPR Certification	2002-present

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### PUBLICATIONS

- Yerges, A. L.**, Stevens, P. E., Mkandawire-Valhmu, L., Bauer, W., Thoko, Galvao, L., & Weinhardt, L. (2017). The art of poetic transcription in rural Malawian women's experiences with polygamy. *Health Care for Women International*, 38(8), p. 873-891. DOI: 0.1080/07399332.2017.1326494
- Mkandawire-Valhmu, L., Bauer, W., Stevens, P. E., Galvao, L., Grande, K., **Yerges, A. L.**, Emer, L., Mwenyekonde, T., & Weinhardt, L. (2016). Rural Malawian women's resistance to systematic oppression, violence, and abuse from their husbands. *Journal of Interpersonal Violence*, December. DOI: [10.1177/0886260516682518](https://doi.org/10.1177/0886260516682518)

Mkandawire-Valhmu, L., Scheer, V, **Yerges, A. L.**, Olukutun, O., Dressel, A., & Kako, P. (2016, Accepted for book chapter). *Advancing the Health of Women and Children in Malawi and Kenya through Global Partnerships for Development: Academic – Community Collaborations.*

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## PRESENTATIONS

### INTERNATIONAL:

**Yerges, A. L.**, Rochon, C. A., & Menningen, K. (*scheduled 2019, January*). *Nursing education in the United States.* PowerPoint presentation at the University of Puthisasatra, Phnom Penh, Cambodia.

Rochon, C. A. & **Yerges, A. L.** (2018, January). *Implementation and facilitation of nurse preceptorship at the bedside.* Invited PowerPoint presentation at Angkor Hospital for Children, Siem Reap, Cambodia.

**Yerges, A. L.**, Fanny, N., & Weissenfluh, C. (2018, January). *Days for Girls: Puberty and menstruation teaching for young girls and women.* Poster presentation in Phnom Penh, Cambodia.

**Yerges, A. L.**, Stevens, P. E., & Weinhard, L. (2015, November). *The art of poetic transcription in narrative analysis: Re-presenting rural Malawian women's experiences with polygamy.* Poster presentation at the Sigma Theta Tau International Convention, Las Vegas, Nevada, United States.

**Yerges, A. L.** (2014, January). *Pediatric care in the United States: Insurance coverage.* Invited PowerPoint presentation for Boromonjani School of Nursing, Ubon Ratchathani, Thailand.

### NATIONAL

**Yerges, A. L.**, Snethen, J. A., Carrell, A., & Rehm, J. (2018, April). *Perceptions of the health care experience by female adolescents living with increased weight.* Poster presentation at Midwest Nursing Research Society, Cleveland, Ohio.

**Yerges, A. L.** & Burbach, B. (2018, April). *Emerging Scholars and New Member Orientation.* PowerPoint presentation for the Midwest Nursing Research Society, Cleveland, Ohio.

- Yerges, A. L. & Hobbs, B.** (2017, April). *Emerging Scholars and New Member Orientation*. PowerPoint presentation for the Midwest Nursing Research Society, Minneapolis, Minnesota.
- Hardin, H. & Yerges, A. L.** (2016, March). *Emerging Scholars Network Orientation*. PowerPoint presentation for the Midwest Nursing Research Society, Milwaukee, Wisconsin.
- Kendall, N., Wendland, C., Mkwandawire-Valhmu, L., & Yerges, A. L.** (2015, November). *Vulnerability in Malawi: Children with HIV*. Panel Discussion for the National Women's Studies Association, Milwaukee, Wisconsin.
- Yerges, A. L., Snethen, J. A., Albargawi, M. S., Alshutwi, S. S., Sakunsuntiporn, W., Seal, L., & Kelber, S.** (2015, April). *Exploring Thai Nurses' Perceptions of Overweight Children*. Poster presentation at the Midwest Nursing Research Society, Indianapolis, Indiana.
- Yerges, A.L.** (2010, April). *All Aboard! Multidisciplinary Care for the Adolescent with PCOS*. PowerPoint presentation for the Pediatric Endocrine Nursing Society, Cincinnati, Ohio.
- Yerges, A. L. & Weimer, M.** (2007). *Today's Menu: Bilirubin and BUNs*. PowerPoint presentation for the Association of Pediatric-Hematology & Oncology Nurses, Milwaukee, Wisconsin.

#### **STATE & LOCAL**

- Yerges, A. L., Menningen, K., Rudd, R., Blaeske, F., & Davis, B.** (2017, October). *Service Learning Program: Caring for the Children of Cambodia*. Panel discussion at United Nations Association Conference, Madison, Wisconsin.
- Rudd, R. & Yerges, A. L.** (2017, October). *Experiences, lessons learned, and reflection on international service learning in Cambodia*. Invited speaker at United Nations Association Conference, Madison, Wisconsin.
- Yerges, A. L.** (2017, September). *Overview of Edgewood College's international service learning program in Cambodia*. Oral presentation at United Nations Association, Dane County Chapter meeting, Madison, Wisconsin.
- Rudd, R., Downs, M., Blaeske, F., Rochon, C., Yerges, A. L., & Menningen, K.** (2017, April). *A nursing student outlook: cultural awareness of the pediatric population*. Poster presentation at University of Wisconsin Hospital and Clinics, Nursing Poster Fair.
- Rochon, C., Rudd, R., Downs, M., & Yerges, A. L.** (2016, October). *Caring for Cambodian children*. Panel discussion at United Nations Association, Dane County Chapter. Madison, Wisconsin.

- Blaeske, F., Rudd, R., Rochon, C., & **Yerges, A. L.** (2016, October). *A nursing student outlook: cultural awareness of the aging geriatric population*. Poster presentation at the Innovation in Healthcare Summit: Becoming Passionate and Involved Citizens, Madison, Wisconsin.
- Dunphy, K., Dean, J., Brunner, L., & **Yerges, A. L.** (2016, May). *Can a pre-visit call by ambulatory nurse improve adolescent PCOS clinic attendance?* Poster presentation at the University of Wisconsin Hospitals and Clinic, Madison, Wisconsin.
- Yerges, A. L.**, Brown, R., & Vieau, A. (2015, August). *Graduate Education in Pediatric Nursing*. Panel presentation at American Family Children's Hospital, Madison, Wisconsin.
- Bazur-Leidy, E., **Yerges, A. L.**, & Dunphy, K. (2015, June). Endocrine complications in the pediatric patient. PowerPoint presentation at American Family Children's Hospital, Madison, Wisconsin.
- Yerges, A. L.**, Snethen, J. A., Albargawi, M. S., Alshutwi, S. S., Sakunsuntiporn, W., Seal, L., & Kelber, S. (2015, May). *Exploring Thai Nurses' Perceptions of Overweight Children*. Poster presentation at Building Bridges Conference, Marquette, Wisconsin.
- Alshutwi, S. S., Snethen, J. A., **Yerges, A. L.**, Albargawi, M. S., Sakunsuntiporn, W., Seal, L., Kelber, S. (2014, November). *Global Cultural Perceptions of Children Who Are Overweight*. Poster presentation at Building Bridges Conference, Marquette, Wisconsin.
- Albargawi, M. S., Snethen, J. A., Alshutwi, S. S., **Yerges, A. L.**, Sakunsuntiporn, W., Seal, L., Kelber, S. (2014, November). *Exploring Thai Nurses' Knowledge and Attitudes*. Poster presentation at Building Bridges Conference, Marquette, Wisconsin.
- Mkandawire-Valhmu, L., Scheer, V., **Yerges, A. L.**, Olukutun, O., Dressel, A., & Kako, P. (May, 2015). *Advancing the Health of Women and Children in Malawi and Kenya*. Presentation at the University of Illinois - Champagne.
- Yerges, A. L.**, Snethen, J. A., Albargawi, M. S., Alshutwi, S. S., Sakunsuntiporn, W., Seal, L., & Kelber, S. (2015, May). *Exploring Thai Nurses' Perceptions of Overweight Children*. Poster presentation at the Pediatric Nursing Conference, Brookfield, Wisconsin.
- Alshutwi, S. S., Snethen, J. A., **Yerges, A. L.**, Albargawi, M. S., Sakunsuntiporn, W., Seal, L., Kelber, S. (2014, November). *Global Cultural Perceptions of Children Who Are Overweight*. Poster presentation at the Pediatric Nursing Conference, Brookfield, Wisconsin.
- Albargawi, M. S., Snethen, J. A., Alshutwi, S. S., **Yerges, A. L.**, Sakunsuntiporn, W., Seal, L., Kelber, S. (2014, November). *Exploring Thai Nurses' Knowledge and Attitudes*. Poster session presented at the Pediatric Nursing Conference, Brookfield, Wisconsin.

- Raasch, H., **Yerges, A. L.**, Xiong, K., Mydlowski, K., & Soubeiga, J. (2014, April). *Women, Children, and Community Health in Thailand*. Invited PowerPoint presentation for the Center for Global Health Equity, University of Wisconsin-Milwaukee, Wisconsin.
- Yerges, A.L.** & McAdams, M. (2014, March). *Pediatric Healthcare in Thailand*. Invited paper presentation for the Wisconsin Chapter of the Society of Pediatric Nurses state meeting, Milwaukee, Wisconsin.
- Yerges, A. L.** (2014, March). *Pediatric Specialty Care in Thailand*. Invited PowerPoint presentation for the Pediatric Specialty Clinic Council at the American Family Children's Hospital, Madison, Wisconsin.
- Raasch, H., McAdams, M. & **Yerges, A. L.** (March, 2014). *Maternal-Child and Pediatric Healthcare in Thailand*. Invited presentation for the Nursing Student Association meeting held at the University of Wisconsin-Milwaukee, College of Nursing, Milwaukee, Wisconsin.
- Yerges, A.L.** & Seal, N. (2013, May). *Utilizing the theory of caring to improve the quality of life in adolescents with polycystic ovary syndrome*. Poster session presented at the Building Bridges Conference, Milwaukee, Wisconsin.
- Bekx, T. M., Connor, E. C., O'Connell, B., Kittel, G. F., & **Yerges, A.L.** (2012, November). *Motivational interviewing with adolescents*. In Bekx., T.M. (Chair) *Polycystic ovary syndrome in the adolescent*. Symposium conducted at the Women's Health Conference, Madison, Wisconsin.
- Yerges, A. L.**, Dunphy, K., & Bazur-Leidy, B. (2012, March). Pediatric Endocrinology and Diabetes – CPN Review. Invited PowerPoint presentation at the American Family Children's Hospital, Madison, Wisconsin
- Yerges, A. L.** (2011, February). Endocrine Complications in the Pediatric Oncology Patient – CPON Review. Invited PowerPoint presentation at the American Family Children's Hospital, Madison, Wisconsin.
- Yerges, A. L.** (2010, December). Endocrine System Review for Pediatric Nurses. Invited PowerPoint presentation at the American Family Children's Hospital, Madison, Wisconsin.
- Lehman, J., & **Yerges, A. L.** (2009). Care of the pediatric endocrinology patient for the physician assistant. PowerPoint at the University of Wisconsin Madison and Clinics, Madison, Wisconsin.

### PROFESSIONAL ORGANIZATIONS

- Emerging Scholars Network, MNRS

- **Executive Board Member** 2015-present
- Wisconsin Nurses Association 2014-present
- American Nurses Association 2014-present
- Sigma Theta Tau International – Eta Nu 2013-present
- Midwest Nursing Research Society 2012-present
- Pediatric Specialty Clinics Unit Council 2013-2016
  - **Chair**, 2013-2016
- Doctoral Nursing Student Organization 2012-2016
- Pediatric Endocrinology Nursing Society 2008-2013
- Association of Pediatric Hematology-Oncology Nursing 2007-2008
- Wisconsin Association of Pediatric Hematology-Oncology Nursing; **Chair**: Madison Chapter, 2006-2008

### FUNDING

Rochon, C. & **Yerges, A.** Recipient of United Nations Association of Dane County, International Service Learning Program Award of Edgewood College, \$3,000

### VOLUNTEER/COMMUNITY OUTREACH

- McFarland Food Pantry 2015 – 2018
- McFarland Community Garden Liaison
- Days for Girls International
- Ambassador of Women’s Health Certification 2017 - present