Walden University
ScholarWorks

Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies Collection

2022

Stories of Adults Experiencing Overweight or Obesity With Histories of Childhood Adversities

Megan Propps
Walden University

Follow this and additional works at: https://scholarworks.waldenu.edu/dissertations

Part of the Psychology Commons

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Psychology and Community Services

This is to certify that the doctoral dissertation by

Megan Propps

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Ethel Perry, Committee Chairperson, Psychology Faculty
Dr. Matthew Howren, Committee Member, Psychology Faculty
Dr. Medha Talpade, University Reviewer, Psychology Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2022

Abstract

Stories of Adults Experiencing Overweight or Obesity With Histories of Childhood Adversities

by

Megan Propps

MS, Walden University, 2011

BA, University of Arizona, 1994

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Psychology

Walden University

August 2022

Abstract

More than half the population in and outside of the United States experience childhood adversity, which is associated with the risk of developing obesity and overweight problems across the life span. In the United States, overweight affects 73.6% of adults, obesity affects 42.5% of adults, and both are considered a major public health concern. With this qualitative study, 18 adults with early life adversities were explored as to how experience weight loss treatment within their primary care. This narrative inquiry was designed to answer the research questions intended to explore physical health, mental health, and socio-environmental aspects of their stories, using the biopsychosocial framework. Thematic analysis was used to collect, organize, and analyze their stories to highlight themes that have the potential to make a significant contribution to the existing understanding of this public health problem. The stories told produced common narratives about the comorbidity of physical and mental health problems, the perception of disrespect by providers, and the recognition of chronic stress due to living as an overweight individual, lack of social supports, or financial/employment insecurities that negatively impact their weight loss. Other commonalities in the overall story included the use of eating as a primary mechanism to cope with these stressors and lower self-efficacy that they could make healthy changes. With such a high prevalence of adverse childhood experiences and adult weight management issues, this information has the potential for widespread positive social change by creating more appropriate, trauma-informed screening and weight loss treatment in healthcare settings.

Stories of Adults Experiencing Overweight or Obesity With Histories of Childhood Adversities

by

Megan Propps

MS, Walden University, 2011

BA, University of Arizona, 1994

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Psychology

Walden University

August 2022

Dedication

This dissertation is dedicated, in loving memory, to my brother, my only sibling. His short, painful life has inspired this study, the work that I do, and who I am in this life. My wish is that this research contributes to improving the lives of others who have lived similar experiences.

Acknowledgments

I would like to thank the participants who bravely shared their stories with me, in ways that exceeded my hope. Their contributions will not stop here, as they have inspired me to continue to work towards improving so many things that need to be improved. I would also like to acknowledge my family for inspiring me and encouraging me when doubt seemed stronger than me. To my daughter, Emma J., you inspired and motivated me every day through this journey. To Matthew, my son, your encouragement and consistent belief that everything is possible has given me the energy I needed. To my husband, I could have never completed this without your endless support and optimism.

Finally, I would like to thank my dissertation chair, Dr. Ethel Perry, for giving so much of your time and energy to me throughout this process. Your feedback and encouragement gave me the courage and motivation I needed to push myself and finally get this thing done! I would like to thank my other committee members, Dr. Matthew Howren, and Dr. Medha Talpade, for their thoughtful feedback and contribution to this project.

Table of Contents

List of Tables....................vii

Chapter 1: Introduction to the Study....................1

Background....................2

Problem Statement....................7

Purpose of the Study....................8

Research Questions....................8

Research Question 1....................8

Research Question 2....................8

Research Question 3....................8

Theoretical Framework....................9

Nature of Study....................9

Definitions....................10

Assumptions....................12

Scope and Delimitations....................12

Limitations....................13

Significance....................14

Summary....................15

Chapter 2: Literature Review....................16

Introduction....................16

Search Strategies....................17

Theoretical Framework....................17

Literature Review 21
Early Life Experiences and Obesity-Overweight Risk 21
Varying Effects of Early Life Adversity Types 25
The Biopsychosocial Pathways Associated With ELA-Overweight Risk 27
Potential Biological Pathways Associated With Early Life Adversity 28
Potential Psychological Pathways Between Early Life Adversity and Obesity 39
Potential Socio-Environmental Pathways Associated With Early Life Adversity 44
Pediatric Effects Associated With Early Life Adversities 48
Prevalence of Early Life Adversities 49
At-Risk Populations 50
Patient-Provider Relationship 54
Overview of Patient-Provider Relationship 54
Patient Perspectives of Provider Relationship 55
Provider Perspectives 57
Provider Stigma 60
Early Life Adversity and Patient-Provider Relationship 63
Psychological Concepts Shown to Impact Weight Loss Treatment 66
Summary 67
Chapter 3: Research Method 72
Introduction 72

Research Design and Rationale 72
Research Question 1 72
Research Question 2 72
Research Question 3 73
Phenomenon of Interest 73
Research Tradition 73
Rationale for This Tradition 74
Role of the Researcher 75
Methodology 77
Participant Selection 77
Instrumentation 78
Procedures for Pilot Study 80
Procedures for Recruitment, Participation, and Data Collection 81
Data Analysis Plan 83
Issues of Trustworthiness 86
Ethical Procedures 90
Summary 94
Chapter 4: Results 96
Introduction 96
Research Question 1 96
Research Question 2 96
Research Question 3 96

Pilot 97

Settings 100

Demographics 101

Data Collection 101

Data Analysis 103

Evidence of Trustworthiness 105

Results 107

Theme 1: Co-Occurring Physical Health Problems That Impact Weight Management Treatment 108

Theme 2: Importance of Person-Centered Treatment Plan 114

Theme 3: Importance of Recognition of Mental Health in Weight Loss Treatment for This Population 121

Theme 4: Eating as a Coping Mechanism 127

Theme 5: Chronic Stress Related to Weight 130

Theme 6: Importance of Self-Efficacy 131

Theme 7: Importance of Support System in Weight Loss Treatment 135

Theme 8: Chronic Stress Related to Economic Status 137

Theme 9: Importance of Provider Being Respectful 141

Theme 10: Importance of Having a Good Relationship With Medical Provider 142

Theme 11: Importance of Relatability of the Provider 145

Theme 12: Importance of Encouragement 147

Theme 13: Challenges to Weight Loss 147
Theme 14: Recommendations for Improved Weight Loss Treatment by Participants 150
Summary 154
Chapter 5: Discussion, Conclusions, and Recommendations 157
Introduction 157
Interpretation of Findings 158
Research Question 1 - Theme 1: Co-Occurring Physical Health Problems That Impact Weight Management Treatment 158
Research Question 1 - Theme 2: Importance of Person-Centered Treatment Plan 161
Research Question 2 - Theme 3: Importance of Recognition of Mental Health in Weight Loss Treatment for This Population 164
Research Question 2 - Theme 4: Eating as a Coping Mechanism 168
Research Question 2 - Theme 5: Chronic Stress Related to Weight 169
Research Question 2 - Theme 6: Importance of Self-Efficacy 171
Research Question 3 - Theme 7: Importance of Support System in Weight Loss Treatment 173
Research Question 3 - Theme 8: Chronic Stress Related to Economic Status 175
Research Question 3 - Theme 9: Importance of Provider Being Respectful 177

Research Question 3 - Theme 10: Importance of Having a Good Relationship with Medical Provider 179
Research Question 3 - Theme 11: Importance of Relatability of the Provider 180
Research Question 3 - Theme 12: Importance of Encouragement 181
Research Question 3 - Theme 13: Challenges to Weight Loss 182
Research Question 3 - Theme 14: Recommendations for Improved Weight Loss Treatment by Participants 184
Limitations of the Study 185
Recommendations 186
Implications 188
Conclusion 191
References 192
Appendix A: Interview Guide 210
Appendix B: Recruitment Flyer 212

List of Tables

Table 1. Themes and Subthemes Related to RQ1- Physical Health....................108

Table 2. Themes and Subthemes Related to RQ2- Psychological ……………...121

Table 3. Themes and Subthemes Related to RQ3- Socioenvironmental ……….134

Chapter 1: Introduction to the Study

In and outside of the United States, an estimated 61% of adults experience early life adversities before the age of 18 (Jia & Lubetkin, 2020), which puts them at risk of a host of adverse health risks across the life span, including overweight and obesity (Boynton-Jarrett et al., 2012; Campbell et al., 2016; Danese & Tan, 2014; Felitti et al., 1998; Ferraro et al., 2016; Mundi et al., 2021). Overweight and obesity is considered a major U.S. public health concern. The National Health and Nutrition Examination Survey recently found 73.6% of adults are overweight and 42.5% meet the criteria for obesity (Fryar et al., 2020). Numerous studies have explored how childhood adversity, referred to here as early life adversity (ELA), impacts weight management problems later in life. This study explored the stories of how adults with ELA exposure experience weight loss treatment in their primary care settings.

This topic is relevant and necessary due to the high number of adults who meet the criteria for overweight and obesity, the high prevalence of ELA exposure, and the abundance of studies that have linked these two as health risks (Boynton-Jarrett et al., 2012; Campbell et al., 2016; Danese & Tan, 2014; Felitti et al., 1998; Ferraro et al., 2016; Mundi et al., 2021). The need for this study to be conducted was evident in diverse and serious adverse health risks associated with obesity and ELA (Campbell et al., 2016; Danese & Tan, 2014; Felitti et al., 1998). Few studies have explored the detailed and contextualized stories of how adults with histories of trauma experience weight loss treatment in primary care settings, and no known studies had explored the ELA-exposed population specifically. Additionally, the information uncovered has the potential to

make a significant contribution to our existing understanding of the problem and inform more trauma-informed weight loss treatment in primary care settings. Given the prevalence of both ELA and weight control issues, this study has widespread potential social implications, as it will provide additional understanding of how adults with ELA exposure interact with and interpret potential barriers to weight loss.

This chapter includes a summary of the literature review to highlight the gap in knowledge related to this topic, the problem this gap creates, the purpose of this study, the three research questions, and the theoretical framework that informed this study. Lastly, the research design and methods are summarized, including the nature of the study with an explanation of the methodology, definitions of key terms and constructs relevant in this study, assumptions that exist in this study, the scope and delimitations of the study, the limitations present in the study, and how these limitations were addressed. The chapter ends with a description of why this study is significant, contributions to the knowledge in the discipline of health psychology, and potential for positive social change across multiple disciplines related to health-related behaviors and mental health.

Background

Evidence linking ELA to adverse health consequences across the life span including obesity has been uncovered in a large number of studies that cross a variety of disciplines, including health, mental health, and sociology. The first evidence of long-term health consequences associated with ELAs was found in the landmark Adverse Childhood Experiences Study (Felitti et al., 1998). Since then, ELA has been shown to contribute to overweight and obesity risk in many other studies and systemic reviews

(Boynton-Jarrett et al., 2012; Campbell et al., 2016; Danese & Tan, 2014; Ferraro et al., 2016; Mundi et al., 2021). The greatest risks come with the higher the number of ELA exposures (Felitti et al., 1998), which later studies have shown also includes deprivation of material goods due to socioeconomic disadvantage (Font & Maguire-Jack, 2016; Wall et al., 2019), as well as women and people of color (Mundi et al., 2021). Studies consistently show more than half the population experiences at least one ELA (Campbell et al., 2016; Felitti et al., 1998; Font & Maguire-Jack, 2016; Grigsby et al., 2020; Jia & Lubetkin, 2020), with a similar prevalence seen in different countries as well (Belli et al., 2019; Nunes-Neto et al., 2018).

The literature shows that distinct types of ELAs have different effects on overweight and obesity risk in adulthood (Campbell et al., 2016; Rehkopf et al., 2016). Physical abuse was associated with a higher risk of developing obesity, while mental illness of a family member and substance abuse in the household was not significantly associated with the risk of developing obesity (Rehkopf et al., 2016). Sexual abuse has also been shown to increase the risk of developing obesity as an adult (Campbell et al., 2016). Emotional neglect and emotional abuse were seen as the highest ELA type for the risk of developing binge eating disorder and being overweight (Quilliot et al., 2019).

The literature has shown that adults with histories of ELA may be sensitive or vulnerable to stress from daily life later in life due to neurobiological adaptations and effects from ELA (Berens et al., 2017; Herzog & Schmahl, 2018; McEwen et al., 2016). Multiple underlying mechanisms have been explored including neurobiological pathways such as neuroadaptations (Berens et al., 2017; Herzog & Schmahl, 2018; McEwen et al.,

2016), psychological pathways such as depression and eating disorders (Campbell et al., 2016; Imperatori et al., 2016; Murphy et al., 2020), and social-environmental factors such as poverty and housing insecurity (Ferraro et al., 2016; Mundi et al., 2021; Wall et al., 2019). These biopsychosocial impacts have been explored as both potential contributing risk factors of overweight/obesity as well as adverse effects.

Early life psychological stress leads to interacting physiological and neurobiological systems in children that contribute to the adult risk of obesity (Miller & Lumeng, 2018). These neuroadaptations have been linked to deficits in emotion regulation, executive functioning, and fear-response learning (Berens, et al., 2017; Bick & Nelson, 2016; Delpierre et al., 2016; Hemmingsson, 2018; Miller & Lumeng, 2018), which are believed to influence disordered eating behaviors and stress coping (Tomiyama, 2019; Wiss & Brewerton, 2020; Wiss et al., 2020). Some studies have connected emotional eating and obesity risk in adults with ELA exposure (Ansari et al., 2018; Michopoulos et al, 2015). Adult psychological health has also been shown to be impacted by ELA, including increased risk of mental health problems such as depression, anxiety, substance abuse, binge eating disorder, mood disorders, and post-traumatic stress disorder (Campbell et al., 2016; Imperatori et al., 2016; Murphy et al., 2020).

In addition to these biological and psychological impacts, socio-environment adversities early in life have been shown to contribute to adult overweight-obesity risk (Font & Maguire-Jack, 2016; Mundi et al., 2021; Wall et al., 2019). Exposure to ELA leads to lower health-related behaviors that, such as lower physical activity (Duffy et al., 2018), increased intake of unhealthy foods (Abajobir et al., 2017), and lower

consumption of fruits and vegetables (Windle et al., 2018). Other lasting socio-environmental impacts of ELA exposure include fewer adult social supports (Non et al., 2016) and increased prevalence of divorce or separation (Font & Maguire-Jack, 2016). Researchers have posited that health risk factors linked to ELA exposure can be reduced through nurturing and supportive relationships (McLaughlin & Lambert, 2017; Schneiderman et al., 2021). There is also evidence of health disparities in different groups associated with both ELA exposure risk and how ELA influences weight across the life span, including women (Grigsby et al., 2020; O'Neill et al., 2018; Ruiz & Font, 2020), non-White races and ethnicities (Boynton-Jarrett et al., 2012; Brown et al., 2017; Curtis et al., 2016; Kim, et al., 2020; Mundi et al., 2021), and less advantaged socioeconomic levels (Campbell et al., 2016; Font & Maguire-Jack, 2016; Hemmingsson, 2018; Kim et al., 2020).

Additionally, non-dominant groups experience higher perceived weight bias by their medical providers, including American Indian and Alaskan Native patients (Gonzales et al., 2017). The literature has demonstrated that childhood maltreatment is associated with lower levels of adult self-esteem and higher perceived weight discrimination, including feelings of being judged or treated with disrespect by medical providers (Mundi et al., 2021; Udo & Grilo, 2016). Despite this awareness as well as the importance of ELA on health outcomes throughout the lifespan and the range of interrelated physical and mental health impacts of ELA exposure, the research has shown that medical providers report no known protocols for weight reduction treatment for this

population and confusion about their role in treating adults living with overweight and obesity (Baker et al., 2015; Bloom et al., 2018; Hayes et al., 2017).

In related studies, patients living with overweight and obesity have described the importance of having positive relationships with their medical providers, including feeling heard and able to talk openly (Baker et al., 2015; Bloom et al., 2018; Walker et al., 2018). This may be even more critical in the ELA-exposed population, as individuals experiencing obesity in this population have reported that they are more likely to feel disrespected or judged by their primary care providers (PCPs; Mundi et al., 2021). Incorporating trauma-informed protocols into primary care may be able to reduce the risk of overweight and obesity in this population (Mason et al., 2016). Developing improved prevention and intervention of weight management is essential to reduce the risk of the range of long-term physical and mental health problems associated with ELA exposure, including prevention, screening, and early intervention (Meng et al., 2018).

This study explored the gap in knowledge of how adults with histories of ELAs describe their experiences with weight loss treatment in primary care settings. Although there have been numerous studies that have established a link between ELA and adult risk of overweight and obesity, including an exploration into the potential underlying mechanisms, few studies explored the unique challenges this population may face. This study was needed, as it offered rich and descriptive narratives from a sample of adults who had ELA exposure in a way that no other known study had attempted. This study met a critical gap to explore how adults experiencing the patient-healthcare provider relationship can influence weight loss treatment. The information gathered here can

increase the knowledge related to ELA exposure and weight management later in life, which is a critical next step in developing more trauma-informed obesity prevention and intervention.

Problem Statement

Despite the abundant evidence demonstrating an association between ELAs and adult risk of overweight and obesity (Campbell et al., 2016; Ferraro et al., 2016; Mundi et al., 2021), weight-loss approaches in the medical field have yet to incorporate standardized trauma-informed approaches in any significant way (Mason et al., 2016). Additionally, individuals living with overweight and obesity report feeling judged and misunderstood by their medical providers treating their weight loss (Mundi et al., 2021; Udo & Grilo, 2016), and medical providers describe feeling they lack the training and resources to support their patients' weight loss treatment adequately and are unclear about their roles versus other providers (Hayes et al., 2017). This issue is relevant to the discipline of health psychology due to the considerable number of studies linking ELA exposure with adverse impacts across the life span in both physical and mental health (Danese & Tan, 2014; Felitti et al., 1998; Ferraro et al., 2016; Mundi et al., 2021). There is a need within the discipline to understand more about how ELA-exposed adults living with overweight or obesity describe their weight loss treatment.

This study built on current knowledge from the last 5 years related to how adults with ELA histories experience weight loss treatment with their PCPs. A critical next step in understanding this specific research topic was to learn the stories of these adults with histories of early life adversities and how they experience weight loss treatment in the

primary care setting. No other study had explored this topic in this way, and this study's findings will contribute meaningful information to the limited existing knowledge of trauma-informed weight loss treatment.

Purpose of the Study

This study explored how adults with histories of ELA perceive and experience weight loss treatment in primary care settings. This new and contextualized information can help explain the high rates of overweight and obesity and the challenges this population may be faced with. This information can contribute to improved weight management care for this population and the development of more appropriate and trauma-informed weight loss protocols in primary care settings and potential prevention and intervention earlier in life.

Research Questions

Research Question 1

What are the stories of adults with ELA exposures about their experiences of physical health in weight loss treatment?

Research Question 2

What are the stories of adults with ELA exposures about their experiences of psychological health in weight loss treatment?

Research Question 3

What are the stories of adults with ELA exposures about their experiences of social-environmental factors in weight loss treatment?

Theoretical Framework

The biopsychosocial model was the theoretical framework that grounds this study. This model allowed for the study of disease through a more holistic lens, incorporating the biological, psychological, and social-environmental human processes in the explanation of medical illness (Engel, 1992). This comprehensive framework was aligned perfectly with the research topic and research questions in this study, and what is already known about the risks of overweight and obesity that have been associated with ELA (Danese & Tan, 2014; Felitti et al., 1998; Ferraro et al., 2016; Mundi et al., 2021). The biopsychosocial model was used to review the existing literature related to the physiological, psychological, and socio-environmental pathways between ELA exposure and obesity risk later in life. This model allowed for a comprehensive investigation of how adults with ELA histories described their experiences in weight loss treatment, including their interactions with their PCPs.

Nature of Study

This qualitative study included a research design using the narrative inquiry. Using this approach allowed for the uncovering of rich and detailed information about the weight loss experiences of adults with ELA histories in primary care settings. The narrative approach linked aspects of their past and current experiences and how they made sense of their experiences in weight loss treatment in primary care settings. The narrative inquiry provided a three-dimensional space for the participants to be able to tell their stories positioned by time, place, and social situation (Clandinin & Connelly, 2000). Clandinin and Connelly (2000) described how personal narratives can be collected in the

form of interviews, providing rich and descriptive data, which is a natural fit for this research topic.

To be included in this study, participants needed to have answered yes to a question asking if they had experienced any type of ELA and yes to another question about if they are currently being treated for being overweight or obese. This study's data were collected during individual interviews with participants who met inclusionary criteria, including adults with histories of ELA in treatment for overweight or obesity. In-depth, semi-structured interviews were used, which included open-ended questions and prompts to learn more about their stories related to the research questions. Data came from individual interviews and reflective journaling. The interviews were recorded and transcribed verbatim to explore reoccurring key concepts and potential themes for data analysis. Thematic analysis is an interpretative data analysis process that was used to organize the narratives and analyze these data into themes (Braun & Clarke, 2006). This framework was appropriate for this study's research questions, as is it allows for the dynamic interpretation of complex data that is expected from the interview questions and the stories that are told (Braun & Clarke, 2006).

Definitions

Several key terms were used throughout this study and are defined here.

Adverse childhood experience (ACE) was first used by Felitti et al. (1998) in the ACE study and is defined as seven types of traumatic experiences in the first 18 years of life, including physical abuse, sexual abuse, psychological abuse, substance abuse by a family member, a family member with mental illness, domestic violence, and

incarceration of a family member. This term was used if the study being reviewed used this term and defining criteria.

Allostatic load is defined as the dysregulation in the stress response system linked to ELA and experiencing a chronically stressful environment in childhood (Berens et al., 2017; Miller et al., 2018; Tomiyama, 2019).

Biological embedding is defined by the physiological changes and adaptations seen in various systems of the brain and body of adults with ELA exposure (Berens et al., 2017; Wiss et al., 2020).

Early-life adversity (ELA) is defined as all the original ACEs plus any other chronically stressful experiences the individual had before the age of 18, including living with stress related to deprivation of material goods due to lower family socioeconomic status.

Obesity is defined as the measurement of body mass index of 30 and over, which is a commonly accepted measurement of obesity (Mundi et al., 2021).

Overweight is defined as the measurement of body mass index between 25 and 29.9, which is common measurement of overweight (Mundi et al., 2021).

Primary care setting is defined as the medical office where individuals are treated by their primary care physicians (Bloom et al., 2008).

Weight loss treatment refers to the medical treatment of individuals meeting criteria for either overweight or obesity in primary care settings (Bloom et al., 2008).

Assumptions

One major assumption in this study was that the data were inductive, as they were derived from the participants' stories of their experiences. The role of the researcher was to foster this process through interaction with the interviewees and interpretation of the interview data, without looking for particular findings. Objectivity was sought through reflective journaling, but another key assumption was that the participants were truthful and forthcoming in their responses. The research questions were topic-specific, as the responses sought were not expected to be generalizable to a larger population outside of this sample. Instead, the research questions were designed to seek specific knowledge about the weight loss experiences within the primary care setting for only this population. These assumptions were necessary for the context of narrative inquiry, as the research questions were constructed to learn how the participants give meaning to these contextualized weight loss experiences in primary care settings through listening to their stories.

Scope and Delimitations

Several aspects of the problem described above were addressed in this study, including an attempt to seek an improved understanding of what meaning adults with ELA histories give their weight loss experiences in primary care settings. Additionally, I sought to learn more about how this population relates to and interprets weight-related discussions with their primary care physicians. This focus was chosen to increase this understanding to reduce barriers to weight-loss treatment and improve overall treatment efficacy.

The population was limited to adults with histories of ELA who had also been in treatment for weight loss with their existing medical provider, to learn relevant and specific information about possible shared experiences. Potential transferability was strengthened by providing detailed procedures, including the number of participants, exclusionary criteria, data collection and analysis methods, and overall research protocols. This level of detail and using the narrative inquiry allows the participants' experiences and the study's findings to be applied to other populations outside of this specific sample and in other settings and contexts (Clandinin & Connelly, 2000). These strategies increased the probability that the study's findings will be able to be applied to other populations and the findings are more likely to be applicable outside the specific context of this inquiry.

Limitations

Several limitations to this study were considered, including if the participants were forthcoming and honest in their responses. The study's methods included detailed research procedures described in enough detail that other researchers would be able to repeat the study. The participants were informed of these research methods as well as the overall goals of the study. Additionally, rapport building and sustained contact between the researcher and participants were measures to address this limitation.

Other limitations included the potential for researcher bias in the data collection, analysis, or reporting process. Unintentional researcher bias could stem from personal values, experience, or values, and could have potentially influenced the interpretation of the interviews. Attempts to reduce the risk of any internalized bias and effectively

address these issues included the use of peer debriefing and reflective journaling. These strategies were designed and employed to address limitations and strengthen the overall dependability of the study.

Significance

This study is significant because it will provide rich insights into the importance of early life adversities on health outcomes throughout the lifespan. This study advanced the research related to this population's susceptibility to overweight and obesity in adulthood, as well as the known challenges of weight stigma and bias felt by individuals living with weight problems. The findings may further highlight socioeconomic and racial disparities in the association between ELA and overweight and obesity risk, as well as how their unique experiences contribute to our understanding of how typical weight loss treatment in their primary care settings.

The findings included rich, descriptive stories about how adults with ELA histories describe their interactions with their medical providers. Learning their stories will lead to a better understanding of the barriers and obstacles in current weight loss protocols. Individuals who have experienced chronically stressful experiences early in life may inform more about how cumulative stress from living overweight can impact how they experience their treatment. Increased knowledge about how these adults give meaning to their PCP interactions and weight loss treatment overall can lead to improved trauma-informed interventions and treatment efficacy. This more descriptive and comprehensive understanding can help medical providers screen for, interact with, and treat overweight in adults with ELA histories more effectively.

Summary

Studies have shown that adults with ELA exposure experience similar risks of obesity across the lifespan adverse experiences in childhood (Felitti et all, 1998; Rehkopf et al., 2016). A range of potential pathways mechanisms have been posited to drive the relationship between ELA and the risk of obesity and overweight in adulthood, but few studies had explored how these adults may experience their weight loss treatment. Using narrative inquiry, I studied these experiences by hearing the stories of adults with early life adversities in treatment for weight loss in their primary care settings. The research questions were derived from existing literature using the biopsychosocial model and informed the interview questions. Thematic analysis was used for data analysis and reporting, and research procedures grounded in ethical guidelines and designed to optimize trustworthiness have been reviewed and will be explained in more detail in Chapter 3.

Chapter 2: Literature Review

Introduction

A sizable amount of literature has demonstrated that early life adversities can have lasting adverse health effects over the life span, including adult overweight or obesity (Boynton-Jarrett et al., 2012; Campbell et al., 2016; Danese & Tan, 2014; Felitti et al., 1998; Ferraro et al., 2016; Mundi et al., 2021; O'Neill et al., 2018; Rehkopf et al., 2016; Windle et al., 2018; Wiss & Brewerton, 2020). More than 60% of adults in the United States report ACEs (Jia & Lubetkin, 2020), which may partially explain the high prevalence of overweight and obesity. Various biological (Berens et al., 2017; Herzog & Schmahl, 2018; McEwen et al., 2016), psychological (Campbell et al., 2016; Imperatori et al., 2016; Murphy et al., 2020), and social-environmental (Mundi et al., 2021; Ferraro et al., 2016; Wall et al., 2019) impacts have been explored as possible pathways leading to overweight/obesity risk.

The purpose of this qualitative research project was to learn the stories of adults with histories of early life adversities in treatment for weight loss in hopes to understand their experiences with their providers. These insights can provide more detailed information above the complex, interrelated factors that affect the patient-provider relationship in this population and overall treatment efficacy. The hope was to build knowledge for more trauma-informed approaches for weight loss treatment in primary care settings.

Search Strategies

The literature search for this study included peer-reviewed articles written in the English language. The search terms used were *adverse childhood experiences or ACEs or early life adversity or early life adversities or childhood adversity or childhood adversities or child abuse or child neglect or childhood trauma, obese or obesity or overweight or high BMI or unhealthy weight, and provider relationship or treatment outcomes or efficacy or effectiveness or recovery or adherence or compliance, or self-efficacy or weight management challenges, narrative inquiry, biopsychosocial, theory or theories.* Multiple databases were searched including MEDLINE with Full Text, CINAHL Plus with Full Text, Academic Search Complete, APA PsycInfo, ScienceDirect, Complementary Index, APA PsycArticles, and SocINDEX with Full Text. To ensure no critical literature was missed, reference lists were reviewed for additional relevant research in the literature that was selected to be reviewed.

Theoretical Framework

The theoretical framework which grounds this study was the biopsychosocial model. Engel first proposed this model in 1977 as an alternative to the biomedical model, which was designed solely for the study of disease through biological factors excluding any potential psychosocial factors (Engel, 1992). The biopsychosocial model broadens the approach and offers a more holistic lens to explore the intersection of biological, psychological, and social-environmental processes (Engel, 1992). Engel proposed the biopsychosocial model as a new way to conceptualize health and disease by including diverse human processes, such as those involved in the etiology of overweight and

obesity (Campbell et al., 2016; Danese & Tan, 2014; Felitti et al., 1998; Ferraro et al., 2016; Imperatori et al., 2016; McLaughlin & Lambert, 2017; Mundi et al., 2021; O'Neill et al., 2018; Palmisano et al., 2016; Rehkopf et al., 2016; Windle et al., 2018; Wiss et al., 2020). The stress from early life adversities, such as abuse, disadvantage, and family disruption can have a lasting impact on adult health that span the life course (Campbell et al., 2016; Cuevas et al., 2019; Felitti et al., 1998; Wiss & Brewerton, 2020; Wiss et al., 2020). The biopsychosocial framework provided an opportunity to explore more in-depth what is known about the detrimental long-term biological, psychological, and social-environmental effects for individuals who experience early life adversities.

Previous researchers have used this theoretical framework to study this research topic. McLaughlin and Lambert (2017) used the biopsychosocial model to review the biological and psychological impacts of childhood trauma, the mechanisms that may explain these, and the resiliency factors that could reduce these adverse effects. Wiss et al. (2020) applied the biopsychosocial model to review current literature related to the biological, psychological, and social-environmental factors that link ELA and the contextual factors associated with food addiction. Wiss and Brewerton (2020) reviewed obesity literature related to childhood adversities and demonstrated an increased susceptibility and predisposition to overeating and subsequently obesity in adulthood. While no known studies had explored the exact research questions in this study, the existing literature crosses multiple disciplines and includes a variety of the mediating factors that lead to adult overweight and obesity in this population, including alterations in the neuro and biological functioning, (Berens et al., 2017; Herzog & Schmahl, 2018;

McEwen et al., 2016) and psychosocial health such as psychiatric disorders (Wiss et al., 2020).

The literature has demonstrated that early life adversities drive adaptations to neurobiological, psychological, and social-environmental long-term functioning throughout the lifespan (Berens et al., 2017; Campbell et al., 2016; Ferraro et al., 2016; Herzog & Schmahl, 2018; Miller & Lumeng, 2018; Mundi et al., 2021; Palmisano et al., 2016). Studies on the physiological and biomolecular effects of early life adversities have demonstrated adverse impacts on adult health, such as chronic alterations in the dopamine systems, glucocorticoids functioning, and dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis (Berens et al., 2017; Herzog & Schmahl, 2018; McEwen et al., 2016). Additionally, the literature has a well-established link between all categories of childhood maltreatment and long-term psychological adult health with increased risk of psychiatric disorders, such as substance abuse, depression, anxiety, binge eating disorder, post-traumatic stress disorder, and mood disorders (Campbell et al., 2016; Imperatori et al., 2016; Murphy et al., 2020). These findings suggest that distinct types of childhood adverse experiences may impact adult weight problems in adulthood through various mechanisms.

Early life adversities have also been shown both to be impacted by and impact long-term social-environmental factors. Women, people of color, and individuals from families with lower incomes are more at risk of childhood abuse and the subsequent development of obesity (Mundi et al., 2021). Ferraro et al. (2016) demonstrated early childhood disadvantages, such as lower family income and family disruption in

composition, was strongly associated with developing obesity in adulthood. Ferraro et al. also found that early life disadvantage had long-term effects on adult social functioning that may drive weight loss challenges, such as social and family support and a sense of personal control. Additionally, adults living with obesity have internalized weight stigma, which can reduce motivation and comfort level within the patient-provider relationship and therefore negatively impact weight loss goals (Salas et al., 2019). Maladaptive coping such as emotional eating has also been shown to contribute to the risk of adult weight problems in adults with histories of ELA (Ansari et al., 2018). A comprehensive yet structured framework is needed to consider how these multi-disciplined and intervening mechanisms, such as neurobiological adaptations, mental health concerns, and psychosocial functioning, are potentially related to this research topic.

In sum, the biopsychosocial model was uniquely aligned with this study's exploration of the experiences of adult survivors of childhood adversities living with overweight or obesity. This descriptive model provided an organized framework and a more comprehensive understanding of relevant and interconnected factors such as the known neurobiological adaptations, psychological risk, and socio-environmental problems associated with childhood adversities. The research has shown cumulative and interrelated effects of early life adversities on the developing brain and body, which impact both physiological and psychosocial functioning (Berens et al., 2017; Miller & Lumeng, 2018). The biopsychosocial model allowed this study to build on existing knowledge related to the research question and further demonstrate the complexity of early life adverse experiences on long-term health.

Literature Review

The original term ACE was used by Felitti et al. (1998) to describe seven categories of childhood adversities during the first 18 years of life, including physical abuse, psychological abuse, sexual abuse, substance abuse by a family member, a family member experiencing mental illness, mother or stepmother being a victim of violence, and incarceration of a family member. Studies have used similar timeframes of exposure, mainly up to age 18, but have added to the original ACE categories of childhood adversities to include specific communities, populations, and purposes (Cuevas et al., 2019; Hughes et al., 2017; Joung et al., 2014). In addition to the term "ACE," researchers have conducted studies using various terms, such as "childhood maltreatment" (Murphy et al., 2020) and "childhood trauma" (Mundi et al., 2021).

In a study exploring the underlying mechanisms of ACE and adult obesity, Joung et al. (2014) were the earliest known authors to define the term "early-life adversities" (ELAs) as exposure to physical, sexual, or emotional abuse and neglect before the age of 18. For this study, the term ELAs was used to incorporate all the original ACE categories plus additional psychosocial risk factors before the age of 18 such as abuse of any kind, neglect, chronic stress due to food insecurity, and housing instability. The term ACE or ACEs was used in this literature review if the study being reviewed used that term or the ACE screen.

Early Life Experiences and Obesity-Overweight Risk

There is a large collection of literature that demonstrates the persistent and detrimental impacts of ELAs on adult healthy weight in adulthood (Boynton-Jarrett et al.,

2012; Campbell et al., 2016; Danese & Tan, 2014; Felitti et al., 1998; Ferraro et al., 2016; Mundi et al., 2021; O'Neill et al., 2018; Rehkopf et al., 2016; Windle et al., 2018; Wiss & Brewerton, 2020). One of the earliest studies linked ACE exposure to an increased risk of many of the leading adult causes of death, including heart disease, stroke, cancer, diabetes, chronic respiratory disease, alcohol abuse, and obesity (Felitti et al., 1998). This study was the first known study to explore how numerous categories of childhood adversities impact long-term adult health (Felitti et al., 1998). It was conducted at Kaiser Permanente's San Diego Health and Appraisal clinic, was supported by the Centers for Disease Controls, and included a large sample of 8,506 middle-class, middle-aged adults who had been evaluated by their medical practitioner at the clinic the week before. Seven categories of ACEs were grouped from 17 questions related to childhood abuse, parental mental health or substance abuse problems, and parental criminal behavior (Felitti et al., 1998). The study demonstrated a direct relationship between the number of ACEs and the likelihood of long-term adverse health risks, including the risk of obesity increased significantly as the number of ACEs increased (Felitti et al., 1998). Specifically, individuals with four or more ACEs showed a 1.4 to 1.6 increase in the risk of obesity (Felitti et al., 1998).

Since then, a growing body of research has explored correlations between various forms of childhood adversities and obesity (Boynton-Jarrett et al., 2012; Campbell et al., 2016; Danese & Tan, 2014; Ferraro et al., 2016; Mundi et al., 2021; O'Neill et al., 2018; Rehkopf et al., 2016; Windle et al., 2018; Wiss & Brewerton, 2020). In an earlier seminal study, Boynton-Jarrett et al. (2012) found that exposure to early life physical or sexual

abuse raised the risk of adult obesity in Black women even after controlling for health and lifestyle factors. Subsequent studies have confirmed the higher risk of sexual abuse for the risk of obesity over the lifespan (Campbell et al., 2016).

In 2014, a systemic review of 41 studies and meta-analyses explored the association of childhood maltreatment and obesity over the life span (Danese & Tan, 2014). After examining and removing some studies for possible sources of bias, the authors found comparable results with a 1.36 elevated risk of obesity over the life course in individuals who had experienced childhood abuse or family violence (Danese & Tan, 2014).

In a 10-year longitudinal study, Ferraro et al. (2016) demonstrated how socioeconomic disadvantage and exposure to childhood abuse increased the risk of health problems and obesity over the lifespan (Ferraro et al., 2016). One longitudinal Australian study examined the impacts of ACE exposure on adult women's health including double the risk of severe obesity and self-reported poor health in women with four or more ACEs compared to women with no ACE exposures (Loxton et al., 2021). These results further contributed to the predictive association between stressful psychosocial experiences in childhood and adult obesity, independent of the exact definition of childhood adversity or potential intervening factors such as household socioeconomic status and frequency of physical exercise.

Early life adversities have also been shown to be associated with weight problems without reaching obesity levels. Windle et al. (2018) showed a correlation between higher ACE scores and the risk of higher body mass indicator (BMI) in college students ages 18

to 25. In another systemic review, Hughes et al. (2017) explored the combined effects of multiple ACEs with a risk factor of developing overweight or obesity of 1.39. These authors reviewed 37 cross-sectional studies, including 253,719 participants using a random-effects model (Hughes et al., 2017). This review showed more moderate associations with overweight and obesity than other studies, and physical inactivity demonstrated a weaker relationship than the risk of overweight and obesity (Hughes et al., 2017). These results suggest that other physiological mechanisms may be involved in the etiology of weight problems in adults in this population.

More recent reviews have explored this ELA and long-term health association in more detail. Wiss and Brewerton (2020) completed a systemic review and meta-analysis to highlight known contributing factors between ELA and the risk of experiencing adult obesity. Consistent with earlier research (Felitti et al., 1998; Danese & Tan, 2014), Wiss and Brewerton's meta-analysis demonstrated a 46% increase in the risk of obesity for adults with a history of ACEs, and risk increased with the number of ACE exposures. However, Wiss and Brewerton's primary goal of this review was to investigate the mediating mechanisms that influence the ACE-obesity association, including neurobiological changes, chronic stress response, psychological impacts, and behavioral patterns such as overeating, which was reviewed in more detail in subsequent sections of this chapter.

Recent research has also validated these associations and provided further evidence to the link between childhood trauma and varying degrees of risk for developing obesity in adulthood. In a survey of 2,211 adults, Mundi et al. (2021) found the risk of

obesity increased significantly with respondents' history of childhood abuse. Interestingly, this study separated the factor of obesity into distinct categories based on BMI and demonstrated that the relationship between childhood abuse and adult obesity was strengthened as BMI increased (Mundi et al., 2021). One plausible explanation is that respondents with childhood abuse reported experiencing overweight earlier in life.

Varying Effects of Early Life Adversity Types

Researchers have also explored how specific types of ELA may contribute to the risk of adult weight problems. Rehkopf et al. (2016) used data from the National Longitudinal Survey of Youth in 1979 to explore the association between the risk of developing adult obesity and exposure to specific ELAs, including physical abuse, household mental illness, and household alcohol abuse. After controlling for potentially confounding demographic variables, these authors found only physical abuse led to a higher risk of developing obesity in adulthood, while household mental illness or alcohol abuse was not significantly associated with the risk of developing obesity (Rehkopf et al., 2016). Rehkopf et al. also demonstrated that adults with ELA exposure had similar risks of obesity at age 25 and age 40, adding further evidence to previous research demonstrating that adverse experiences in childhood have negative health impacts across the lifespan (Felitti et all, 1998).

Campbell et al. (2016) used an 11-item survey of ACE-related questions to explore the relationships between higher ACE scores by category and several adult health risks including obesity. Sexual abuse and verbal abuse were the two strongest predictors of poorer adult health outcomes, with sexual abuse having the most significant

correlation with obesity (Campbell et al., 2016). By using a multiple logistical regression model, the researchers were able to evaluate the different effects of individual ACE categories on adult health outcomes, suggesting various mechanisms are involved (Campbell et al., 2016). This study provided further evidence of the well-established link between ELAs and adult poor health and offers an additional understanding of the cumulative and individual effects of several types of adverse experiences (Campbell et al., 2016).

In addition to these findings, a French study found that emotional abuse and neglect were the largest predictors of developing binge eating disorder and overweight in a large sample of individuals experiencing severe obesity (Quilliot et al., 2019). Emotional abuse was shown in another study to influence the risk of emotional eating (Michopoulos et al, 2015). These diverse findings confirm the need for further understanding of the complexity of how diverse types of ELAs may contribute to the risk of adult overweight/obesity.

Contrary to the well-established link between ELA and obesity and overweight later in life, Ruiz and Font (2020) found that only physical abuse and physical neglect led to the probability of developing overweight/obesity. However, Ruiz and Font (2020) did not explore other common ELAs such as emotional abuse and neglect. These results may be indicative of the cumulative effect of living longer with ELA impacts.

Another study did not find any significant relationship between childhood abuse and obesity in young adulthood (Brown et al., 2017). Brown et al. sampled 500 college students, between the ages of 18 through 25, using the Childhood Trauma Questionnaire

(CTQ) to assess five types of abuse: physical abuse, physical neglect, sexual abuse, emotional abuse, and emotional neglect. The authors posited that their conflicting results from previous studies may be due to using the CTQ rather than self-report, or that the individuals assessed for childhood abuse in this sample of college students were potentially more equipped with healthier coping strategies and therefore higher functioning (Brown et al., 2017). Additionally, this study used a cross-sectional design limiting the ability to infer causality and directionality, while other studies have demonstrated the risk of obesity and overweight after experiencing childhood maltreatment using longitudinal designs (Campbell et al., 2016; Felitti et al. 1998; Mundi et al., 2021; O'Neill et al., 2018; Rehkopf et al., 2016).

However, in the largest population study reviewed, O'Neill et al. (2018) used a data sample of 10,894 adults from the U.S. National Longitudinal Study of Adolescent to Adult Health to highlight the risk of adult obesity based on childhood maltreatment types. The authors found that adults with histories of sexual abuse in childhood were 27% more likely to meet the criteria for obesity and 72% more likely to meet the criteria for extreme obesity (O'Neill et al., 2018). Adults with histories of physical abuse were 37% more likely to meet the criteria for extreme obesity, but no significant risk was found for lower levels of obesity for the category of childhood abuse (O'Neill et al., 2018).

The Biopsychosocial Pathways Associated With ELA-Overweight Risk

Numerous intervening biopsychosocial pathways are implicated in the risk of overweight and obesity in adults with histories of ELAs, including biological (Berens et al., 2017; Herzog & Schmahl, 2018; McEwen et al., 2016), psychological (Campbell et

al., 2016; Imperatori et al., 2016; Miller & Lumeng, 2018; Murphy et al., 2020), and social-environmental (Mundi et al., 2021; Ferraro et al., 2016; Wall et al., 2019). Miller and Lumeng (2018) reviewed research related to potential physiological abnormalities between early life psychological stress and adult risk of obesity. These authors described the interacting biological systems impacted by early life stress that they described put both children and adults at risk of obesity (Miller & Lumeng, 2018). Additionally, adults living with overweight or obesity are prone to psychological stress which can then contribute to the interacting biochemical, physiological, behavioral, and cognitive pathways which will be reviewed later in this chapter (Tomiyama, 2019). Numerous researchers from multiple disciplines have attempted to explain these potential pathways, which is too extensive to review all here. However, I have selected the most recent and relevant research and highlighted it below.

Potential Biological Pathways Associated With Early Life Adversity

The development of the brain often referred to as *neurodevelopment*, is highly adaptive and dependent on environmental stimuli particularly in early life (Bick & Nelson, 2016). The regions of the brain most impacted by ELAs are involved with emotional and cognitive functioning, including the prefrontal cortex, hippocampus, and amygdala (Bick & Nelson, 2016). Bick and Nelson reviewed the sensitive periods of neurodevelopment, particularly the importance of caregivers being able to respond to the child's distress in supportive and nurturing ways. This interactional process then leads to the development of different neurobiological processes suggested to have cumulative effects on the developing brain and body that interact and impact the individual

throughout the lifespan, including self-regulation, emotional regulation, learning, and the neurobiological systems that are involved in each of these (Berens et al.; 2017; Bick & Nelson, 2016; Duffy et al. 2018; Miller & Lumeng, 2018; Miller et al., 2018).

As described above, there is a well-established understanding of the association between ELA and long-term weight gain including obesity; however, the exact biological mechanisms, or the physiological adaptations and plausible pathways that may explain this association, are less understood (Berens et al.; 2017; Campbell et al., 2016; Felitti et al., 1998; Mundi et al., 2021; Wiss & Brewerton, 2020; Wiss et al., 2020). McEwen et al. (2016) reviewed the neural adaptations of three brain structures after periods of acute and chronic psychological stress in the adult brain: the amygdala, the hippocampus, and the prefrontal cortex. Hippocampal volume is reduced in ELA exposed adults, but not in children (Berens et al., 2017). These findings suggested that ELA may change the trajectories of neural functioning in these areas over time.

There is a growing understanding of how adverse psychosocial exposure early in life impacts multiple physiological systems that influence weight over the human lifespan (Miller & Lumeng, 2018). The literature crosses multiple disciplines to demonstrate how early-life exposure to traumatic experiences, chronically stressful environments, or other ELAs lead to *biological embedding* (Berens et al., 2017; Wiss et al., 2020). Berens et al. described *biological embedding* as the altered physiological development in various systems of the brain and body. For example, living in a chronically stressful environment in childhood has been shown to lead to dysregulation in the stress response system, often referred to as toxic stress and *allostatic load* (Berens et al., 2017; Miller et al., 2018;

Tomiyama, 2019). Wiss et al. described allostatic load as "… the price of adaption that leads to disease over time." (2020, p. 7). This allostatic load leads to subsequent physiological changes that have been shown to increase the risk of some of the leading causes of death such as ischemic heart disease, addictions, cancers, depression, and obesity (Felitti et al., 1998).

Potential Effects of Early Life Adversity on Brain Structure and Activity

Early life adversity has also been shown to lead to reduced brain volume (Bick & Nelson, 2016). Chronic psychological stress in early life drives long-lasting alterations in the brain, including changes in the structure, function, and connection in the areas of the brain involved with stress response, cognition, and emotional regulation (Berens et al., 2017; Bick & Nelson, 2016; Hemmingsson, 2018; McEwen et al., 2016; Tomiyama, 2019; Wiss & Brewerton, 2020; Wiss et al., 2020). Part of the biological embedding associated with exposure to ELA is the phenomenon of neural structural changes that can impact functioning and long-term risk of obesity and eating behaviors (Berens, et al., 2017; Tomiyama, 2019; Wiss & Brewerton, 2020; Wiss et al., 2020).

Berens et al. (2017) reviewed the literature summarizing structural variation in grey and white brain matter that has been seen in adults with ELAs. These changes in structure can be seen in matter volumes as well as microstructures that could impact connectivity of the prefrontal cortex and limbic regions of the brain (e.g., the hippocampus and amygdala). Such structural alterations and connectivity dysfunction may lead to long-term hyperarousal to stress, emotional dysregulation, deficits in social functioning, and impaired executive functioning, which can lead to planning and

inhibitory control issues (Berens, et al., 2017; Bick& Nelson, 2016; Hemmingsson, 2018). These neural functions involve the self-regulation of emotions and behaviors such as eating (Wiss et al., 2020).

Other brain regions known to drive eating behaviors are impacted by ELA, including the reward network of the brain (Osadchiy et al., 2019). One study demonstrated that early life trauma impacted functioning in the extended reward network region of the brain, potentially creating susceptibilities to food addiction (Wiss et al., 2020), but could also be a result of food addiction (Osadchiy et al., 2019). These neural structural changes can potentially contribute to disruptions in the development of emotional regulation, learning, memory, self-control, and social functioning.

In a functional neuroimaging study, Hanson et al. (2016) found that cumulative psychological stress in childhood led to blunted reward response via the ventral striatum, a region of the brain that supports motivation, responsiveness to rewarding stimuli, and positive affect such as experiencing feelings of hopefulness. However, this association was only significant when the stressors occurred during the grades of kindergarten through grade 3, not in grades 4 through 12 (Hanson et al., 2016). Hanson et al. posited that alterations in this area can lead to blunted responsiveness to reward stimuli, decreased motivation, and negative affect and mood. While this study was limited by only including men and mostly African American participants, it contributed to the understanding of how cumulative psychological stress in early childhood at least can lead to neuroadaptations that impact overall motivation, rewards responsiveness, and overall mental health (Hanson et al., 2016). These findings provided a further understanding of

the associations between depressive symptoms, ELA, and the risk of overweight and obesity previously found (Felitti et al., 1998; Osadchiy et al., 2019).

In a longitudinal study of European young adults, Luo et al. (2020) used neuroimaging at age 14 and again at 19 to investigate how childhood trauma potentially impacted structural brain changes and BMI, while accounting for genetic predispositions to obesity, socioeconomic status, substance use, and elevated depressive symptoms as possible confounding factors. Luo et al. found that childhood trauma was strongly associated with higher BMI and reduced volume in the *frontopolar* region in the prefrontal cortex, which the authors described as the area of the brain key in cognitive pathways associated with controlling food intake. The authors described how the frontopolar region of the prefrontal cortex is in the “transition zone” between the lateral prefrontal cortex which is associated with inhibitory control, and the medial prefrontal cortex which is involved with obesity risk due to reward and emotional processing (Osadchiy et al., 2019). This observation demonstrates the complexity of neurological adaptations that may contribute to the risk of adult obesity after ELA exposure.

In a sample of adults meeting the criteria for obesity, Hawkins et al. (2020) used neuropsychological testing to examine the potential impacts of ACE exposure on adult cognition as it relates to BMI. The authors discovered that higher numbers of ACE experiences led to increased BMI and lower functioning scores in two neurocognitive domains, episodic memory, and executive control, which would impact self-regulation and the ability “to inhibit reactions to certain stimuli while initiating a response to others” (Hawkins et al., 2020, p. 53). Functional changes in these areas in ACE-exposed

individuals may partially explain previous research that has linked lower levels of self-regulation to obesity in this population (Hemmingsson, 2018). Additionally, individuals with three or more ACE experiences were significantly more likely to be affected in these domains, suggesting that reactivity and impulse control may be moderated by the number of ACEs experienced (Hawkins et al., 2020). The results of this study provided additional understanding of the possible neurobiological adaptations in this population that may contribute to the well-established risk of overweight/obesity.

Potential Effects of Early Life Adversity on Neuroendocrine Systems

In addition to structural change, ELA exposure can alter other physiological processes, including endocrine, metabolic, and immune processes (Berens et al., 2017; Hemmingsson, 2018). Early life chronic stress can lead to altered neurotransmitter metabolism and production (Berens et al., 2017). These functional changes can be related to dysfunction in neurotransmitter signaling or levels, and involve key neurotransmitters that regulate stress, mood (e.g., serotonin, dopamine, GABA, and glutamate; Berens et al., 2017). The neurotransmitter alterations may both contribute to known psychological disorders associated with ELA such as depression and have been posited to increase the risk of developing obesity and food addiction (Wiss et al., 2020). Glucocorticoid receptors bind to stress hormones found in abundance in the hippocampus and lead to dysregulation in neuroendocrine functioning (Berens et al., 2017).

Potential Effects of Early Life Adversity on the Autonomic Nervous System

In addition to neural changes, the toxic stress associated with ELA exposure has been shown to create an imbalance in the autonomic nervous system (Berens et al., 2017;

Miller & Lumeng, 2018; Tomiyama, 2019). Specifically, the autonomic nervous system is comprised of both the sympathetic nervous system, often referred to as the “fight or flight” response as it involved threat assessment and response, and the parasympathetic nervous system, which drives reversal of the alert system, and regulates and calms the body. However, the autonomic nervous system can be impacted by ELA, leading to an imbalance of both hyperarousal and hypo-arousal, autonomic reactivity, and eventually long-term health problems such as obesity (Berens et al., 2017). This autonomic imbalance is thought to be overlapping pathways with the hypothalamic-pituitary-adrenal (HPA) axis which can also been impacted by ELA exposure (Berens et al., 2017).

Chronic stress like that with ELA exposure leads to heightened neural responses and elevated stress hormones, and a cumulative effect of stress hormones that alter the HPA axis and predicts dysregulation (Berens et al., 2017). Wiss and Brewerton (2020) named the chronic stress response of the HPA as one of the most cited mechanisms for the relationship between ELA and obesity in their recent systemic review.

In one longitudinal study exploring the ELA-adult obesity link, Miller et al. (2018) found that ELA exposure led to disruptive functioning of the HPA axis using a frequent measure of HPA functioning, the cortisol awakening response. As previously described, HPA dysregulation has been linked with the risk of higher BMI, and Miller et al. posited in part due to the cortisol awakening response and the influence it the biological mechanisms described above. The results indicated a significant link between HPA dysregulation and the risk of higher BMI in adulthood (Miller et al., 2018). The authors reviewed the limitations of their study, including being able to explore the exact

behavioral pathways influenced by these biological adaptations (Miller et al., 2018); however, additional studies have explored this and are reviewed later in this chapter.

Potential Effects of Early Life Adversity on Metabolic Functioning

Changes in metabolic functioning have also been linked to ELA (Berens et al., 2017; Delpierre et al., 2016). In a British cohort study, Delpierre et al. (2016) used a life-course analysis to demonstrate how early life psychological stress measured by ACE exposure and socioeconomic disadvantage was a predictor of developing *metabolic syndrome*. Metabolic syndrome is a term used to describe obesity and other commonly associated risk factors such as hypertension, hyperglycemia, elevated triglycerides, and low-density lipoproteins (Delpierre et al., 2016). However, the authors determined that ACE exposure alone was not significantly linked to the risk of metabolic syndrome over the life course, after ruling out potential confounders such as socioeconomic adversity (Delpierre et al., 2016). These findings suggest the complexity of the relationship between biological and sociological mechanisms that may influence the relationship between the risk of weight problems and exposure to different ELAs. I will explore socio environmental pathways between ELA and overweight risk later in this chapter.

Potential Effects of Early Life Adversity on the Immune System

Early life adversities and the subsequent biological embedding that occurs also drive immune abnormalities (Herzog & Schmahl, 2018; Nusslock & Miller, 2016). Nusslock and Miller proposed the “neuro-immune network hypothesis” to illustrate the bidirectional relationships between many of these physiological processes in ELA-exposed adults (2016, p. 23). These authors described adversity early in life as amplifying

the multidirectional threat assessment and neuro-immune responses resulting in increased chronic systemic inflammation and the risk of self-medicating behaviors (Nusslock & Miller, 2016). Specifically, heightened reactivity to stress or emotional stimuli leads to emotional dysregulation and increased stress hormone levels, which increases systemic inflammation (Nusslock & Miller, 2016).

Adults with histories of ELA exposure are also at risk of elevated pro-inflammatory markers (Herzog & Schmahl, 2018; Nusslock & Miller, 2016). Herzog and Schmahl described ACE exposure as being linked to elevated pro-inflammatory markers, such as C-reactive protein, the interleukin-6 cytokine, and tumor necrosis factor, leading to a "pro-inflammatory state in adulthood" (2018, p. 4). Chronically elevated stress hormones associated with ELA contribute to increased pro-inflammatory markers in the blood, which can result in depression due to increased cytokines in their bloodstream that can cross the blood-brain barrier (Miller & Lumeng, 2018). Pinto Pereira et al. (2019) found that ELA led to increased markers of inflammation in a sizable number of adults in both U.K. and U.S. general population cohorts. Adult weight was found to be a mediating factor for elevated inflammation in this population, suggesting that excess weight may be a risk factor for obesity and other chronic diseases caused by elevated inflammation (Pinto Pereira et al., 2019). Inflammatory markers have been linked to other health risks such as metabolic and cardiovascular disease in ACE exposed adults (Felitti et al., 1998).

Potential Effects of Early Life Adversity on the Microbiome

More recently, researchers posited that chronic inflammation in ELA-exposed adults may be linked to disruptions in gut microbiome health, including the healthy

balance of gut bacteria (Dong & Gupta, 2019). Dong and Gupta (2019) reviewed the research explaining the association between ELA and the risk of obesity later in life due to microbiome changes. These authors described how important early life is in developing the adult composition of the microbiome. Chronic stress during this time has been shown to lead to the risk of obesity and other diseases due to the imbalance the gut bacteria in both animal and human studies (Dong & Gupta, 2019). While this is new and developing research, many researchers have posited further need for the exploration of the association between the gut microbiome and the risk of overweight/obesity in the ELA population (Berens et al., 2017; Dong & Gupta, 2019; Miller & Lumeng, 2018; Wiss et al., 2020).

Health Risk Behaviors Associated With Neurobiological Adaptations

Researchers have also explored how these neurobiological alterations possibly impact behaviors associated with obesity/overweight risk. Duffy et al. (2018) reviewed the research related to neurobiological adaptations resulting from ELA exposure and proposed a model to conceptualize how this exposure leads to decreased health behaviors, such as unhealthy diets, lower physical activity, unhealthy sleep patterns, and use of tobacco or other substances (Duffy et al., 2018). These behaviors put an individual at risk of developing a wide scope of chronic illness over the life span (Duffy et a., 2018). Several changes in the neurodevelopment previously associated with ELA exposure were reviewed, including the blunted reward response, lower emotional regulation capacity, heightened emotional reactivity, and increased delay discounting (Duffy et a., 2018). In their model, the authors demonstrated these resulting neurodevelopmental adaptations

from ELA exposure are likely pathways to increased health risk behaviors and therefore predispose the individual to weight management risk (Duffy et a., 2018).

In one longitudinal Australian birth cohort study, Abajobir et al. (2017) studied the association between childhood maltreatment and high dietary fat intake in adulthood. Physical abuse was significantly shown to increase the risk of increased dietary fat in young adulthood, while sexual abuse, emotional abuse, and neglect did not have this association unless they co-occurred with physical abuse (Abajobir et al., 2017). This difference speaks to distinct types of abuse affecting obesity risk through various mechanisms. Additionally, Abajobir et al. found that abuse occurring between the ages of 5 and 14 led to a higher risk of dietary fat intake. This study was limited by a high number of loss of participants due to follow-up, and substantiated childhood maltreatment was only 4.5 percent which was significantly lower than other studies showing much higher prevalence rates (Campbell et al., 2016; Felitti et al., 1998; Jia & Lubetkin, 2020). The authors suggested the lower prevalence may be explained by the commonly known under-reporting of childhood maltreatment to child protection agencies (Abajobir et al., 2017).

In a German study, Wingenfeld et al. (2017) compared the stress response to food intake in four groups of women with a history of ACE and Major Depressive Disorder. The authors showed an increase in food intake in response to stress across groups, but no difference in food intake in response to stress in the group with ACE exposure compared to the control groups (Wingenfeld et al., 2017). However, this study excluded individuals

meeting criteria for obesity, which Wingenfeld et al. (2017) described may have inadvertently omitted individuals most at risk for the stress-response eating behaviors.

Potential Psychological Pathways Between Early Life Adversity and Obesity

In addition to these potential long-term biological impacts on adults with histories of ELAs, early life maltreatment impacts aspects of adult psychological health that have been linked to overweight-obesity risk (Murphy et al., 2020; Loxton et al., 2021; Palmisano et al., 2016; Ramirez & Milan, 2016; Sacks et al., 2017; Sokol et al., 2019; Stapp et al., 2020; Windle et al., 2018), including maladaptive coping mechanisms such as over-eating (Hemmingsson, 2018) and eating disorders such binge eating disorder (Bakalar et al., 2018; Belli et al., 2019; Imperatori et al., 2016; Nunes-Neto et al., 2018; Palmisano et al., 2016; Quilliot et al., 2019). Childhood traumatic experiences have also been shown to impact overall psychological health, which has been measured by a variety of factors including overall psychological resiliency, self-regulation, and self-efficacy (Türk-Kurtça & Kocatürk, 2020). These factors may be particularly relevant when treating weight loss in the ELA-exposed population, as studies have shown these individuals are more likely to describe feeling judged and overall negative perceptions of their interactions with their primary care providers (Mundi et al., 2021).

Psychological resilience is widely considered to be the broad growth in coping skills and overall emotional flexibility to overcome a challenge (Türk-Kurtça & Kocatürk, 2020). In one study of 291 participants who were mostly female Turkish university students, the researchers measured self-efficacy and internal locus of control to explore how childhood trauma impacts psychological resilience. They found that

exposure to childhood trauma led to lower levels of psychological resilience and that as both self-efficacy and internal locus of control increase, psychological resilience increases (Türk-Kurtça & Kocatürk, 2020). While this study did not compare self-efficacy and resilience to overweight or obesity risk specifically, other studies have shown that lower self-efficacy negatively influences weight loss success in obese adults (Annesi, 2018; Annesi, 2020). The implication of these studies is that general psychological concepts such as resilience and self-efficacy may explain some of the pathways between ELA exposure and overweight/obesity risk.

In addition to these more general psychological impacts, specific psychiatric diagnoses have been linked to ELA exposure (Herzog & Schmahl, 2018). These include depression, attention deficit-hyperactivity disorder (ADHD), anxiety, posttraumatic stress disorder (PTSD), and binge eating disorder (Loxton et al., 2021; Murphy et al., 2020; O'Neill et al., 2018; Windle et al., 2018). However, while there are others, this review will only include mental health diagnoses that have been linked to overweight and obesity later in life.

Murphy et al. (2020) conducted a study including 2,980 adults, who screened for different classes of childhood maltreatment related to physical, sexual, and emotional abuse. The results demonstrated a significant correlation between each class of abuse and adult psychiatric outcomes, including depression, PTSD, and anxiety (Murphy et al., 2020). In one Australian study, researchers found that women with ACE exposure were more likely to report symptoms of depression, anxiety, self-harm, and suicide ideation, and risk increased with the number of ACE exposures (Loxton et al., 2021). Women with

more than four ACE exposures were three times more likely to report recent “very high psychological distress” (Loxton et al., 2021, p. 6). As previously described, there is a well-known link between psychological stress and adult overweight/obesity risk.

In a large population study of 10,894 adults, O’Neill et al. (2018) used data from the U.S. National Longitudinal Study of Adolescent to Adult Health to investigate whether depression and adolescent BMI influenced the risk of adult BMI in adults with histories of childhood maltreatment. Experiencing depressive symptoms in adolescents and higher adolescent BMI were both shown to predict the adult risk of obesity in adults with histories of physical and sexual abuse (O’Neill et al., 2018). These results suggest that early intervention may help reduce the risk of adult obesity in adolescents with depression and higher BMIs.

Windle et al. (2018) showed how the number of ACE exposures predicted increased symptoms of depression and ADHD leading to higher BMI in a large college sample. Sokol et al. (2019) also found an association between childhood maltreatment and impulsivity. These findings are consistent with previously reviewed literature linking ELA exposure with neurobiological adaptions that lead to lower self-regulation and inhibition control, including impulse control and eating behaviors. Depression is another psychosocial effect of ELA stress due to elevated stress hormones which contribute to elevated inflammatory markers in the blood (Nusslock & Miller, 2016).

Some studies have implicated depression as possibly being involved in the link between ELA and overweight/obesity risk. Sokol et al. (2019) demonstrated a predictive association between depressive symptoms and early life maltreatment, specifically

physical abuse, physical neglect, and sexual abuse with co-occurring physical abuse and neglect. Stapp et al. (2020) used a large national-representative sample of adults to demonstrate the significant impacts of ELA on the development of mood disorders, obesity, and other medical conditions across the life course. Grigsby et al. (2020) found that as the number of ACE exposure increased, so did the risk of suicide ideation, suicide attempt, depression, self-injury, and obesity.

In one study of adult women exploring how depression moderated the association between ELA and risk of adult obesity, Ramirez and Milan (2016) found that histories of childhood sexual abuse alone did not predispose them to adult obesity. However, approximately half of the women experiencing both obesity and childhood sexual abuse screened for elevated symptoms of depression, when only 15 percent of the obese women without childhood sexual abuse showed these symptoms (Ramirez & Milan, 2016). This study reinforces the association between mental health symptoms and at least one type of ELA, childhood sexual abuse, and demonstrated how these mental health symptoms have a moderating effect on the risk of obesity (Ramirez & Milan, 2016).

In a large sample of 13,362 U.S. adolescents and young adults, Sacks et al. (2017) explored how depression might mediate the association between several types of childhood maltreatment and the overall BMI trajectory in this population (Sacks et al., 2017). These authors used latent class analysis to account for comorbidity between the different maltreatment types to show how depression more strongly contributes to the risk of higher BMI in more severe maltreatment classes, such as dominant physical abuse and emotional neglect, but more so in females (Sacks et al., 2017). Another large population

study found that adults meeting the criteria for obesity and exposure to childhood sexual maltreatment reported lower self-rated obesity than adults with any other type of childhood maltreatment (O'Neill et al., 2018). These results may indicate that dissociative symptoms commonly seen in PTSD may play a role in perceived individual weight status.

Early Life Adversity-Eating Disorder Risk

In addition to these psychological disorders, several researchers have explored the possible link between ELA exposure and eating disorders as possible mechanisms leading to adult overweight-obesity risk. Palmisano et al. (2016) completed a systematic review of potential mediating factors between ELA and obesity and co-occurring binge eating disorder (BED), including depression, insecure or anxious attachment style, dissociation, and maladaptive coping behaviors. Imperatori et al. (2016) showed a connection between food addiction and overweight and obesity in adults with histories of childhood trauma. Disordered eating and BED are impacted by frequent HPA activation which drives addictive behaviors and over-eating (Danese & Tan, 2014). Palmisano et al. (2016) also reviewed several factors associated with the etiology of obesity and BED due to emotional eating and eating higher caloric food. Bakalar et al. (2018) found that active-duty U.S. service members who had experienced ELA had higher BMI and disordered eating, assessed with the Eating Disorder Examination Questionnaire.

In a Turkish study, Belli et al. (2019) studied the impact of childhood trauma by separating 241 adult individuals experiencing obesity and screened for BED into two groups: individuals who met the criteria for BED and individuals who did not. The

researchers assessed one group for both childhood trauma and dissociation, an instinctive and common defense mechanism resulting from trauma (Belli et al., 2019). Belli et al. revealed that 31.1% of the total sample met the criteria for BED, and those who met these criteria had higher dissociative symptoms as well as the occurrence of physical and emotional abuse. This study may have been limited by its selective sample of bariatric surgery patients with more severe obesity; however, these results provide further evidence of the higher prevalence of BED in adults with histories of ELA (Belli et al., 2019).

In a large population Brazilian study, a sample of 7,639 adults, food addiction was independently associated with early life physical and sexual abuse (Nunes-Neto et al., 2018), suggesting the ELA-adult obesity risk crosses cultures and food systems. In another study of patients experiencing severe obesity and being considered for bariatric surgery in France, Quilliot et al. (2019) further confirmed the link between ELA, BED, and adult obesity, with more than 80% of their sample reporting at least one ACE. The authors showed those individuals with exposure to ACEs had a significant risk of developing BED (Quilliot et al., 2019). And finally, Hymowitz et al. (2017) demonstrated that emotional abuse predicted disordered eating in a sample of young adult college students, which was mediated by negative self-perception measured with the self-perception subscale of the Weight and Lifestyle Inventory.

Potential Socio-Environmental Pathways Associated With Early Life Adversity

In addition to biological and psychological pathways, potential socio environmental mechanisms between ELA exposure and adult overweight/obesity risk

have been researched. Sokol et al. (2019) used data from the National Longitudinal Study of Adolescent to Adult Health to explore whether social supports influence the trajectory of higher BMI in young to middle-aged adults with ELA. The authors used data from three different periods in the same participants' lives: ages 13 to 21, ages 18 to 28, and 24 to 31, with a total sample of 17,696 (Sokol et al., 2019). Quality of peer friendship was found to be protective of developing higher BMI in all age groups, but social support, in general, was not a mediating factor between childhood maltreatment and excessive BMI overall (Sokol et al., 2019). The results of this study suggest that exposure to early life maltreatment may limit the social support resources that are otherwise potentially protective of the development of overweight across the life span.

In a nation-wide, longitudinal study, Non et al. (2016) demonstrated an increased risk of obesity and higher BMI in adults who grew up with more family instability and lower socioeconomic advantage, but interestingly these two childhood advantage indicators were not significantly correlated with unhealthy diet or lower physical activity in this adult sample. These authors suggested respondents over-reported healthy eating and physical activity, and further understanding of how early life stress can impact the adult risk of obesity is needed (Non et al., 2016). Additionally, Font and Maguire-Jack (2016) used a large population sample of 29,229 respondents from five states and that individuals with ACE exposures were more likely to be separated or divorced, suggesting that individuals impacted by ELA may have fewer social supports.

In a sample of mostly African American adults in lower socioeconomic levels, Michopoulos et al. (2015) validated that childhood maltreatment, PTSD symptoms,

depression, lower monthly income, and emotional dysregulation predicted increased emotional eating. The authors demonstrated that emotional abuse had the strongest relationship to emotional eating, and emotional dysregulation and depression influenced the relationship between childhood maltreatment and emotional eating more than PTSD (Michopoulos et al, 2015). In a Dutch study of 700 adult men and women, Ansari et al. (2018) studied the association between childhood trauma and emotional eating. The authors demonstrated that higher levels of childhood trauma led to increased emotional eating (Ansari et al., 2018), similar to the graded relationship that has been shown between ACEs and overall adult obesity (Felitti et al., 1998). Additionally, emotional dysregulation, or the maladaptive strategies used to cope, was shown to be a predictor of emotional eating (Ansari et al., 2018). These studies provided possible critical findings in further understanding the pathways between ELA and the risk of weight problems later in life.

Various social and behavioral factors have been linked to ELA. In one study, individuals who experienced sexual abuse were more likely to have higher BMIs when they had higher levels of impulsivity using multiple hierarchical regression models (Brown et al., 2017). The results indicated that impulsivity potentially moderates weight problems in adults who have experienced sexual abuse in childhood (Brown et al., 2017). These results support other studies which have shown how lower self-regulation skills are linked to lower levels of health behaviors and less success in weight loss (Annesi, 2018; Annesi, 2020). Exposure to ACEs has also been associated with lower consumption of fruits and vegetables and lower average hours of sleep in a large sample of college

students (Windle et al., 2018). This research demonstrates the importance of intervening early in life to assess for trauma in individuals experiencing weight control issues and refer to behavioral health providers to learn self-regulation skills and promote healthier choices.

Protective Factors Associated With Early Life Adversity

Despite the breadth of literature on the adverse impact of ELA, some research has described protective pathways to reduce these risk factors (McLaughlin & Lambert, 2017; Schneiderman et al., 2021). McLaughlin and Lambert reviewed research related to the positive impacts of improving nurturing, supportive caregiving relationships, increasing sensitivity to positive stimuli and reward processing, and heightened emotional regulation that can reduce the adverse effects of ELA. In one study, Schneiderman et al. (2021) investigated these potential protective factors in a sample of adolescents and young adults, ages 15 to 23 with a mean age of 18.3, who had documented child protective services maltreatment. The authors used latent profile analysis to classify three groups of psychosocial functioning to compare to long-term health and overweight/obesity, demonstrating that individuals with lower levels of social support and higher levels of internalizing symptoms, such as depression and anxiety, were more at risk of experiencing overweight/obesity, chronic pain, and lower self-reported health quality (Schneiderman et al., 2021).

In one Canadian systemic review and qualitative study, Meng et al. (2018) explored the possible resilience and protective factors following distinct types of childhood maltreatment. The authors concluded early life maternal caregiving was most

protective of reducing long-term adverse effects of childhood maltreatment, while supportive school environments and quality of peer support were more positively influential in adolescence (Meng et al., 2018). Additionally, resiliency led to improved overall adult well-being, including better mental health, adaptive coping, reduced risk of addictive behaviors, and reduced internalization (Meng et al., 2018). Although this study did not review the risk of obesity directly, these factors have been linked to higher self-regulation skills and higher self-efficacy, which have been shown to influence health-related behaviors and successful weight loss (Annesi, 2018; Annesi, 2020).

Pediatric Effects Associated With Early Life Adversities

Adverse health outcomes from ELAs do not only begin in adulthood. Oh et al. (2018) conducted a systematic review of 35 studies related to pediatric health outcomes associated with ACEs, excluding studies where the physical health problems were related to direct trauma such as brain injury and studies related to mental health outcomes. As many previous studies have been cross-sectional, the authors in this review focused on longitudinal studies to improve the understanding of the biological mechanisms of exposure and outcomes (Oh et al., 2018). The review demonstrated several significant associations between adolescent weight problems and childhood abuse.

One study illustrates the complexity of the relationship between ELA and obesity. In a sample of 948 pediatric patients, Purswani et al. (2020) used univariate analysis to demonstrate a significant association between higher ACEs and risk of obesity and overweight. However, this association was attenuated when confounding variables, such as race, age, low birth weight, and types of insurance, were included in a multivariable

model. Wall et al. (2019) further confirmed the complexity of socio-demographic factors when they found that poverty mediated the ELA-obesity link in a sample of 24,350 adults meeting criteria for obesity who reported not being overweight in childhood.

Prevalence of Early Life Adversities

The studies reviewed consistently demonstrated a surprisingly common occurrence of exposure. In Felitti et al. (1998), the prevalence of ACEs for the first time became clear when more than half of those surveyed described at least one category of ACEs. Using data from one large population survey of 48,526 adults, Campbell et al. (2016) found that 55.4% reported exposure to at least one ACE, while 13.7% reported more than four exposures. Providing further evidence in another large population sample, more than half the respondents reported at least one ACE and 17% four or more ACEs (Font & Maguire-Jack, 2016). In a young adult study, 51.7% reported at least one ACE, further confirming this range of ACE exposure (Grigsby et al., 2020).

In an even larger population sample of 91,472 respondents, Jia and Lubetkin (2020) found that 61.8% reported at least one exposure to ACE. Specifically, 23.3% reported only one ACE, 13.5% reported two ACEs, 9.1% reported three ACEs, 6.3% reported four ACEs, 4.4% reported five ACEs, and 5.1% reported six or more ACEs (Jia & Lubetkin, 2020). The authors demonstrated that ACE exposure, especially three or more ACEs, leads to significant adverse impacts on morbidity and mortality, using two generalized questionnaires of life expectancy and current overall health (Jia & Lubetkin, 2020). As in other studies, the relationship between the number of ACE exposures and

risk was graded, with the increasing risk of poor health outcomes increasing proportionally to ACE exposure (Jia & Lubetkin, 2020).

At-Risk Populations

Health disparities among diverse groups related to how ELA influences weight later in life have been revealed. In a sample of 10,894 adults from the U.S. National Longitudinal Study of Adolescent to Adult Health, O'Neill et al. (2018) found that individuals meeting criteria for extreme obesity were more likely to be female, to be people of color, and to have a history of childhood maltreatment. In a study exploring gender differences in a young adult study, exposure to more than one ACE increased the risk of obesity in the biological female gender, but not male (Grigsby et al., 2020). Campbell et al. (2016) demonstrated an increased risk of exposure to ACEs in female adults, adults with lower incomes, minorities, or adults with less education. Consistent with this study, other studies have shown that adult women with histories of childhood maltreatment may be more at risk of obesity over the lifespan (Boynton-Jarrett et al., 2012; Danese & Tan, 2014).

Gender-specific adverse effects of ELA have been investigated. Ruiz and Font (2020) demonstrated that women with a history of physical abuse, sexual abuse, or overall neglect were more likely to be overweight than men. In a large nationally representative sample of 24,350 adult men and women with ELA exposure but who did not experience overweight in childhood, Wall et al. (2019) found that women were more likely to experience extreme obesity. Wall et al. (2019) further demonstrated that women experiencing obesity had higher exposure to ELAs than the men experiencing obesity. In

one study, a sample of female adolescents and young adults with histories of documented child protective services cases were shown to be more at risk of experiencing lower social support, developing internalizing symptoms such as depression and anxiety, and increase risk of overweight and obesity (Schneiderman et al., 2021).

In a longitudinal international study, Fleischer et al. (2021) compared two large population samples from two different regions in Germany to explore the relationship between exposure to different childhood abuse categories and sex-specific waist to height ratio (WHTR), an alternative measurement of weight. The results aligned with previous research, as overall childhood abuse, led to increased WHTR in adulthood, but not in women after socioeconomic variables were factored in (Fleischer et al., 2021). Additionally, emotional abuse and neglect had a stronger association with WHTR in women, while physical abuse and neglect influenced WHTR more strongly (Fleischer et al., 2021). These findings demonstrate the complex and conflating factors that impact the risk of obesity in this population over the lifespan.

Other studies have also contributed to how exposure to ELA that leads to weight problems may be disproportionally higher in different race and ethnicity groups (Boynton-Jarrett et al., 2012; Brown et al., 2017; Curtis et al., 2016; Kim, et al., 2020; Mundi et al., 2021). Brown et al. (2017) demonstrated that when compared to Caucasian adults, non-white races and ethnicities report higher levels of exposure to physical abuse, physical neglect, sexual abuse, emotional abuse, and emotional neglect. In their study, Boynton-Jarrett et al. (2012) showed that Black women were more at risk of obesity after early life physical or sexual abuse, even after controlling for potential mediators such as

diet, physical activity, mental health, and socioeconomic status. In a college sample of young adults, Curtis et al. (2016) confirmed their hypotheses that African Americans reported higher exposure to ELAs, lower background socioeconomic position, and BMI when compared to a Caucasian group. Mundi et al. (2021) surveyed 2,211 adult patients experiencing obesity and found that patients who were female, people of color, or individuals from families with lower incomes were more likely to report abuse.

Using the 2010 Hawaii Behavioral Risk Factor Surveillance System data, Remigio-Baker et al. (2016) demonstrated the impacts of ACEs in Asian and Native Hawaiian/Pacific Islanders (NHOPI) women were significantly correlated with adult overweight and obesity. This association is consistent with other studies where the risk of overweight and obesity increased as the score of ACEs increased (Felitti et al., 1998; Jia & Lubetkin, 2020; Wiss & Brewerton, 2020). However, the risk of obesity did not change with race/ethnicity (Remigio-Baker et al., 2016). These results may indicate, at least according to the Asian and NHOPI female populations, ACEs may have similar dose-related impacts on overweight and obesity across races/ethnicities for women.

Research into socioeconomic conditions in this population has also revealed possible at-risk populations. In a large population sample of 29,229 respondents, Font and Maguire-Jack (2016) found that lower-income levels and less education achievement were significantly associated with the development of adult obesity after exposure to ACEs. Interestingly, these socioeconomic factors did not indirectly influence obesity in individuals with only one ACE exposure but increased exponentially with the number of ACE exposures (Font & Maguire-Jack, 2016). At four or more ACEs, socioeconomic

factors indirectly impacted the risk of obesity in this population by 14.7% (Font & Maguire-Jack, 2016).

In a large sample of adults meeting the criteria for obesity as an adult but not as a child, Wall et al. (2019) demonstrated them to be more at risk of obesity if they experienced childhood poverty. This association was found to be stronger for women than men (Wall et al., 2019). In a comprehensive longitudinal study, Ferraro et al. used the cumulative inequality theory, described as "growing inequality over time" (2016, p. 2), to survey 1,748 adults twice over 10 years. Three categories were coded: childhood abuse, socioeconomic status, and family composition which included single parenthood, divorce, or death of a parent (Ferraro et al., 2016). Multivariate analysis attenuated for age, sex, and race; however, ELA socioeconomic disadvantage and childhood abuse were found to increase the risk of adult health problems over time, including obesity and new health problems later in life (Ferraro et al., 2016).

Other studies have linked lower levels of socioeconomic prosperity to an increased risk of obesity in adults with ACE exposure in women (Kim et al., 2020). Hemmingsson (2018) reviewed how socioeconomic disadvantage may influence the risk of developing overweight/obesity in adulthood. Family strain and self-medicating with food to mitigate living in chronically stressful environments were reported to be the mechanisms that linked socioeconomic ELA with adult risk of overweight/obesity (Hemmingsson, 2018). Additionally, adult women with histories of childhood sexual abuse and lower socioeconomic levels are at higher risk of developing obesity (Ramirez & Milan, 2016).

Despite the breadth of existing literature on the increased risk of ELA in less advantaged populations, further understanding of the impact of social determinants on weight problems in this population is needed (Campbell et al., 2016). With an additional understanding of how these factors influence healthy coping strategies related to weight, appropriate prevention, screening tools, and interventions can be developed, and healthcare providers would be better equipped to provide appropriate trauma-informed treatment for weight loss.

Patient-Provider Relationship

Overview of Patient-Provider Relationship

The prevalence of obesity and overweight rising steadily in the United States over the last few decades prompted a large amount of literature to investigate what might be contributing to this trend. Considering the persistent and harmful effects of ELA including the increased risk of developing obesity and overweight problems in adulthood, the influence of the patient-provider relationship is important. Complex and interrelated factors that impact the patient-provider relationship are both strengths and obstacles to effective weight loss treatment (Baker et al., 2015; Bloom et al., 2018; Hayes et al., 2017; Walker et al., 2018). However, few studies have explored how ELA exposure may impact the patient-provider relationship in weight loss treatment. In a comprehensive systemic review, McDonnell and Garbers (2018) did not find any articles related to treatment for overweight or obesity for women with ACE exposure, despite an expansive number of studies that have linked the risk of overweight and obesity to ACE exposure (Boynton-Jarrett et al., 2012; Campbell et al., 2016; Danese & Tan, 2014; Felitti et al.,

1998; Ferraro et al., 2016; Mundi et al., 2021; O'Neill et al., 2018; Rehkopf et al., 2016; Windle et al., 2018; Wiss & Brewerton, 2020).

Patient Perspectives of Provider Relationship

When individuals affected by overweight or obesity seek weight loss support from their PCPs, they describe a variety of responses and reactions to these interactions. Patients in weight loss treatment described the importance of having positive relationships with their PCPs (Baker et al., 2015; Bloom et al., 2018; Walker et al., 2018). In one study, Bloom et al. (2018) explored how patients living with obesity experienced weight loss treatment from their PCPs and strategies that PCPs can use to create a more supportive environment in the primary care setting. Bloom et al. described how patients reported wanting providers to bring up the subject of their weight and talk about it. The study included the use of four focus groups and four interviewers, who separately coded and analyzed the data into themes (Bloom et al., 2018). This process offered credibility to the results when after the fourth focus group, no new themes emerged, and data saturation was determined (Bloom et al., 2018). Patients described the importance of positive feedback from their providers, "It feels good when someone tells you you're doing good." (Bloom et al., 2018, p. 392). Four overall themes emerged from the data, including the recognition that a lack of patient motivation is a primary obstacle to weight loss success, the need for positive PCP relationships who can be seen as partners in their weight loss goals, specific goal-oriented weight loss plans, and the limitations of the PCP training and scope of visits (Bloom et al., 2018).

Patients' perspectives on their PCP's training and capability of managing weight loss have also been studied (Bloom et al., 2018; Hayes et al., 2017b). Patients described not feeling that their PCP was trained to support their weight loss goals adequately (Bloom et al., 2018). They described wanting clear, specific diet and exercise plans, including what to eat such as a meal plan (Bloom et al., 2018). The participants demonstrated insight into the appropriateness of a team-based approach to their weight loss support, including referrals to nutritionists, behavioral health providers, and other appropriate medical professionals (Bloom et al., 2018).

Both patients and providers have described the limitation placed on time as a common obstacle in effective weight loss treatment (Baker et al., 2015; Bloom et al., 2018). In Bloom et al. (2018), the study participants reported being very aware of the constraints of PCP visits, and one of the participants compared discussions with their PCP to "speed dating," describing attempts to discuss weight as "it's like they are not even hearing you …" (Bloom et al., 2018, p. 393). There is also confusion about what can be discussed in each visit, as insurance plans have pressured the healthcare industry to reduce the scope of treatment into one problem per visit outside the annual wellness check (Bloom et al., 2018). Participants described not feeling comfortable talking about weight if they are there for another reason such as a cold and stated, "You're not going to the doctor because you're overweight or have weight problems" (Bloom et al., 2018, p. 394). Participants reported questioning whether insurance would even cover a visit for weight problems, and some described being less likely to schedule a visit related to

weight if they could not afford to pay for the appointment out of pocket (Bloom et al., 2018).

Some participants described not feeling seen by their PCPs as a whole person (Bloom et al., 2018). They described the PCP was overly focused on weight and not the issues that may be contributing to the issue, “Even after I mentioned to her about certain stressors that were taking place in my life, she was just like a recorder, ‘If you lose weight and exercise …’” (Bloom et al., 2018, 393). Patients described the sensitivity of the topic of weight and how challenging it is to discuss something so personal (Bloom et al., 2018).

Walker et al. (2018) discussed the discrepancies in how different providers and patients perceive both the way they communicate with each other and how they are communicated with. A commonality is both providers and patients recognize the need for more effective and standardized protocols for weight loss treatment in the primary healthcare setting (Baker et al., 2015; Bloom et al., 2018; Hayes et al., 2017; Walker et al., 2018). To improve their weight management support, many participants recognized the need to advocate for themselves in both time and resources (Bloom et al., 2018).

Provider Perspectives

Despite the evidence that patients desire more conversations about their weight management (Bloom et al., 2018), some providers reported they are hesitant to bring up weight at each visit for fear of how the patients perceived this, “You know you are just sort of beating them over the head with it, and now you feel like you’re nagging … at the same time you can’t completely offend them.” (Walker et al., 2018, p. 21). Providers

reported that behavioral counseling was ineffective in weight loss treatment (Walker et al., 2018). Additionally, providers described confusion about how to approach weight loss treatment (Hayes et al., 2017). Hayes et al. found that various health care providers reported being unclear about both their roles and the responsibilities of other roles such as nutritionists and psychologists in the treatment of patients affected by obesity.

Other constraints and obstacles in treating obesity and overweight problems have also been described. Providers described challenges including other health complications impacting the patients' weight (Baker et al., 2015; Walker et al., 2018) and medication side effects (Bloom et al., 2018; Walker et al., 2018). Patients with weight issues often are also experiencing depression, neuropathy, and fatigue (Baker et al., 2015). "They have five or six medical problems … directly attributable to their obesity. We find them on blood pressure medicines and we're talking about their knee arthritis or they're not sleeping well, and they have poor energy …" (Walker et al., 2018, p. 21). Providers described challenges with payor issues for referral options such as dieticians or nutritional counseling (Baker et al., 2015). "Often, we have to wait 'til our patients have diabetes before their insurance will cover nutritional counseling." (Baker et al., 2015, p. 6).

Various providers have described struggling with the lack of standardized protocols for treating obesity and overweight problems (Hayes et al., 2017; Walker et al., 2018). "Maybe physicians need common resources or other stuff to recommend." (Walker et al., 2018, p. 25). Hayes et al. demonstrated the confusion within the field of medicine related to treating obesity. Interviews of different health care professionals,

including physicians, physician assistants, and nurse practitioners, illustrated the lack of understanding of standardized protocols, roles responsibilities, and even the acknowledgment of obesity as a chronic disease (Hayes et al., 2017). One provider stated, “A condition, I don’t think it is, because again, it is something you can change, you can work on, do a lot of different things for it and change that.” (Hayes et al., 2017, p. 51). This perspective speaks to what might be contributing to the judgment and weight stigma patients have historically reported.

Researchers have also sought to explore how physicians perceive addressing weight loss challenges within specific populations. Using focus groups, Walker et al. (2018) conducted interviews with family and internal physicians about their attitudes, beliefs, and perceptions when treating women experiencing overweight or obesity. These research participants posited the importance of health education about nutrition and exercise, social support, the incorporation of treating the individuals with multidisciplinary teams, the potential use of an individualized health plan, and the patient’s attitudes towards weight loss (Walker et al., 2018). The motivation was identified as a key indicator in successful weight loss by many of the participants, and some described the importance of an internal locus of control, versus an external locus of control (Walker et al., 2018). This was consistent with other studies that have suggested increased feelings of personal control in the forms of self-regulation and self-efficacy are influential factors in weight management (Annesi, 2018; Annesi, 2020).

Baker et al. (2015) focused their research on the providers’ perceptions using semi-structured interviews to gain in-depth, descriptive information about how they treat

weight management in cancer patients. Results again demonstrated the importance of a positive patient-provider relationship and motivation of the patient to lose weight (Baker et al., 2015). Other factors that this study demonstrated were of importance were having supportive spouses in their weight loss journeys, being younger ages, and hearing similar weight loss messages from multiple medical providers (Baker et al., 2015).

Provider Stigma

Weight bias and stigma in the patient-provider relationship have been explored in numerous studies. Weight stigma has been defined as the generally negative attitudes toward people with large body weights which can come from a society in general or health care providers, which can include prejudice, discrimination, or being negatively treated (Tomiyama, 2019). Providers seem to recognize how commonly patients experience this stigma, as they described fear of bringing up the topic of weight due to fear of offending (Walker et al., 2018). Walker et al. also demonstrated providers not understanding barriers to healthy lifestyles due to patients living in high crime neighborhoods and not having the ability to exercise outdoors or healthy food choices not being available due to poor access or being too costly.

Patients in treatment for overweight and obesity experience various adverse effects of weight stigma (Tomiyama, 2019). Tomiyama (2019) reviewed the pathways between the stress caused by living with weight problems and other systems that can potentially lead to additional weight gain. These include cognitive processes that impact self-regulation and emotional eating, as patients experiencing stress related to living with

obesity may experience an attempt to reduce this stress with unhealthy or excessive foods (Tomiyama, 2019).

In one large epidemiological U.S. study of 21,357 men and women, Udo and Grilo (2016) explored the associations between perceived weight discrimination, history of childhood maltreatment, and BMI. The results indicated that both men and women with histories of childhood maltreatment were more likely to report perceived experiences of weight discrimination and an increase in BMI (Udo & Grilo, 2016). The authors posited that psychological stress from the perceived weight discrimination experience which has been previously linked (Tomiyana, 2019), may contribute to this weight gain (Udo & Grilo, 2016).

It is unclear how the issue of weight stigma is addressed in primary care settings. Some providers assigned responsibility to the patients for their weight management problems, while others spoke about trying to personalize their recommended lifestyle changes, including using the example of playing in the park with their grandchildren (Walker et al., 2018). Lawrence et al. (2021) completed a systematic review of 41 studies between 1989 and 2020 and found that health care professionals demonstrated both implicit and explicit weight bias towards patients experiencing obesity (Lawrence et al., 2021). The authors described weight bias as a contributing factor to poor obesity outcomes that could be improved through the consistent use of a standardized uniform screen that all health care professionals could potentially use as an intervention to reduce this bias.

Weight bias and stigma have also been studied in specific populations' patient-provider relationships. In a study including 87 AI/AN patients, Gonzales et al. (2017) explored the relationship between provider's perceived weight bias and patient activation and working alliance. Using regression analysis, the results indicated that patient activation increased as perceived patient-provider working alliances increased. Gonzales et al. found that as providers' level of perceived weight stigma increased, patient activation decreased, providing further evidence of the importance of a positive patient-provider relationship for weight loss treatment.

Pregnant patients have even described experiencing weight bias and stigma from their health care providers (Incollingo Rodriguez et al., 2020). Incollingo Rodriguez et al. surveyed 501 pregnant women to explore their experiences with weight stigma with health care providers. The researchers demonstrated that one in five pregnant or postpartum patients described experiences of weight stigma in different health care disciplines, including feeling shamed, guilted, or judged. They conducted a thematic analysis and found common key themes: disrespectful or negative attitudes toward their patients, statements related to birth or pregnancy that only highlight high risk or worst-case scenario outcomes, inappropriate provider comments, and evaluative comments about weight, such as "Do you want a vaginal delivery or a donut? Your vagina gains weight too." (Incollingo Rodriguez et al., 2020, p. 7). Such comments clearly illustrate the negative attitudes towards patients experiencing weight control issues and lead to weight bias and stigma.

Early Life Adversity and Patient-Provider Relationship

While no known researchers have explored the storied experiences of ELA-exposed individuals in weight loss treatment, some researchers have used the quantitative approach to investigate the factors associated between ELAs and the patient-provider relationship (Mundi et al., 2021). Mundi et al. surveyed patients with histories of childhood abuse on their experiences with their health care providers and overall self-esteem. Using both binomial and multinomial logistical regression analyses and controlling for BMI, the authors demonstrated that patients experiencing obesity with histories of childhood abuse were more likely to feel judged by their providers, treated with less respect by their providers, and reported overall less self-esteem (Mundi et al., 2021). The authors posited that there may be a connection between the neuro-structural adaptations from early life abuse and negative perceptions of their treatment by their providers. Mundi et al. contributed valuable findings to understanding more of the lasting impacts of ELA on the patient-provider relationship, specifically as it related to the possible risk of high negative perceptions within the relationship due to increased risk appraisals.

Other researchers have used the qualitative approach to explore the storied experiences of individuals living with obesity but did not target ELA-exposed individuals specifically (Sala et al., 2019). Salas et al. explored opportunities for social, professional, and individual change in obesity treatment using a narrative inquiry to identify themes including weight bias, obesity stigma, and discrimination in society. Salas et al. used their interviews to uncover the stories of these individuals living with obesity, which the

authors described as internalized weight bias and stigma. This internalization of weight bias led to feelings of stress, vulnerability, blame, shame, depression, and suicidal thoughts (Salas et al., 2019). While the participants were not specifically ELA-exposed, it may be helpful to learn that their stories included behavioral responses such as social isolation, avoidance of healthy behaviors, and lack of engagement in obesity treatment (Salas et al., 2019). The authors used a narrative repair model to collaborate with the participants to develop more self-compassionate and self-accepting counter-stories, which Salas et al. posited may allow for reduced internalized shame and stigma and improve motivation for personal change.

Despite these impacts, there is no protocol for screening adults struggling with weight loss for ELA in primary practice (Felitti, 2017; Mason et al., 2016). In fact, Felitti (2017) described how ACEs are not screened for in the medical profession even after the evidence of long-term health risks has been known for more than 20 years. Mason et al. (2016) reviewed the importance of incorporating trauma-informed care into primary practice to reduce the risk of obesity in individuals with ELA exposure. The authors proposed potential intervention efforts would be to screen for exposure to ELA as well as ongoing adversity in both children and adults (Mason et al., 2016). Primary care providers can then refer families and individuals to appropriate mental health services, social services, food banks, or other community resources (Mason et al., 2016). For adults already experiencing weight management challenges, Mason et al. posited weight loss treatment be tailored to a treatment reflective of their ELA exposure such as

treatment of commonly comorbid psychological disorders with early life trauma such as depression (Murphy et al., 2020).

Using data from the U.S. National Survey of Midlife Development Kuhlman et al. (2018) purported the need to screen for childhood adversity and reviewed how ELAs significantly predicted obesity and other chronic health risks across the life span. Kuhlman et al. posited that screening for ELAs will allow practitioners to identify individuals in this population and to offer early intervention, which could potentially change the trajectory of their health throughout their life course.

In addition to the challenges in weight management that come with lower levels of self-esteem in adults with ELA exposure (Mundi et al., 2021), Hymowitz et al. (2017) determined that negative self-perception mediated the associations between early-life emotional abuse, disordered eating, and obesity risk. Hymowitz et al. (2017) used a latent variable analysis to evaluate a model of obesity prevention through the screening for emotional abuse early in an individual's weight management problems.

In a Canadian study, Royall et al. (2017) explored both providers' and patients' perspectives on the development of new obesity prevention and management services. The study included seven focus groups of healthcare providers in different roles and four focus groups of patients, and descriptive and interpretive content analysis revealed 11 themes: raising awareness in patients, screening for obesity risk, appropriate assessment, education counseling/skill-building, ongoing support, social and peer support, coordination/collaboration/referral to specialists, creating awareness among health professionals, adding expertise to the healthcare team, marketing of group treatment or

fitness classes, and lobbying for increased healthy lifestyle behaviors in the community, such as workplace education (Royall et al., 2017). Relating these themes to individuals with histories of ELA, the appropriate assessment theme would include screening for both BMI and other related necessary screens such as mood disorders commonly found in this population (Felitti et al., 1998; Murphy et al., 2020; Loxton et al., 2021).

Additionally, the theme related to coordination and referral to a specialist would be appropriate for referral to mental health counseling to treat mood disorders, anxiety, or other ELA-related psychological impacts that may be contributing to unhealthy coping such as binge eating. Royall et al. (2017) posited that the theme of adding expertise to the team could include specialists in the fields such as psychology and physical activity to help this population develop motivation or intention. This study is unique in that it included perspectives from both distinct roles and disciplines in healthcare and patients, contributing valuable recommendations to the prevention and treatment of obesity (Royall et al., 2017), but also the possibility of early detection of histories of ELAs that may be driving obesity risk.

Psychological Concepts Shown to Impact Weight Loss Treatment

Several studies have explored how known pathways between ELA and overweight-obesity risks, such as self-regulation and self-efficacy, impact weight loss treatment (Annesi; 2018; Annesi, 2020). Annesi (2018) found that teaching self-regulation skills and goal setting to women in obesity treatment led to improved health behaviors such as exercise and nutrition and overall improved self-efficacy. In another study, Annesi (2020) found that higher self-regulation, self-efficacy, and mood led to

improved results in women in weight loss treatment in the first 6 months (Annesi, 2020). Self-efficacy, self-regulation, and health behaviors related to exercise and eating were lower in the group that regained weight in 6 to 24 months (Annesi, 2020). These results suggest the importance of behavioral health interventions and a team-based approach in weight loss treatment, as both self-regulation and self-efficacy may need to remain high to sustain weight loss success.

Summary

As reviewed above, there is a wide breadth of literature that has linked ELA exposure to the risk of adult obesity or overweight (Boynton-Jarrett et al., 2012; Campbell et al., 2016; Danese & Tan, 2014; Felitti et al. 1998; Ferraro et al., 2016; Mundi et al., 2021; O'Neill et al., 2018; Rehkopf et al., 2016; Windle et al., 2018; Wiss & Brewerton, 2020). Existing research has explored the cumulative and interrelated effects of ELA on biological (Berens et al., 2017; Herzog & Schmahl, 2018; McEwen et al., 2016), psychological (Annesi; 2018; Annesi, 2020; Campbell et al., 2016; Imperatori et al., 2016; Murphy et al., 2020), and social-environmental (Mundi et al., 2021; Ferraro et al., 2016; Wall et al., 2019) functioning that may lead to adult overweight and obesity risk. The studies reviewed above demonstrated a surprisingly similar prevalence of ACE and ELA exposure, each showing more than half the population experiences at least one ACE (Campbell et al., 2016; Felitti et al., 1998; Font & Maguire-Jack, 2016; Grigsby et al., 2020; Jia & Lubetkin, 2020).

Several potential pathways of the neurobiological changes associated with early life stress were reviewed. Early adverse experiences can lead to deficits in neuro

processes such as emotion regulation, executive functioning, and fear-response learning (Berens, et al., 2017; Bick & Nelson, 2016; Delpierre et al., 2016; Hemmingsson, 2018; Miller & Lumeng, 2018). These neuroadaptations are believed to impact eating behaviors and stress coping (Tomiyama, 2019; Wiss & Brewerton, 2020; Wiss et al., 2020).

Exposure to ELAs has also been linked to psychological deficits and disorders that increase the risk of adult obesity and overweight, including depression (Felitti et al., 1998; Murphy et al., 2020; Loxton et al., 2021) and binge eating disorders (Belli et al., 2019; Imperatori et al., 2016; Nunes-Neto et al., 2018). Some studies have explored the factors associated with psychosocial functioning that buffer the long-term adverse impacts of ELA (McLaughlin & Lambert, 2017; Schneiderman et al., 2021), and self-efficacy (Türk-Kurtça & Kocatürk, 2020). Links have also been made between emotional eating and the risk of obesity in adults with ELAs (Ansari et al., 2018; Michopoulos et al, 2015).

Socio environmental factors influence the link between ELA exposure and overweight-obesity risk as well. Higher scores of ACE have been associated with health-related behaviors that impact overweight-obesity risk, such as lower physical activity (Duffy et al., 2018), increased intake of unhealthy foods (Abajobir et al., 2017), and lower consumption of fruits and vegetables, and lower average hours of sleep (Windle et al., 2018). The existing research has shown that the pathways to developing overweight and obesity through the lifespan may differ based on the types of ELA (Font & Maguire-Jack, 2016). Fewer social supports are both a risk for developing weight problems in

adults with ELA exposure (Non et al., 2016) and a lasting effect of ELA exposure, including increased risk of divorce or separation (Font & Maguire-Jack, 2016).

The risk of overweight/obesity and ELA exposure crosses cultures and borders of countries (Belli et al., 2019; Nunes-Neto et al., 2018). While a breadth of literature exists relating ACEs to long-term negative effects, extraordinarily little research has explored how this correlation may differ in underserved populations, such as minority races/ethnicities (Campbell et al., 2016) and race and socioeconomic disparities (Curtis et al., 2016). The research that has been completed shows clear evidence that health disparities exist among different groups related to how ELA influences weight across the life span, including women (Grigsby et al., 2020; O'Neill et al., 2018; Ruiz & Font, 2020), non-white races and ethnicities (Boynton-Jarrett et al., 2012; Brown et al., 2017; Curtis et al., 2016; Kim, et al., 2020; Mundi et al., 2021), and lower socio-economic levels (Campbell et al., 2016; Font & Maguire-Jack, 2016; Hemmingsson, 2018; Kim et al., 2020). Additionally, women are more at risk of experiencing ELA exposure (Wall et al., 2019).

Considering the range of interrelated physical and mental health impacts of ELA exposure, it is critical to explore how the patient-healthcare provider relationship can influence weight loss treatment first. Patients have described the importance of positive relationships with their PCPs, where they are listened to, can talk openly, and are considered partners in the treatment plan (Baker et al., 2015; Bloom et al., 2018; Walker et al., 2018). This is consistent with other research that has demonstrated the need to reduce risk factors associated with ELA exposure through supportive and nurturing

relationships (McLaughlin & Lambert, 2017; Schneiderman et al., 2021). Adults with ELA histories are more at risk of lower levels of self-esteem, and they are also more likely to report perceived experiences of weight discrimination and feeling judged and treated with less respect by their providers (Mundi et al., 2021; Udo & Grilo, 2016). In addition, research has demonstrated providers have higher perceived weight bias towards certain ELA-exposed races and ethnicities, including AIAN patients (Gonzales et al., 2017).

Despite the extensive research on the vulnerability of the ELA population to weight problems and other physical and mental health problems, there are no protocols for weight treatment for this population (Baker et al., 2015; Bloom et al., 2018; Hayes et al., 2017). Insights about the patient-provider relationship reviewed here are just the beginning of understanding what may be needed and applied to screening, early intervention, prevention, and trauma-informed weight loss treatment (Meng et al., 2018). Mason et al. (2016) reviewed the importance of incorporating trauma-informed care into primary practice to reduce the risk of obesity in individuals with ELA exposure. Developing improved weight loss treatment in primary care settings is essential due to the range of comorbid physical and mental health conditions that have been associated with ELA exposure. In fact, Pinto Pereira et al. (2019) posited that weight management and obesity interventions can reduce the risk of chronic disease due to elevated inflammatory markers in adults with ELA exposures.

Previous researchers have explored the relationships between ELA exposure and perceptions of weight loss treatment in primary care settings (Mundi et al., 2021). Other

researchers have used qualitative methods such as narrative inquiry to learn more about the contextualized experiences of a broad population of individuals living with obesity, but not specifically ELA-exposed individuals in weight loss treatment in the primary care setting (Salas et al., 2019). I designed the present study to explore the storied experiences of ELA-exposed adults in weight loss treatment in primary care settings using narrative inquiry, which filled a gap in the ELA literature. These stories can provide valuable insights into how individuals in this population interact with and experience weight loss treatment with their PCPs. The stories of these individuals offer rich insights into the specific challenges this population faces in weight loss treatment in primary care settings. This research improved the overall understanding of how ELA exposure potentially influences the patient-provider relationship, affects weight loss outcomes, and alters the trajectory of overall health and weight management.

Chapter 3: Research Method

Introduction

The purpose of this qualitative study was to gain an improved understanding of how adults with histories of ELA both perceive and experience weight loss treatment in healthcare settings. This new understanding can contribute to developing more appropriate and trauma-informed weight loss management protocols in current healthcare settings for this population. The major sections of this chapter include an explanation of the research design and rationale with the research questions. The next section includes the role of the researcher, which defined my role as a researcher and explored any potential bias or ethical issues that may have influenced the data. The methodology section includes the procedures for participant selection, recruitment, pilot study, data collection, and data analysis plan. Lastly, the last section reviews any issues of trustworthiness and ethical procedures that could have impacted the research project.

Research Design and Rationale

Research Question 1

What are the stories of adults with ELA exposures about their experiences of physical health in weight loss treatment?

Research Question 2

What are the stories of adults with ELA exposures about their experiences of psychological health in weight loss treatment?

Research Question 3

What are the stories of adults with ELA exposures about their experiences of social-environmental factors in weight loss treatment?

Phenomenon of Interest

The phenomenon of interest for this research project was the perceptions and experiences of adults with histories of ELA in weight loss treatment. This inquiry focused primarily on how the participants describe both their interactions with their PCPs related to their weight and how they experience their weight loss treatment overall. As reviewed above, the ELA-overweight/obesity association encompasses a range of compounding and interrelated pathways that impact biological, psychological, and socio-environmental functioning and their responses to weight loss treatment. Previously reviewed research from multiple disciplines demonstrated that the patient-provider relationship can be impacted by these diverse influences (Bloom et al., 2018; Hayes et al., 2017; Lawrence et al., 2021; Walker et al., 2018).

Research Tradition

A qualitative approach was used for this study, as it provided for an in-depth understanding of the experiences of the participants. A key component of qualitative research is the investigation of the research topic by exploring how individuals make sense of their experiences rather than just what happened (Maxwell, 2009). Qualitative tradition is used to explain how and why particular phenomena take place (Sutton & Austin, 2015), which was appropriate for this complex research topic.

Additionally, a narrative inquiry was used for this research project to gain a deeper understanding of the participants' experiences, by hearing their stories related to their perceptions of, conversations with, and overall weight loss treatment by their PCPs. As Clandinin and Connelly (2000) described, a foundational process in the narrative approach is seeking to uncover the meaning that participants give their particular experiences.

Rationale for This Tradition

Using a qualitative approach is grounded in the participants' contextualized experiences and allowed them to share their personal weight loss stories in a way that respects the complexity and personal nature of the ELA and overweight/obesity association. The narrative inquiry was a natural fit for this research topic, as it is rooted in the belief that participants provide the researcher a more comprehensive understanding of the topic through their descriptive stories (Clandinin & Connelly, 2000). This qualitative approach was appropriate for the complexity of these research questions and allowed the participants the space to describe their contextualized experiences, as a core foundational principle of narrative inquiry is to enable researchers to uncover the in-depth, temporal meaning participants give to their experiences through listening to and analyzing their stories (Clandinin & Connelly, 2000).

Previous researchers have used narrative inquiry to explore how adults living with obesity give meaning to their weight management experiences, but not specifically ELA-exposed individuals (Salas et al., 2019). The present study used narrative inquiry to explore the specific population of ELA-exposed individuals in weight loss treatment in

the primary care setting. This narrative approach aligned with the research purpose and what is known about the complexities associated with this research topic and informed the design of the study including the research procedures and my role as the researcher.

Role of the Researcher

A qualitative researcher both influences and is influenced through the research process (Patton, 2015; Rubin & Rubin, 2012). The qualitative researcher has a critical role in how the data are collected, interpreted, analyzed, and presented (Sutton & Austin, 2015). As the researcher, it was important to explore and understand how my own internalized biases and experiences may influence the data collection and analysis process, as internal biases can impact the validity and credibility of the research data (Patton, 2015; Sutton & Austin, 2015). My role as the researcher was to maintain neutrality in the data collection and analysis process, as well as to acknowledge and plan for any potential undue influence of bias on the results.

My researcher role here was different than my primary clinical role, which may have influenced how I observed, related to, interpreted, and presented the data. For example, my professional role outside of this research project is a licensed professional counselor, treating individuals with histories of trauma and chronic health conditions. This population is the same population that this study's research participants raised the likelihood of unintentional subjectivity. My normal role would require empathetic validation when hearing a client's trauma story, but in my research project, this type of response may have inadvertently influenced the next answer. Instead, Patton (2015) described a concept of *empathetic neutrality*, which allows for authentic empathetic

response, while still maintaining objectivity. This technique was used to reduce the likelihood of undue influence and improve the project's overall trustworthiness (Patton, 2015). To reduce the risk of bias in my interpretation of the data, peer debriefing was used to ensure information was recorded and interpreted correctly.

Another strategy that was employed was the use of reflective journaling during and after the data collection process, as this method has shown to reduce the risk of potential bias (Patton, 2015). This process of *reflexivity* includes raising awareness of and addressing any of the researcher's internal biases, opinions, perspectives, worldviews, or overall subjectivity (Patton, 2015; Sutton & Austin, 2015). To reduce the risk of these influences, I maintained a journal to write reflective notes throughout the data collection and analysis process, including interpretations and comments about participants and my reactions, as qualitative researchers can reduce risk of bias by increasing their own awareness of internal and attempting to learn from it (Sutton & Austin, 2015). My reflective journaling included notes on my own cultural and relational interpretations, as a core principle of narrative inquiry is that the researcher is part of and can influence the data collection and interpretation (Clandinin & Connelly, 2000).

Ethical issues that may have impacted my role as a researcher included the potential for power differentials within the researcher-participant relationship and dual relationships (Patton, 2015). My clinical experience and skills as a professional counselor automatically placed me in a position of potential power over the participants. I recognized my professional role would put me in a directive role, as an interventionist. My role here was non-directive. Through this self-awareness, I planned to maintain

ethical boundaries and carefully avoided intervention-like language that was jargon-filled but used rapport that was both professional and empathetic. Another ethical boundary I maintained was to avoid the existence of a dual relationship with any of the participants, which exists when the researcher has a relationship with them professionally or personally other than the research purpose.

Methodology

Participant Selection

The target group of interest was individuals who self-report as being in treatment for overweight or obesity and have also experienced some form of ELA exposure. The participants needed to have been in weight loss treatment with their PCPs. For selection of participants, I used the criterion sampling strategy, which is purposeful sampling strategy that allows the selection of individuals who have experienced the research topic being studied (Patton, 2005).

The participant selection was based on several inclusionary and exclusionary criteria. The criteria for inclusion were that participants must be age 25 or older, live in the United States, speak the English language fluently, be able to read and write at a minimum of a fifth grade reading level, and be mentally and physically able to engage in interviews related to these sensitive topics. The criteria for exclusion were individuals who are not able to give written and verbal consent for participation in the study, as well as those who may have been negatively affected by being interviewed about this research topic.

The number of participants for this study was 18. As with narrative inquiry, researchers seek more in-depth and descriptive data rather than larger sample sizes that may provide more generalizability (Clandinin & Connelly, 2000). The number of participants was planned to be increased if new concepts were introduced to confirm data saturation, where no other significantly different key concepts related to the research questions are given (Guest et al., 2006). The number of participants was planned to be sufficient to provide data that can be potentially generalized to other individuals in this population not included in this study.

Participants were identified and recruited from open and closed social media groups related to weight loss, the Walden University participant pool, and the website ResearchandMe. A recruitment flyer (see Appendix B) was created to post on these sites, and I sent direct email messages to interested respondents. These potential participants were invited to participate in the study using an encrypted email server.

Instrumentation

The data collection instruments for this study were primarily interviews and my reflective journaling notes. The interview questions (see Appendix A) were semi-structured and open-ended. The interviews included five main questions with follow-up questions to allow the participants to explain their full stories and the development of key concepts and themes (Rubin & Rubin, 2012). This process is appropriate to use when the research topic is complex and contextualized (Rubin & Rubin, 2012).

Interviews were an appropriate data collection tool for the research questions, as in-depth interview questions allowed individuals to tell their stories related to their

experiences with weight loss treatment in the current healthcare system. This process, referred to as *meaning-making* in narrative inquiry (Clandinin & Connelly, 2000), created space for the interviewees to describe the context of their experience as they saw fit.

The interview guide consisted of questions informed by the literature review and the overall research questions. Additionally, the research notes and journaling compiled during the literature review were considered in developing the interview questions. These methods combined with using the narrative approach's focus on the participants' "stories" (Clandinin & Connelly, 2000) were believed to align with the research purpose and be an appropriate data collection instrument for this study.

The overall theoretical framework, the biopsychosocial model, was considered as each research question addressed one aspect of the human experiences according to this model: biological, psychological, and socio-environmental (Engel, 1992). Interview Question 1 addressed the biological aspect of the biopsychosocial model, as it asked how the participants experience their physical health as it relates to their weight loss treatment. Interview Question 2 addressed the psychological aspect of the biopsychosocial model, as it referred to how the participants experience their mental health in their weight loss treatment. Interview Question 3 addressed the potential socio-environmental aspects of the biopsychosocial model, which allowed the participants to share how they experience their relationship with their provider, race, ethnicity, gender, or other sociodemographic issues in their weight loss treatment. Interview Questions 4 and 5 may have applied to all three research questions, as these questions allowed the participants to share any other

information about their weight loss stories, including any other specific challenges they have experienced in their primary care settings.

In addition to the interview questions, the interview instrument included an opening statement that explained the purpose of the interview, reviewed the procedures to ensure privacy and confidentiality, and asked if the participant had any questions before beginning the interview. The interview instrument also included a closing statement to review the study's procedures, asking if it is okay to follow-up, an explanation of what came next, and for what the research findings will be used. A debriefing statement provided the participants resources, including the National Crisis Hotline number to call if they felt emotional distress after exiting the interview.

Procedures for Pilot Study

To ensure the interview questions answered the research questions that were explored in this study, a pilot study was employed as a strategy. Pilot studies have been shown to improve the efficacy of researcher-developed instruments during a larger study (Malmqvist et al., 2019). Another purpose of this pilot study was to gain critical feedback from the pilot interviewees on the interview questions, which is helpful for researchers to improve their overall study (Malmqvist et al., 2019). The interview questions for the pilot study were informed by the research questions and by what is already known about the research topic, as summarized in the literature review.

Interviewees for this pilot study were three of my friends and family members, and they were recruited through in-person conversations and emails. The interviewees were informed of the purpose of the pilot study and allowed to ask any preliminary

questions for clarification. Feedback on the interview guide was asked for, and this feedback informed changes to the interview guide and overall procedures to improve the credibility and validity of the original study. Common changes derived from a pilot study include adding to, modifying, or removing interview questions based on this feedback (Malmqvist et al., 2019). The interviewees' feedback was useful to assess the efficacy and appropriateness of the interview questions, guide, and overall research design of the larger study.

Procedures for Recruitment, Participation, and Data Collection

The procedures for the overall study were sent to the university's Institute Review Board (IRB) for approval. Once IRB approval was granted (approval number 05-05-22-0087738) to begin the data collection process, the recruitment process began to seek potential participants who met the inclusionary criteria described above. The participants were voluntary and recruited using the researcher-developed recruitment flyer (see Appendix B), which was sent electronically through open and closed social media sites that are related to weight loss topics, the Walden University pool, and the ResearchandMe website. The potential participants were contacted using encrypted email to ask them if they meet the inclusion criteria for participating in the study. Potential participants were asked to use this email and not respond to the original social media post.

After the selection of participants, the university's IRB consent form was sent via encrypted email, and the participants were asked to confirm consent electronically by responding "I consent" to the email. Once IRB consent was received, the participants

were assigned an alphanumeric number such as “P1” to deidentify any personal information and ensure confidentiality throughout the study. The participants were contacted via encrypted email or phone to schedule an initial interview time convenient to each participant. The participants were able to select a time and place that they were comfortable with for the interview. The participants were given the option for video-based, audio, or email interviews, based on their comfort levels.

The interview guide (see Appendix A) was used during the interview, and the interview was recorded by the video or audio call software for later transcription. In narrative approaches, recordings are critical to ensure accuracy of the interviewee’s wording, as the core feature of narrative inquiry is the individual’s story (Clandinin & Connelly, 2000). I then transcribed the data manually and typed it into a Microsoft Word software program. If the participant was uncomfortable with recording, the interview was transcribed in real-time.

The participant was given informed consent at the onset of the interview, which included an explanation of ending the initial interview early if the participant became tired or distressed and scheduling potential follow-up interviews. The duration of the interviews was 45 to 60 minutes, depending on the level of detailed information given by the participant, but no longer than 60 minutes. A plan was also in place for another 2 to 3 hours to transcribe the interview after completion of the interview to capture potential reflections immediately. Participants were verbally debriefed immediately after their interviews, which included appreciative comments, resources/referrals for support if appropriate, my contact information if they feel the need for follow-up, and a description

of the next steps in the research project. These next steps included follow-up for clarification needed, and a summary of the results when the study is complete. A gift card in the amount of $20 was offered at the completion of the interview to thank each participant for their participation.

A plan for additional recruitment of participants was in place before the study began. If data saturation was not achieved upon completion of the interviews, a plan was in place to add more participants to the study until no new information was added and sufficient information had been given to answer the research questions. More participants were also possibly needed to replace any that may not have been able to complete the interview the first time.

To reduce the risk of having discrepant cases, the interview guide provided structure to attempt to keep interviews on track. Every effort was made to keep the interviewee on track, including the use of steering probes to help redirect their answers back to the question. If the interviewee's answers were significantly different than the other responses, additional themes or subthemes were considered.

Data Analysis Plan

Once the 18 interviews were completed and transcribed, a thematic analysis was used for the data sorting and analysis process. Thematic analysis was an appropriate method to use for this study, as it incorporates an inductive and interpretative data analysis process (Braun & Clarke, 2006) suitable for what was sought out in this study's research questions. An advantage of thematic analysis was that it allowed for both psychological and socio-environment interpretation of data (Braun & Clarke, 2006),

aligning with the overall theoretical biopsychosocial framework of this study. This approach provided comprehensive methods to sort and analyze the data for this study, while also maintaining fidelity to the individuals' stories (Braun & Clarke, 2006). Microsoft Word was used to organize and analyze the narrative data. Data analysis tables were used to do the following.

To organize and find meaning-making, I used a 6-phase thematic analysis framework that allowed me to identify themes in the data, as well as support the interpretation of the data that was grounded in the individuals' experiences (Braun & Clarke, 2006). In the first phase, I transcribed the narratives into the Microsoft Word data analysis table, familiarized myself with the initial ideas and data items (each interview) by reading and re-reading the data, and made notes to reflect what I, as the researcher, may bring into this process from previous experience (Braun & Clarke, 2006). In the second phase, I began to identify codes systemically, including selecting phrases or passages in the transcription to label as a key concept in the data, named categories, and adapted them as I continued to reflect on the data throughout the analysis process (Braun & Clarke, 2006). The coding process was complete when no new themes or subthemes were seen.

In the third phase of thematic analysis, I actively began to group similar codes, while remaining open to alternative interpretation. Themes were unified by a central concept, but I took care to ensure they did not represent only one data set (Braun & Clarke, 2006). During the fourth phase, I continuously reviewed the potential themes by revisiting the original data to ensure the themes accurately reflected the data and finalized

the thematic map (Braun & Clarke, 2006). In the fifth phase, I named themes with a label that defined what the theme represented using a dynamic and fluid process of compiling codes (Braun & Clarke, 2006). In the final and sixth phase, I began to write and report the research data, which according to Braun and Clarke (2006) also included final data analysis. The final synthesized data presentation included an explanation of how the data related to the original research questions and research previously completed.

Braun and Clarke (2006) described good thematic analysis as recursive and an interpretive process that includes reading, re-reading, and revising the codes and themes throughout the data analysis process (Braun & Clarke, 2006). To support this, I used researcher notes to document and raise awareness of any internal subjectivity I may have had with the data, as Braun and Clarke described this reflexivity as the individual is engaged in the data. I used the 15-point thematic analysis checklist of key criteria presented in Braun and Clarke (2006). Since a core concept of this framework is the reflexivity of the researcher throughout the process, this checklist provided this with a standardized method to safeguard against potential unintentional assumptions in the interpretation of the data.

Narrative inquiries are interested in the rich and contextualized stories of the research participants (Clandinin & Connelly, 2000). For this reason, they commonly have fewer participants as this study did, reducing the need for use of larger QDM software programs that are not generally used in the thematic analysis (Braun & Clarke, 2006). Hand coding provided me the opportunity to be more involved in the analysis process. I was familiar with and used the software program Microsoft Word for this process, which

allowed for the ability to create tables. Data analysis tables were created and transitioned into the text body of the document using Microsoft Word. This type of software program has been shown to be useful and effective in the data collection, analysis, and reporting processes for qualitative research studies (LaPelle, 2004).

Issues of Trustworthiness

The concept of trustworthiness is critical in qualitative research, which is the confidence that the study's findings are true and represent what the researchers intended to (Patton, 2015; Shenton, 2004). Trustworthiness can be improved by ensuring the research procedures demonstrate credibility, transferability, dependability, and confirmability (Shenton, 2004). For this study, each of these four concepts were considered separately.

The credibility of a study refers to the notion that the study's findings accurately represented how the participants perceived and described their experiences (Shenton, 2004). Credibility also is concerned with if the study's data procedures and findings are in line with what is intended to be measured (Shenton, 2004). These questions were considered carefully in this project and several strategies were taken to improve the study's credibility. First, neutrality was considered when writing the interview questions to allow the participants to share their individual contextualized experiences, reducing the risk of researcher assumptions or bias to improve trustworthiness (Patton, 2015). Secondly, the interview questions were carefully considered and developed from the extensive literature review above as well as the overall research questions, which increased the assurance that the study's findings aligned with what was being explored.

Thirdly, this study had consistent data collection methods which were clearly explained both to the participants and in the reporting which has been shown to strengthen overall credibility (O'Grady, 2016). To increase the likelihood that participants shared truthful stories, I provided informed consent of the details of the study, potential for harm, and gave them the opportunity not to participate in the study, which is a credibility-enhancing strategy (Shenton, 2004). Another technique that was employed that contributes to credibility is building authentic rapport and a respectful, reciprocal relationship between me and the participant, which increased the comfort level and openness in the data collection process and the likelihood that the participant answered the interview questions in a forthcoming and truthful manner (O'Grady, 2016; Rubin & Rubin, 2012; Shenton, 2004).

Additionally, the credibility of this study was strengthened using evidenced-based data analysis and reporting processes, such as thematic analysis (Braun & Clarke, 2006). This framework has been used and cited in thousands of studies and articles and includes the use of credibility-enhancing features (Braun & Clarke, 2006). As the researcher, I used this framework which allowed for acknowledging and building in checks for reflexivity in data collection, interpretation, analysis, and reporting process, as well as revisiting and reviewing the entire data set exploring themes (Braun & Clarke, 2006). In addition to revisiting the data, I reviewed the data with my chair to explore other interpretations of the data, as Patton encouraged researchers to look for "alternative explanations" while analyzing the data to decrease potential researcher influence or bias and increase credibility overall (2015, p. 654).

Another strategy that was used to improve the credibility of this study was peer debriefing, which included having a peer review the transcripts to ensure information was captured correctly (Shenton, 2004). I used peer debriefing as needed to increase that credibility that the interpretations accurately reflect the raw data. As this is a narrative inquiry that relies heavily on the stories being told, these processes contributed to the credibility and overall trustworthiness of the research study.

Lastly, credibility was considered during the review process. The research design and procedures were reviewed by the study's committee members and university IRB before initiating recruitment and data collection, as well as throughout the data analysis process. I incorporated recommendations and feedback into the overall procedures, as credibility is improved when researchers use feedback from supervisors and professors (Shenton, 2004). Feedback was also sought by a peer debriefer which could add additional credibility and overall value to the study's overall design and procedures (Spall, 1998). Chair members' perspectives can add to the credibility of the overall study, as they offer more neutral perspectives and an opportunity for analytical discussions about the efficacy of the research procedures.

Trustworthiness can also be improved through the concept of transferability, or how the study's findings relate to populations or organizations outside of this one (Shenton, 2004). For this project, I attempted to improve transferability by including detailed procedural information about the data that will be collected and the overall context in which the study was conducted, as well as considered a diverse sample of participants to increase the likelihood that their weight loss experiences represent others'

experiences outside of this study. Transferability can be improved by using detailed information about the research design, including providing information about the number of participants, the number and length of sessions, the exclusionary criteria used, the data collection methods, and overall research procedures (Shenton, 2004). This detailed information allows others to judge how the study's findings may apply to other populations or individuals in other settings and contexts. Using a narrative approach allowed me to document the participants' experiences in a rich and contextualized way (Clandinin & Connelly, 2000), contributing to the probability that the study's findings will be able to be applied outside of this specific population and the themes uncovered will more likely be applicable outside the context of this study.

Another core concept of the trustworthiness of a study is dependability, which refers to the notion that if the research procedures were repeated using similar samples, the research findings would be similar (Shenton, 2004). To increase dependability, the research processes and procedures were reported in enough detail that future researchers could repeat the study (Shenton, 2004). I informed the participants fully of the research goals, methods, and what the findings are intended to be used for (Shenton, 2004). Dependability was strengthened by providing details related to any changes or shortcomings in the overall research design, procedures, or evolution of the study, which has been shown to improve the dependability of the study's procedures (Patton, 2015). These in-depth procedural descriptions strengthened the dependability and overall trustworthiness of the study.

Confirmability is another core feature of trustworthiness and refers to the objectivity of the study (Patton, 2015), which includes the inevitability that my own biases could be present and without safeguards in place, might have influenced the findings. To reduce this risk, I continuously acknowledged any potential for internal bias and used reflexive journaling notes to promote self-awareness throughout the data collection and analysis process, a process that has been shown to improve confirmability (Shenton, 2004). In addition, I used the technique of *empathic neutrality*, which will allow me to portray authentic understanding and empathy towards the participants' experiences during the interviewing process, while also maintaining an objective, neutral stance (Patton, 2015). I have also provided information above about my role, position, and the context in which the study was conducted, which has been shown to improve confirmability (Patton, 2015). Other strategies that improve confirmability were employed in this study, including detailed procedural descriptions to allow for evaluation of methods, triangulation of different methods to collect data, and explanation of limitations and how they impact the research findings (Shenton, 2004). This transparency reduced the risk of researcher bias influencing findings, as well as increased the overall trustworthiness of the study.

Ethical Procedures

Another strategy that contributes to trustworthiness in qualitative research is to maintain ethical boundaries and transparency, including providing detailed and clear information about the study's goals, methods, and expectations to the participants and potential readers (Orb. et al., 2001; Patton, 2015). In this project, I followed all

requirements of the university's IRB to address these issues and included all forms demonstrating the research plan has been submitted for review and approval. Any IRB-requested changes were made before recruitment began. Recruitment excluded individuals who do not meet the inclusionary criteria, including individuals who were not able to give verbal and written consent for participation in the study or those who may have been negatively impacted by being interviewed about this research topic. Once it was deemed that a participant meets inclusionary criteria, the university's IRB consent form was sent to the participants via email, and they were asked to confirm informed consent to the study by responding "I consent" to that email. The participants were contacted using encrypted email to ensure the protection of personal information.

A critical feature of research procedures is trying to predict and plan for any possible ethical issues that could occur during the recruitment, data collection, or reporting process (Patton, 2015). As such, I attempted to find a balance between the study's overall purpose and the well-being of the participants (Orb. et al., 2001). Due to the sensitivity of the research questions, the potential for participants to experience mental or emotional distress during the interview process was a key ethical consideration. Experiencing obesity, overweight, and early life adversity including abuse, are very personal and likely highly sensitive topics. For this reason, I included detailed informed consent about these risks. A complete list of interview questions was included on the consent form, to empower potential participants to make a more informed decision about their own risk. Mental health resources and the National Crisis Hotline were included on the consent form as well.

Additionally, Orb et al. (2001) described the importance of the concept of *autonomy,* which refers to ensuring that the participants have the information they need to make informed decisions on their behalf. As a licensed professional counselor, I have an in-depth understanding of the importance of continuous informed consent and ensured this was a priority throughout this study due to the sensitivity of research topics and any potential vulnerability of the participants. Continuous informed consent was detailed and included details about research procedures. The participants were given the incentive at the completion of the interview during the debriefing process.

Another key factor informing this study's ethical procedures was *beneficence*, which refers to the principle to "do no harm" while maintaining the intent to do good for others (Orb et al., 2001). Maintaining confidentiality and privacy was a critical key as of this principle and was a priority throughout this project. As the researcher, I was the only individual who had access to the participants' data. As mentioned earlier, an encrypted email was used to communicate with participants. Additionally, alphanumeric numbers were assigned to each interviewee, and any document containing personal information was shredded if paper and deleted if electronic after the content of the interview has been transcribed. Privacy was a priority in scheduling the interviews, which the participants were active in this process, giving final approval of the time and place when the interviews took place. After the interviews were completed, debriefing included a closing statement that provided additional information about how to follow up should the participants want to include any additional information.

As it is ethically the researcher's primary role to protect the well-being of the participants (Rubin & Rubin, 2012), this project also considered the principle of *justice*, which Orb et al. (2001) described as ensuring the participants are treated fairly and not exploited in any way. To do so, protection of participants' well-being was critically considered in all methods and at all points in the study's process. The potential vulnerability of each participant was carefully thought through before inclusion in the study. This process included discussing possible emotional risks with each participant. A plan was in place if at any time they reported discomfort, I would stop the interview, direct them to the list of mental health resources on the consent form, and remove the participant from the study. To reduce potential exploitation, I thanked participants for their time and participation, as well as explained how their contributions will help promote social change. Additionally, I ensured participants represent historically marginalized groups, as was critical for this research topic and discussed in the above literature review.

It was also important to consider any potential for power differentials in the researcher-participant relationship (Orb et al., 2001; Rubin & Rubin, 2012). To reduce the risk of power differentials, I did not consider any past or current client as a potential participant. Additionally, no participants were considered from my professional or personal life to reduce the risk of potential conflicts of interest and eliminate the risk of dual relationships.

As mentioned earlier, every attempt was made to plan and prevent for potential ethical issues to protect the participants' well-being and privacy. However, unexpected

ethical risks are a risk, and a plan was in place for this possibility as well. Because of this, I worked closely with the university chair and other committee members and remained in constant contact with them throughout this research project. Additionally, every attempt was made to establish open and authentic rapport with the research participants to establish trust and a line of communication for addressing potential ethical concerns.

Summary

As discussed above, this qualitative research project sought to contribute additional understanding of how individuals with histories of ELAs experience weight loss treatment in their healthcare. A narrative inquiry was used to gain valuable insight into how these individuals told their stories and made meaning of their experiences. Other researchers have used a narrative approach to explore how individuals in weight treatment experience the relationships with their healthcare providers (Salas, et al., 2019). A core feature of narrative analysis is the role of the researcher's influence on how these stories are interpreted, analyzed, and retold (Clandinin & Connelly, 2000). As the researcher, my role was to reflect on my own potential subjectivity, in the form of internal biases, worldviews, perspectives, and positions on this research topic particularly during the interviewing process (Rubin & Rubin, 2012). Reflexive notes and journaling were used throughout the research process to provide observational information and transparency about any potential influence of bias.

In addition to these notes, interviews were the main data collection instruments. Interview questions were derived from the literature review. Additionally, a pilot study was conducted with the proposed interview questions, which provided critical feedback

and ensure the researcher-developed interview questions were consistent with what the study hoped to seek to understand (Malmqvist et al., 2019).

Thematic analysis was used for data analysis and reporting (Braun & Clarke, 2006), which provided the opportunity to organize themes in the data for additional understanding of the individuals' experiences. The strategies described above helped strengthen the study's trustworthiness, including the concepts of credibility, transferability, dependability, and confirmability (Shenton, 2004). These strategies included but were not limited to providing detailed descriptive information about the study's procedures and the use of peer debriefing to reduce the risk that interpretation of data was biased. Providing the participants detailed information about the study's goals, procedures, and expectations to this study's participants and future readers, helped to establish trust between the researcher and participants.

Ethical considerations were also reviewed above in detail. To summarize, I remained in constant contact with the study's committee members during the research process and follow all university IRB rules and recommendations. I also worked to establish authentic, open rapport with research participants, a line of communication for addressing potential ethical concerns, and healthy researcher-participant boundaries, ensuring no dual relationship or exploitation of participants. Lastly, I provided clear and detailed information about the research methods to promote transparency.

Chapter 4: Results

Introduction

The purpose of this narrative inquiry was to learn the stories of how individuals with exposures to ELA describe their experiences with weight management treatment in primary care settings. These stories can contribute to what is already known about the topic of weight management with a specific focus on how the ELA population experiences it. This improved understanding can inform intervention efforts by providers, enhance, provider awareness, and promote overall person-centered care in the treatment of overweight and obesity in primary care settings. This study was designed to answer three primary research questions:

Research Question 1

What are the stories of adults with ELA exposures about their experiences of physical health in weight loss treatment?

Research Question 2

What are the stories of adults with ELA exposures about their experiences of psychological health in weight loss treatment?

Research Question 3

What are the stories of adults with ELA exposures about their experiences of social-environmental factors in weight loss treatment?

In this chapter, the pilot study is reviewed in detail, including how it informed changes to the original interview guide and overall research procedures. The setting and any personal conditions that were present at the time of data collection and may have

influenced the data are also reviewed. Any demographic information that participants brought up and related to the study is described. Data collection and analysis procedures are described in detail, including any unusual circumstances encountered in data collection and how discrepant cases were managed in data analysis. Related to the study's trustworthiness, the study's implementation of strategies, and any adaptations needed are also reported here. Finally, the study's results are presented in detail, including narratives from the participants' interviews, data analysis tables, and a summary of results organized by each of the three research questions.

Pilot

After making changes to the interview guide requested by my chair, I conducted a pilot study to improve the overall quality of this study by assessing the interview guide and overall research procedures. Pilot studies have shown efficacy in ensuring the interview questions elicited rich and detailed answers relevant to the overall research questions in qualitative studies, particularly with researcher-developed instruments (Malmqvist et al., 2019). This section will explain in detail how the pilot study was conducted and then describe how the interview guide and overall study was adapted based on the results of the pilot interviews.

The overall pilot study procedures were informed by Malmqvist et al. (2019) and included five main steps: recruitment, informed consent, interviews, follow-up questions for feedback, and adaptations to the interview questions. First, three of my close friends and family members were selected as potential participants through phone calls and in-person conversations, which included informing them of the overall purpose of the pilot

study and overview of procedures. A time requirement of 45 minutes for the interview questions and 15 minutes for follow-up questions for feedback was reviewed with each participant. Second, I reviewed the informed consent and then inquired with each of them if they had any questions before deciding if they would like to participate in the study. Third, I asked the participants if they had any questions before beginning, and when they were ready, I conducted the interviews using the initial interview guide, which included writing researcher notes.

In the fourth step, I asked the participants after the final interview question for feedback about any part of the interview, the overall procedures, and the interview questions. The participants described their experiences with the questions, and I asked specifically if there were any other questions which might have prompted additional and relevant information about the overall research topic, which is a question shown to be helpful in improving trustworthiness of the instrument (Malmqvist et al., 2019). I completed the fourth step by giving the participants a sincere thank you for their assistance in improving the overall quality of the research study, which they were happy to help with. In the last step, I critically reviewed the feedback from each participant in the pilot study and made several changes to the original interview guide.

The first change to the interview guide was the removal of the final follow-up question to Question 5, as it elicited the same information to previous questions in each interview and was considered redundant. Instead, a closing statement was added to the interview guide that included a broader question about whether the participants had any other information they believed to be important to the research topic that was not asked

about. As mentioned earlier, this question allows the interviewee to offer any additional information that was not asked about and therefore improves the likeliness that the main study produces comprehensive, detailed, and critical data related to the research topic (Malmqvist et al., 2019).

One pilot participant asked for clarification about what weight management treatment consisted of, which was a reminder to explain this inclusion criteria in more detail in the recruitment process of the main study. Another pilot participant added additional critical information about how her gender impacted several of her answers to the interview questions, which was not included any of the original interview questions. I considered this an oversight in designing the original interview questions, as the literature review included studies related to gender and the research topic (Campbell et al., 2016; Grigsby et al., 2020). Gender is also considered relevant to the main study's overall biopsychosocial theoretical framework (Engel, 1992). Therefore, another question was added to the interview guide related to gender, "Can you tell me if you have ever experienced challenges related to your weight loss treatment due to your gender?"

In addition to this critical feedback, the pilot interviews informed the overall management of the interview process before beginning the main study. Pilot studies have been shown to be useful in analyzing the interview format and how the interviewer conducts them (Malmqvist et al., 2019). For example, the average time to answer each question was considered and noted, so that I could improve my time management with the study's participants. This was particularly pertinent to the first interview question, which required the most time for each pilot interviewee to answer. It was also noted that

the follow-up questions created an open dialogue that produced new and helpful information. This was valuable information in conducting the main study's interviews to increase the likelihood that the interviews would produce rich and detailed information about the complexities of this research topic.

Since my main source of data for this study was interviews, the pilot study provided an opportunity to practice and assess the interview questions. As Malmqvist et al. (2019) posited, interviewer competence and techniques homed in pilot studies can improve overall interview data. The pilot study provided me a chance to practice my interviewing skills, preplan for the main study, improve the overall interview guide, and allow for the opportunity to gain even greater depth of understanding about the research topic. As this is a narrative inquiry, the hope for this study was to learn the personal life stories related to each research question by recreating the open dialogue and natural flow of conversation produced in this pilot study.

Settings

The research study was conducted in the United States, and most interviews were conducted and recorded using the platform Zoom. Three participants selected phone interviews and three selected email interviews. The email interviews included several back-and-forth emails for follow-up questions from me. For the phone and video interviews, each participant was given multiple days and times to choose from and was encouraged to select a time that they would be comfortable giving the interview. No obvious distractions were noted, and most participants were in their own homes or office

while giving the interview, providing privacy and apparent comfort with the interview process.

Demographics

Although no demographic information was asked for during the interviews, some participants shared demographic details that related to the study's research questions. For example, some participants spoke about how their age, race, or financial status impacted their weight loss treatment. These data are reviewed as they relate to Research Question 3, which referred to the socio-economic experiences related to the biopsychosocial model. They were then included in the thematic analysis and will be reviewed in detail in the results section of this chapter. Not all participants shared demographic information as they answered Question 3, so no demographic table will be outlined here.

Data Collection

This study was approved by the Walden University IRB board, approval number 05-05-22-0087738. Purposive sampling was used to include participants living with overweight or obesity in care with a primary care provider also with a history of ELA exposure. The study was posted on Researchandme website, the Walden Participation pool, and on a Facebook closed group related to weight loss, after gaining approval from the group's administrator. I received participant inquiry emails almost immediately, which included comments describing interest in the study due to the topic being an important one. These comments were included in the data and will be reviewed later in the results section. The primary data collected were from interviews with each participant, which took place between May 9, 2022, and June 15, 2022. Additional data

included my researcher observation notes that were handwritten in a journal. Data saturation was achieved when no new codes or themes emerged.

The study included a total of 18 participants living in the United States and self-reported meeting inclusionary criteria of having experienced ELA and in treatment with their PCP for overweight or obesity. For privacy, each participant was de-identified by assigning an alpha-numeric with the letter and number such as *P1,* which is how the data will be reported in the following sections.

The interviews took place using the platform Zoom for video interviews, and three were phone interviews. Each video and phone interview were between 36 and 59 minutes long. Each participant had one interview, although several followed up with email. Three participants selected email interviews, and these included several response emails from me to ask follow-up questions to elicit more detailed information about their experiences. The interviews were recorded using the Zoom platform software and then transcribed into a Microsoft Word document. No variations were needed from the original data collection procedures outlined in Chapter 3. No unusual circumstances presented themselves in the data collection process, although I was surprised by many of the participants' comments both during the recruitment process and during the interviews about their excitement to share their stories, as they described it being a particularly important research topic. I was also surprised and honored that many of the participants were willing to share such personal and intimate information about such sensitive topics such as early life traumatic experiences and living with overweight or obesity.

Data Analysis

The first step in thematic analysis was used to familiarize myself with the data though the process of listening to interview answers several times while transcribing and typing the data. During transcription, the recordings were played for a few seconds at a time, while each answer was slowly and carefully typed out and reviewed. Reflective journaling provided a central place for me to record my interpretations and experiences with the data. The transcripts were thoughtfully re-read several times to allow for all possible interpretations of the interview answers and were considered through the lens of the biopsychosocial framework and three main research questions.

Through this recursive process, certain phrases and quotes stood out as particularly relevant to the research questions and overall theoretical framework. These data began to form patterns about concepts related to the research questions or new information that was unexpected. These pieces of data relevant to the research questions were highlighted and entered the first data analysis table using Microsoft Word, named Table for Interview Excerpts. Several interview excerpts were reviewed with my committee chair to explore alternative meanings and gain supervisory feedback on the process. Each interview excerpt was considered and compared to label data-derived codes, which were also entered into the data analysis table, column three.

After this second phase of thematic analysis was complete, all codes were analyzed to identify patterns that repeated throughout the data set. A codebook was used to track how often a code occurred, its definition, and for which research question it related to. Several codes had shared meaning as they related to multiple research

questions, which will be reviewed in more detail in the results section. Both the frequency of the appearance of each code and the codes' relevance to the research questions were considered. For example, even if a code appeared rarely in the interview, it was still considered if relevant and meaningful to the research questions. Some codes were not included in the next Microsoft Word data analysis table, named Table for Codes, if they appeared in only one data set or were not as relevant to any of the research questions. The coding process was complete when no new patterns were found in the dataset.

In the third phase of this thematic analysis, each of the codes was considered to identify any similarities in their significance and patterns were seen. This process was repeated thoughtfully, while allowing for alternative interpretations, until subthemes and themes were identified. Categories were considered in how they may be grouped under main themes and subthemes, which were grouped together in another Microsoft Word data analysis table, named Table for Categories. Caution was taken to ensure no theme or subtheme was derived from only one dataset.

In the fourth phase, the subthemes and themes were continuously compared to the original interview answers and revised as needed. As is common in narrative inquiry (Clandinin & Connelly, 2000), I moved back and forth throughout the transcripts, codes, and categories, constantly revising and organizing categories and subthemes until 14 themes emerged. In the fifth phase, themes were labeled with a phrase that represented the category of codes and subthemes identified under it. Themes may not have

represented all datasets but were selected based on how well they told the participants' stories aligned with the main research questions.

In the sixth phase, the final themes and subthemes were decided on, and narrative passages from the interviews were selected to support these. A final Microsoft Word data analysis table, named Table for Themes, was used to illuminate how the categories led to the subthemes, and subthemes led to themes. Using the steps outlined in the Braun and Clarke (2006) 15-point thematic analysis checklist allowed an in-depth analysis of the interview data. This process allowed for a comprehensive analysis and interpretation of complex psychological and socio-environment data addressed by each of the three research questions that correlated with the biological, psychological, and socio-environmental data of the biopsychosocial model.

Evidence of Trustworthiness

Strategies to improve credibility, transferability, dependability, and confirmability described in Chapter 3 were used throughout the data collection and analysis process. To increase credibility, I conducted a pilot study to increase the likelihood that the interview questions would prompt answers to the research questions. I made changes to the interview guide based on the feedback collected in the pilot study, which contributed to the overall credibility of the study and the likelihood that the participants' interview answers would provide their descriptive stories relevant to this research topic.

To improve the transferability of this study, I used three different recruitment methods, including the Researchandme recruitment site, the Walden University Participant pool, and a closed group on Facebook related to the weight loss. These

assorted recruitment sources provided a diverse sample of participants that increased the likelihood that the results could be applied outside of this sample to a larger population. I used narrative inquiry to learn their detailed, contextualized stories, which contributed to the likelihood that the themes could be found outside the context of this study as well (Clandinin & Connelly, 2000).

This research study was designed to learn more about how this population interprets and interacts with medical providers related to their weight management, rather than concerned with the type of traumatic or adversities they experienced in childhood. For this reason, I developed questions and asked specifically about their current functioning related to this topic. I used steering probes to gently redirect the interviewees back to the interview questions when they initiated tangential topics.

To improve the study's dependability, detailed procedural descriptions were given in both chapter 3 and the data collection and analysis sections in this chapter, a strategy known to increase a study's overall credibility (O'Grady, 2016). These procedures were reviewed and approved by Walden University IRB board and each participant was given written informed consent. Each participant was told that quotes may be used in the publication, but that alpha-numeric such as "P1, P2 …" would be used throughout the data collection, analysis, and final reporting.

In addition to the strategies outlined in Chapter 3 to improve confirmability and overall objectivity of the study, I spent time building rapport with each participant, a practice that has been shown to increase participants' trustfulness and openness with the researcher (O'Grady, 2016; Rubin & Rubin, 2012; Shenton, 2004). I used follow-up

questions and check-ins to clarify meaning during the interview process. Additionally, a process of reading and re-reading the transcripts and review with my committee chair provided other potential interpretation of the data and the analysis process.

The 15-point checklist provided by Braun and Clarke (2006) gave me guidelines to follow to strengthen the trustworthiness of my data analysis. For instance, in doing my own transcribing and hand coding, I gave each data item equal attention and read and re-read interviews and transcripts for accuracy and other potential interpretations. I consistently compared themes and subthemes to each other and checked them against the codes and categories. The narrative texts have been interpreted and analyzed, rather than just rewritten in the results section below. Lastly, this active process allowed me to be highly involved in the selection of themes and subthemes, improving the likelihood that they accurately reflect the stories shared.

Results

The final data analysis revealed 14 themes and 14 subthemes that captured the essence of these 18 participants' stories about their experiences with weight loss treatment in the primary care settings. Using a narrative inquiry approach allowed for me to uncover the following rich insights about the three research questions and the categories embedded in each research question, including physical health, psychological, and socio-environmental. The themes were originally intended to be organized in the order of the research questions; however, many of the codes demonstrated shared meanings for multiple research questions, which will be explained in each section. The sections below will review each of the themes and any subthemes that were also analyzed

from the data for that theme. Narratives are included to illuminate examples of the types of stories told related to each theme and subtheme. The themes are organized under each of the three research questions, beginning with first two themes related to how the participants tell their stories about how they experience their physical health and their weight loss treatment, as highlighted in Table 1.

Table 1

Themes and Subthemes Related to Research Question #1 – Physical Health

Themes	Subthemes (if applicable)
1. Co-occurring physical health problems that impact weight management treatment	1a. Physical health problems negatively impact weight loss 1b. Overwhelmed by managing both weight and physical health problems
2. Importance of person-centered treatment	2a. Importance of provider's understanding of how physical health problems impact weight loss 2b. Importance of referrals to other providers 2c. Importance of consistent communication with provider about weight

Theme 1: Co-Occurring Physical Health Problems That Impact Weight Management Treatment

The first theme applied to the first research and interview questions, asking how these participants with ELA exposures experience their physical health in weight loss treatment. This interview question resulted in the most commonly occurring code and

theme throughout the data analysis: co-occurring physical health problems that negatively impact their weight loss treatment. Sixteen participants described multiple physical health illnesses impacting their weight loss treatment in some way. When one participant, P15, was asked about how his physical health impacted his weight loss treatment, he described this in this way:

> Well, um, actually, osteoarthritis, knee replacement, hip replacement… I have a respiratory condition which makes it hard for me to breathe carrying the weight around with obesity. And I have some other issues. I have spinal stenosis that affects my weight loss because it affects my back. That's why I was on my way out because I was getting measured for a back brace. Yeah. Also, it impacts my daily life, daily living, housework, my mobility, everything. Yeah, it takes me awhile to get things done… So, it affects everything. My weight affects everything. It slows me down. It also affects my breathing. I also have restrictive airway disease. So, it affects all of that.

Subtheme 1a: Physical Health Problems That Negatively Impact Weight Loss

Other participants described a subtheme of this theme, how their chronic pain from a physical health problem impacts their abilities to exercise and therefore make any progress in their weight loss treatment. P3 described how his pain impacts his ability to exercise:

> I have a problem with chronic back pain which doesn't give me a lot of options to exercise. I have some pain medications, but they do not always help. It can feel

> like I am being tortured when it acts up, so this is very limiting for me. I try to exercise regularly but I sometimes cannot.

P1 described the challenges of managing both weight and chronic illnesses, while highlighting the importance of the medical provider treating both at the same time:

> I have high blood pressure so it's quite hard to manage both… I feel that my primary care provider that I am getting services from is helping so much in ensuring that my bp is stable, but at the same time she's like, you also have to work on your weight. Yeah. So, she's like managing the two of them.

Several participants recalled how their weight became unmanageable due to a delay in an appropriate diagnosis. P4 explained her struggle with this:

> The physical stuff, ah, getting my thyroid levels checked, that took a long time, because I had just given birth. And I was like, I am having a hard time losing the baby weight… I know I need to exercise. I know I need to watch what I am eating. I'm doing that, it's not helping. So that took a very… you would think that that would be something they would check first. But they didn't. That took a long time… I wish that it wouldn't have taken as long to identify the primary cause, you know, like a lot of hormonal stuff happened.

Other participants also felt their weight loss treatment was impacted by a delay in an appropriate diagnosis. P18 described a delay in her diagnosis of bone cancer:

> The medical profession has always told me that the answer to everything that I come into the doctor's office with is to lose weight, drink more water, exercise. And apparently, it doesn't matter if it is cancer. Because I walked in with bone

> cancer more than once, and a broken leg, and was told if you would exercise and lose weight you would feel better.

Subtheme 1b: Overwhelmed by Managing Both Weight and Physical Health Problems

In addition to chronic pain and delays in diagnosis, a second subtheme was analyzed as some participants described stories of feeling overwhelmed with managing both chronic physical health problems and their weight. P12 shared more about the challenges of managing both chronic illness and weight, while also describing how the two are related:

> I have diabetes, which is from my weight. But then that affects my weight…The diabetes treatment is quite challenging at times. It is a lot. There are a lot of medications, appointments, sugar to check… it is just a lot. It really affects my health, such that weight loss. It takes up a lot of my brain and it can be exhausting. And then when I try to focus on the weight, it is too much to think about up. Basically, at times I'm not really motivated to focus on the weight loss and many times, when I am not feeling okay.

In addition to their chronic illnesses, some participants described their medication or medication regimens interfering with weight loss. P7 described:

> I mean the rheumatologist doctor that has been my doctor for years, he always told me that the weight would be my main problem because he told me my joints can't hold the weight. I was taking prednisone at the time and prednisone is a medication that makes your joints narrow. And I was taking it for the pain because the pain was so severe. So, it was helping and hurting at the same time. It

> took over my hunger… he always told me "(Name) you have to lose weight. You have to lose weight." And he knew that it was going to be hard for me because he had me on the highest dosage of the prednisone.

P15 shared his story about his medication regimen interfering with his weight loss treatment due to having to eat more frequently when taking his medications. He also describes a previously mentioned subtheme here related to the difficulty of managing a chronic illness:

> It's a lot to stay on a medication regimen. It takes relentless work… So, it's a lot to manage. It really throws my diet off because I couldn't eat like I do. I had to take my medication. I had to eat this and that just with that one medication.

Several participants described how their older age seemed to impact their physical healthy in ways that negatively affected their ability to manage their weight. P15 described this:

> My metabolism has slowed since I have gotten older. I have these other joint issues, you know the osteoarthritis, which slows you down. Um, my age, you know. So, all that kind of takes into factor with weight gain.

P13 shared more about her age and the subsequent changes in her body impact her overall weight management, "I think that it's harder for females to lose weight especially when you get older and go through menopause or having stress. I think it gets harder and harder. I can't blame my gender on it though."

There was also a common subtheme about the awareness about the participants' chronic illnesses may be connected to exposures to ELAs. Several participants described

always suspecting or being curious about the connection either during the interviews or in the introductory emails and gave this as the reason for wanting to be part of the study. It was initially a concern that I would be able to recruit 15 to 20 participants to agree to give an interview about sensitive topics as weight and early life trauma. However, I was surprised that I had more than 30 people reach out within the first 2 weeks of recruitment. Many of them described their interest in this study as a way to help them learn more about the possible connection between ELA and their weight loss challenges.

Most described suspecting there was a connection but never knowing for sure. However, one non-conforming participant, P7, described her awareness of the connection between her chronic obesity and ELA as follows:

> I have been obese since I have been 8 years old. Never have I met my goal for weight … I have never reached that goal because my mind was not occupied enough to want to reach that goal. I was always depressed I was always stressed out, which brought on a lot of physical problems from a lot of dysfunctional problem with my family… I was diagnosed with what is called systemic lupus erythematosus. So, he said to me and my mom that this was kind of a big problem where so much of the stress and pain and anguish that I have been through brought on and caused this obesity and this lupus to come on me. So, the more pressure and the more things I was going through, I was having organ problems, foot problems, like I do now. And I take over 10 medications to try to keep my body in control.

Theme 2: Importance of Person-Centered Treatment Plan

The stories shared in the excerpts above begin to demonstrate the complexity of each person's experience with their medical providers, specifically related to how their physical health impacts their weight loss treatment. Many of the participants also described the importance of their medical providers seeing their unique and having an individualized treatment plan. I named this theme the importance of a person-centered treatment plan. The participants described that this would be helpful for a variety of reasons, and necessary if they do not currently have one with their provider. Only two felt that they did have an individualized treatment plan currently. The participants further described related topics to this theme, which I categorized under three additional subthemes: 2(a) the importance of their provider's understanding of how their physical health issues impact weight, 2(b) the importance of their medical provider making appropriate referrals to other providers, and 2(c) the importance of consistent communication between them and their provider about their weight.

Subtheme 2a: The Importance of Their Provider's Understanding of How Their Physical Health Problems Impact Their Weight

One participant, P4, described the importance of this first subtheme and how she wishes her provider understood more about how her physical health limitations impact her ability follow standardized guidance:

> I still get told, 'You need to go running. You need to go walking. You see the scar on my leg.' You know? I wear a brace almost all the time. 'What do you want from me?' They have the same, it feels like it's just a like mantra… Go for a

> walk. Eat more salads. Go for a walk. Eat more salads. It just feels like that is all they know how to say. It's a little discouraging, I guess… a better list of things that you can do if you have like, knee problems…. My treatment plan is my treatment plan, not the general population's treatment plan. It feels like it is just one size fits all. When it's really not. There are so many aspects of it.

P8 described more about how the common and standardized suggestions of eating healthy and losing weight are unhelpful:

> The only thing I feel is, as the doctor gives you advice to lose weight, to offer or give some emotional help too. Or its probably never going to work. Cause you can tell me to eat salads and eat breakfasts, well I don't eat breakfast now, so it tells me to gain weight. Some of this stuff it doesn't pertain to me, and they don't know this. It's kind of hard. I do understand that some of these things do not pertain to me, and they are giving me general advice. Where I can see that would be problematic for someone else. Emotional support.

Subtheme 2b: The Importance of Their Provider Making Appropriate Referrals to Other Providers

P5 further reiterated the importance of having a plan and brings up the second subtheme of the importance of making appropriate referrals to other providers such as dieticians:

> Yeah, like asking me about it and coming up with a plan. We don't have a plan, but I don't know if they do that. He asks sometimes, and sometimes I ask for

> advice. But we do not have a plan to follow or a plan for me to eat. Like a dietician plan? Or a food plan? That may help.

Another participant, P6, described a recent diagnosis that changed her perspective on her weight, prompting her to talk more to her medical provider about it. She described her frustration with standardized response she received and touched on the second subtheme of the importance of referrals to appropriate providers:

> Eight months ago, I got diagnosed with breast cancer…Just thinking wise, mentally wise. Umm, and just since I retired, I've been thinking more and more about trying to get healthy and trying to do the right things. And obviously they don't really bring that up previously now to you. And all of a sudden you are hit with, 'Oh you're obese.' And it's like. 'Since when?' And it just kind of hits you like a brick wall. All she says is take a walk for half an hour. And that's it. She can say, you know, here's a diet, or a referral to a dietician. Anything along those lines would help. But 'take a walk' gives you no help... Or give me guidance on which way I should go. Which I have none…

When asked about what she feels would have been helpful to support her weight during after her cancer diagnosis, P6 revealed that she had found a weight loss center right there in the medical office on her own:

> Referrals, encouraging me. Saying 'There's a weight loss center here for people who have had cancer. Maybe go there. See what they can do.' I found out about that just last week that they have such a center there, but nothing has ever been said to me that they have such a thing.

In total seven participants referred to the second subtheme: the importance of offering appropriate referrals to other providers to support weight loss success. This subtheme had shared meaning in other themes and subthemes both as previously discussed above and will be in other themes that will follow. P12 described how referrals may help inform her treatment plan, but she also referred to the third subtheme, which is the importance of consistent communication about her weight:

> I know they do not have time, but it may be good to check in with me more often, send me referrals, have like group or team to help me and have them work together. They don’t work together, and I think this is key. I don’t know how each thing works on its own. I don’t know how they relate. They expect you to know these things, and I don’t. I don’t think anyone does… I’m not sure they really help. They just tell me what to do. Well, actually they just say ‘Watch what you eat. Get some exercise.’ I know how to do that but obviously that is not what I am doing. It is just not that easy.

Subtheme 2c: The Importance of Consistent Communication Between Them and Their Provider About Their Weight

Another participant told his story which related to all three subthemes under this main theme of the importance of person-centered treatment plan. He shared more about his experience with not being given any personalized feedback about his weight, referrals to support his weight management treatment, or being communicated with regularly about his weight. P16 told his story in this way:

> We need to have a talk. Even if they would just recommend me to a dietician or something. Um, but if they did anything, if they recommended me, they always say just lose weight, but we never go from there. If they would go to the next step, even if I'm not happy about it. That would be fantastic. If my doctor would just say 'hey,' now I'd be mad, but my doctor is looking out for me down the road... It's almost as if they are waiting for you to tell them something is wrong, and you have to tell them something is wrong. And then they start working on us. It's almost like they are not proactive, as opposed to reactive.

P10 described frustration with a lack of solutions versus just being told she was obese by her provider. She described feeling judged by her provider which has shared meaning with another theme that I will review later in this chapter. Below she explained this as well as the second and third subthemes, including the importance of referrals to other providers and regular communication about weight with her provider:

> The doctor that told me years ago, you know he made fun of me by the way he said, 'You're obese.' Because at the time I didn't even think I was obese and for you to put that down and tell me that, made me feel like a pig. Excuse my French. And he didn't even tell me things to lose weight. I think he said a few things, but he did not say much. He made fun of my weight. 'You're obese. Is that all you can say? Can you not help me out with helpful tips? Can I stop being obese? Can I go for walks?' So, there was really no help or feedback from my providers. I didn't get any advice or things to do, like exercise or go join a gym. No one was giving me any help on that… I would say that they should that they need to be a

little more … what's that word, I can't use that word… persistent on helping you…they should tell you more about the health concerns and what they can do to help you, even give you a list of things or just something that would help you to actually remind you… Maybe I need to go to a doctor just for weight.

Another participant, P7, described the importance of the personalized guidance and communication about her weight, even when she did not like the way it was delivered:

> I was kind of offended about how he addressed the issue of losing weight. But I'm glad that he gave me some advice about it. But his tone of voice and how he addressed it to my face, he said, 'Let me tell you something, you need to seriously lose weight.' That's how he said it to me…. but I just decided to take the advice and keep moving. I said to myself that I just need to take the advice. He gave me a diet plan and set me up with a dietician.

P7 and P15 were the only two participants that described having an individualized treatment plan and a positive experience communicating with their providers. P15 also shared how important having an individualized plan with a what he referred to as a *weight loss team* is:

> Just by being there and being accessible when they need to be. And which I think it is, because I have My Chart and I can send messages to use. Um, I find that more, how I can say, they answer that more than phone calls. You can get ahold of them better that way… I have a primary care doctor. I have an infectious disease doctor. I have an endocrinologist. I have a pulmonologist. I have and

> ophthalmologist. You name it I have it…The weight loss surgeon. My sleep apnea doctor. The most helpful thing is people being on my side. You know, being on my side. And if I wanted to try something and, um, they were there with me. And I think what is very important is that they do their homework as well. So that has been very helpful.

However, many participants described a lack of communication with their providers about their weight. Seven participants explained they felt time limitations impacted their ability communicate effectively with their providers, as P2 described; "They do not have time for this." P13 stated, "All I can say, that communication is the key in building good relationships with your health care provider and getting the best possible care." P6 shared her frustration with her doctor not communicating with her about her weight:

> Other than putting comments at the end. 'I recommend taking a walk a day. Uh, he put a half a mile a day and this last time he put in there… Maybe watch what you eat.' But he didn't say anything to me. He just put that in the notes.

P14 touched on this subtheme related to the importance of communication, but also referred to the first theme of co-occurring physical health problems that impact weight management treatment:

> I don't usually talk to them about the obesity. They don't mention it. I have back issues and I have arthritis and I don't know if that is because of the fat or not… I went to a back doctor because I have all these issues with my back, and all he said was to lose weight. I'm 73, I mean I don't know that that's going to happen.

Table 2

Themes and Subthemes Related to Research Question #2 – Psychological

Themes	Subthemes (if applicable)
3. Importance of recognition of mental health in weight loss treatment for this population	3a. Importance of provider's recognition of and stress from co-occurring physical and mental health
	3b. Importance of referral to mental health counselor
	3c. Weight management negatively impacted by mental health
	3d. Awareness of connection between mental health and weight
	3e. Awareness of ELA impacts
4. Eating as a coping mechanism	
5. Chronic stress related to weight	
6. Importance of self-efficacy	

Theme 3: Importance of Recognition of Mental Health in Weight Loss Treatment for This Population

The most frequently occurring codes and subthemes were related to the participants' stories about how their mental health impacted their weight loss treatment, highlighted in Table 2. These concepts came up in many of the interview questions and prompts, in addition to the second interview question, which was the only question referring specifically to how the participants' experienced their mental health related to their weight loss treatment. These codes and categories had shared meanings with the other research questions, so I will describe how they may have related to other themes in

those sections. To simplify and clarify this second research question related to how participants described how they experienced their mental health related to their weight loss treatment, I used five subthemes to organize them: 3(a) importance of provider's recognition of and stress from co-occurring physical and mental health issues, 3(b) importance of referral to mental health counselor, 3(c) weight management negatively impacted by mental health, 3(d) awareness of connection between mental health and weight, and 3(e) awareness of impacts of ELA.

Subtheme 3a: The Importance of Provider's Recognition of and Stress From Co-Occurring Physical and Mental Health Issues

P4 described the importance of her provider needing to recognize her history of eating disorder and the triggers that need to be avoided, as well as the subthemes related to weight management being negatively impacted by her mental health and awareness of the connection between her weight and mental health:

> But they definitely suck at the mental health aspects though… I get told to journal a lot and I say that's a trigger and they are like, "Well maybe you can count your calories instead." And I'm like, that's a trigger. I'd say probably more than the everyday person again with that history of eating disorder. It is very distressing to see myself this big and I have to fight that a lot. You're not, you're unhealthy physically, but it's better than the mentally unhealthiness that you were in. So, it's a constant like, I understand that my weight is not healthy. I need to work towards getting it healthy, but I can't think about it too much because then I get depressed. It makes me not want to eat and I spiral out of control. And I feel a lot like I'm

alone. Doctors don't really understand what I'm going through. You don't ever want to be like, "Hey I think I'm going to develop an eating disorder," because then there's that fear that they are going to hospitalize you again. It's a very difficult terrain, I guess, to navigate through. It feels more stressful to talk about than it does then like get help. I understand that it is probably very rare to see somebody that had an eating disorder now be overweight. I'm not sure she really understands how she is supposed to treat that. I can get how that would be very confusing.

Subtheme 3b: The Importance of Referral to Mental Health Counselor

P9's story related to three of these subthemes, as she described her awareness of the connection between her mental health and weight, the importance of a referral to a mental health counselor, and the importance of her provider recognizing these things:

> Just helping me with finding a good counselor who has the ability to help me overcome my stresses… Just what I need when it is available…like mental health counseling. I feel like I'm good with that… Helping me to know that it is not me alone. Helping me to monitor and relate to my condition. And giving me solutions for what I can with my anxiety. Yeah. Because that affects me a lot.

Subtheme 3c: Weight Management Negatively Impacted by Mental Health

P17 explained how connected her mental and physical health are, as she described how receiving unwelcome news impacts her:

> The physical health challenges I'm experiencing now leading to weight loss is diabetes type 2. I feel emotional and often depressed especially when I receive

> bad news regarding my health. Over thinking and depression are one of the issues related to my weight loss… I overthink as a result of this weight loss and often get depressed, also causing me physical stress.

P1 described more about how important it is to her that her provider understands how her stress related to her physical health problems may impact her weight treatment:

> First, they should be able to understand that I have been like somehow stressing, so they should be coming to give solutions and not problems. And in terms of the condition of high blood pressure, they should be able to help me monitor it and also help the support system around me to help me manage my weight and my bp.

One participant, P8, described her medical provider recognizing her depression and treating it at least with an antidepressant. However, this participant was not asked about or referred to a mental health counselor. She also described a previously reviewed subtheme of the importance communication in this passage:

> I do have a doctor. I haven't seen her for over a year and something. I mean, I just go in, she asks how I am doing. Refills my prescriptions and is gone. We don't interact. She did help me 4 years ago when I started to gain the weight from the stress. She put me on an antidepressant… Depression. Sometimes I get into a thing. When I allowed her to give me antidepressants, um I had been crying for months and it would not stop. So, she stepped in to help me there… She doesn't know. I tell her that part of the depression is because I'm getting too heavy. I have a lot of concerns. I hate myself. My self-esteem goes down. I um … I get depressed. It is a cycle. The more depressed I get, the more I eat.

The passage above also touches on another theme that will be reviewed below, eating as a coping mechanism.

Subtheme 3d: Awareness of Connection Between Mental Health and Weight

Another subtheme of the theme of the importance of the recognition of mental health when treating this population is the awareness of ELA impacts. Most participants did not connect their weight or physical and mental health problems to their ELAs, but P7 was well-informed of the link. She described her story below:

> I was facing so many medical issues going through chemotherapy and the pain, the inflammation, you know the stress that I was getting from my family who was mistreating me. It brough on physical pain each and every time… Because I was facing so much but I had nobody to really to lean on and talk through, because a lot of people had issues themselves and they did not have time to hear mine… I was bullied by my dad a lot, teasing me, calling me fat as a way of making me stop eating… a lot of women did make fun of me for being overweight. And that was pressure and stressed me out too. They can generally check on me and gave me a weight loss plan. They can also set me up with therapy.

Subtheme 3e: Awareness of Impacts of ELA

Another participant, P16, was curious about the link between ELA and his obesity and other physical health problems. He cited this as a reason for wanting to participate in this study and shared his story in this way:

> So, one of things that I talk about, that I talk about with only a couple of people, because I don't like to talk about it, cause I was sexually abused as a child. So um,

> I don't know if sometimes that might affect me in certain ways. Um, I kind of try to push it away, push it to the other corner of my brain, um but I still remember it. Um, it's still there. I just kind of, um, move it to the side when I can. Sometimes I if that might be an issue. I've never brought it up with a doctor. Um, I've never gone to a mental health specialist or nothing like that. I just kind of pushed it to the side… They'll ask me the general question, you know, 'How do you feel mentally.' And I say, 'I'm fine.' And typically, I am. And when I am sitting there, you can't tell what happened in my past… I think once a physician asked me about it, and they just kind of moved on. I said it happened when I was young. It might've been a questionnaire. They just kind of put it in the system… I think it would have been nice to have been asked more questions about that.

In my journal, several observational notes referred to how open and forthcoming many of the participants were about their history of trauma and adversity, even though none of the interview questions asked specifically about their traumatic experiences. There was more than just a willingness to share their stories, and several of them described this process being helpful in understanding their weight loss challenges more. After describing the passage above, P16 confirmed this observation by stating without prompt:

> I really think, not only communication with your doctor and primary care physician, but I really think communication within your family and with your friends. Sometimes that can help too, having someone to talk to. I think it's important to have someone to talk to, whether it's a doctor, stranger or friend,

> someone in your class, someone at your job. If you could talk to someone, sometimes just letting it out will make you feel better, like talking to you about this makes me feel better. You know? I think that's encouraging for me. Just constant communication. Having someone to talk to about things like this.

In addition, some participants reported wanting to understand more about contributing factors to their weight, and as described earlier, were motivated to take part of this study due to this curiosity. These inquisitive parts of their stories demonstrated the overall theme of the importance of recognizing mental health in weight loss treatment for this population.

Theme 4: Eating as a Coping Mechanism

The next major theme that was named grouped many different codes under the main theme of eating as a coping mechanism. These codes included eating to cope with various experiences, including depression, anxiety, sadness, stress, and sleep problems. This interview excerpt has shared meaning with the first theme of physical health conditions impacting weight loss treatment, as P7 described eating to cope with sleep problems caused by her physical health problems:

> Cause at times that I cannot sleep, I replace it with food…, I replace it with something to eat to make me go back to sleep. Like turkey, or what else makes you sleepy, like pork steaks. Or beans, or anything. Some of those foods can make you sleep. So, whether I was either not hungry or not sleepy, food would be my first choice… Because I am always stressed out and I take it out on eating. You

> know, I'm binging in the middle of the night… It's like when an obstacle comes my way, eating through it has always been my scapegoat.

P4 described eating to cope with stress, as well as another theme related to chronic stress that will be discussed later:

> And being a student, and mom of 4 children, that I love very much, but they are toddlers, and they are a pain the butt, and being on top of that, and while being intentional when you have had a very stressful day and all you want is a sugar-filled coffee drink. It is difficult to kind of manage the remaining intentional part. You have to take accountability for your own health and that can be very difficult at times.

In her story, P8 also described eating to cope with stress in this way:

> Not eating the chips or chocolate to soothe myself when I'm stressed. And it would be, I gotta figure out something better. So, when I still work part-time to take my lunch. Because I'm grabbing, cause I'm running late a lot. I need to make myself something good. I get home and it is after 7:00 at night, so I really shouldn't eat at all from what I read. So, therefore that means I shouldn't eat dinner. And I don't care for breakfast, so that would just leave lunch. So, I'm going to eat a cookie or chocolate, chocolate.

This theme at times had shared meaning with a previous subtheme: the importance of recognizing the long-term impacts of ELA. P16 demonstrated this when he described in his story that he feels his eating may be related to his history of ELA. Below

he also referred again to the importance of being asked about what happened to him by a provider who is treating his weight problems:

> There's been times when I am stressed, and when I'm stressed, I just want to eat. That's kind of a big problem for me in terms of my eating habits… I guess I never really thought about, um, cause I see stuff on tv about how mental health can affect you. But I always think what happened to me happened a long time ago. You know, I don't think it affects me. But then sometimes I think about it, and I'm like 'maybe it did.' Um, but I wish they would, there would be a way I could get in more depth with my PCP and there was a way we could talk about some options. I don't like medication, so they say medication. So, it would have to be something like I'd have to go talk to someone or something like that. I would like them to know. Even if it is something that I have to let off my chest, and they just say this is something you need to do. That would be great. It's just never happened.

Another participant added further meaning to the theme of eating as a coping mechanism, by explaining more about a previously referred to subtheme: the importance of talking to someone. P12 described realizing the possible link between eating as a coping mechanism, feeling overwhelmed, and being motivated to choose healthier choices:

> The most challenging part? Being able to monitor everything I eat and having the motivation to work out. Maybe not eat so much when I am sad or feeling low or stressed. It is too much work when I am already feeling overwhelmed and no

> motivation. They don't get that. It is why I am this size. And I really just kinda figured that out…. Just talking to you ... I guess just talking it through in a few short minutes and hearing myself say these things… that was really helpful.

Eating to cope with stress was a commonly occurring concept in the stories told by these participants. Several other themes and subthemes were often linked, including the participant describing chronic stress and isolating from their support group, two addition themes which will be reviewed next. P2 explained it this way:

> For me, I am an emotional eater and struggle with diabetes. But it's quite hard… Especially when I am going through something that is quite tough, especially when there are many things going on in my life. I tend to eat emotionally more which is not healthy and I isolate. It is very frustrating.

Theme 5: Chronic Stress Related to Weight

All the participants described stress related to their weight impacting them in some way. Several of them described clothing as a big stressor. P14 described, "I feel bad when I try to find clothes. You can't find anything that fits. You always look fat. So, it's very stressful yes." P15 reiterated this point, "I have very few clothes that I fit. And I'm not buying any more clothes because I plan on going this journey." P16 shared that… "I just kind of feel bad when I put on triple X shirts and pants."

The loss of mobility due to the weight or other co-occurring physical health problems, a previously discussed theme, was also an example of a stressor commonly revealed in the narratives. P15 described this in this way:

> Before I gained this weight, I was very active. I used to bowl. I hiked. I swam. I played soccer. I did all kinds of things. Now, with the joint things and the weight, I can't do those things anymore. I can't even bend over without assistance. You know what I mean? When I go to the market, I have to get a shopping cart. Not a shopping cart, one of those electric scooters. Because I can't walk… stand up that long. My back starts hurting. You know, so. I have to pick markets that have those electronic scooters. It's just a lot that you have to be aware of, that you have to plan.

Other stressors included family obligations such as parenting or a family member's illness, which had shared meaning with another theme that will be reviewed later, the importance of their social support system. P6 explained stress brought on by her husband's illness in this way:

> Just recently my husband had a major heart attack and had to have a defibrillator put in and a pacemaker. And I got all wired over that, but I'm trying to get over that. But that's about it… I have an exercise bike that I put in my living room. I have no desire to do that to get up and go over to it.

Theme 6: Importance of Self-Efficacy

Participants also revealed a common awareness of their difficulty managing their chronic stress. Several participants described the importance of self-efficacy and their ability to have self-directed behavioral change. P8 described how self-efficacy related to the previously reviewed theme related to chronic stress:

> But as things change, a lot of stress comes into the life. Um, less activity. It just is coming back. I can't take stress… I had to work really hard for many years to get a little bit of self-esteem to think that I like myself again. And I feel like a loser when I gain the weight again. Because when you are fat people say means things to you. And I have had that all my life. Self-esteem for myself depends on trying to stay smaller.

P15 told his story of lower self-efficacy due to his weight affecting his self-esteem and overall self-concept:

> It actually affects how I feel about myself. I am self-conscious about my weight. So, you know, it's kind of hard to explain, but it affects how other people are looking at me. I wish I didn't give a damn, but you know, I know that people do.

P4 described the importance of self-efficacy in setting intentions and advocating for herself:

> It's kind of hard to feel heard, unless, you have to be a very strong advocate for yourself… I guess taking more control over my own medical health and keeping my records has definitely been helpful… Um, the most challenging part, let me think about that. To manage weight loss, it's a very intentional thing. You have to work towards it. You have to be very intentional about what you are eating. You have to be intentional about working out. You have to be intentional about, you know, your activity levels.

Another participant, P11, described a non-conforming experience with self-efficacy. She shared how much confidence she had in her ability to work towards weight loss despite her ELA exposures:

> I think it's mind over matter. I think you can talk yourself into anything and that goes with weight loss too. There are some many bad things that have happened to me, and I can get upset and cry over it. So, I just try to be positive… It's a mindset and you have to make it pleasant. You can't make it, "God I have to lose weight. I hate this." You have to say, I'm doing this to get healthy and weight loss is a side effect of that, great. I think until you're healthy, you are not going to lose weight. And I think people think it's the other way around I'm going to lose weight and then I'll be healthy.

P14 shared how his confidence in his ability to manage his health and led him to find resources for his weight treatment on his own:

> We went through trying to find things to help me lose weight. What is it? Contre, which my insurance wouldn't cover, and I couldn't get it any kind of way. I talked to the pharmacist at my clinic, and she couldn't get it. I'm a resource person. I'm very adept. I help other people get things. That's what I used to do at work. So, I winded up finding out how to get it.

P7 explained this as well as two previously related themes and subthemes, including the importance of provider's understanding of how physical health issues impact weight and communicating about weight, and eating as a coping mechanism:

But when obstacle hit me like health moods, that's when I start to eat and crying, because I think about family members, I wish were still here to help me and they are not. I think about that, so I try not to pick things that cause me stress, that's part of lupus…. The doctors tell me all the time weight is half the reason I am so stressed… Right now, I have a good doctor and he doesn't pressure me about that I need to lose weight. But he can't help but keeping telling me the truth each and every time. But it is really up to me to deal with the stress and change my food choices. Cut down on sugar. You know if I'm stressed out go out and talk a walk.

Table 3

Themes and Subthemes Related to Research Question #3 – Socio-environmental

Themes	Subthemes (if applicable)
7. Importance of support system in weight loss treatment	
8. Chronic stress related to economic status	8a. Stress related to joblessness 8b. Chronic stress due to financial limitations
9. Importance of provider being respectful	9a. Perceived weight stigma 9b. Perceived discrimination
10. Importance of having a good relationship with medical provider	
11. Importance of relatability	
12. Importance of encouragement	
13. Challenges to weight loss	
14. Recommendations for improved weight loss treatment by participants	

Theme 7: Importance of Support System in Weight Loss Treatment

The importance of social support was highlighted during many of the interviews. Many participants described wanting to be healthier for their family and friends, but also feeling that they support system can help their weight loss journey.

P11 highlighted this in this social support system in this way:

> If you have friends with the same goals, I think that will help you more. Because I always loved, sometimes after work after we did a class, we would just walk around the track where people could run, and we would just catch up.

Some participants described their weight affecting their social support system negatively as well. P5 stated, "I feel bad, as a father, not being able to do much with my kids and take care of myself." Other participants described their family members being concerned, as P16 explained, "My mother has come to me about it multiple times. Family members have come to me about it multiple times."

P7 described "Because I'm sick and I want to get out, I want to go out with my friends to club or something and I can't go. And I get depressed, and I'm stressed." P9 shared how her weight impacts her social functioning due to fear of how others perceive her weight:

> Thankfully just anxiety. It makes me feel 'how will people perceive me?' I don't like being asked questions, especially when I meet new people. So, I barely like meeting people. And I barely like looking at myself, especially in eating conditions. It's like self-esteem…And I believe mental health should go hand and

hand with physical health. So, I am also working more on mental health well-being.

P15 reiterated the negative impact of his weight on being able to socialize with his friends:

A lot of times I can't do things with my friends, because I don't want to hold them back, because I am a lot slower than they are. Even though we are the same age… It's just a lot. It affects your whole life.

Others described the importance of losing weight for their family, including P5: "I feel like I should be at less weight in order to be able to do more activities and just be very active. That would be good for my family." P6 described wanting to have more guidance not just for herself but to help her family as well: "I want to provide guidance for my family to be able to do but I can't even do that. You know, I need guidance in order to help others."

Several participants shared how disruptions in their social support system impacted their weight loss treatment. P8 described being divorced twice and other disrupted relationships with her brother and son. "I had finally went in and told her (her doctor) that it was really upsetting me. And that I had gone through a break-up with someone. And that was when my son and I are estranged."

Another concept that multiple participants mentioned was the difficulty of cutting back on food when we use it so much during social occasions. P14 described this and a previously discussed theme, eating as a coping mechanism:

> We use food to celebrate. We use food for sorrow. We use food for anger. We use food for everything. It's not like when you are an alcoholic you just gotta give up, like with the alcohol. You can't just stop eating period.

When I asked the participant if this was something she felt she could change, P14 responded, "Probably not, or I would have already."

Theme 8: Chronic Stress Related to Economic Status

Under this theme of how economic status impacted weight management treatment, two subthemes emerged: 8(a) chronic stress due to financial limitations and 8(b) stress related to joblessness.

Subtheme 8a: Chronic Stress due to Financial Limitations

P16 explained how stress and financial limitations may interrelate, and led to a previously described theme of eating as a coping mechanism:

> I do not make a whole lot of money. So, a lot of times it is hard to especially when I am running low on money, it's hard to eat healthy. It always winds up being cheaper, especially when I am here all day. It is cheaper just to go down the street to get fast food as opposed to um maybe getting something that is a little bit healthier for me. That's how it will affect me when I don't have money. When I have money I can eat, I eat fairly healthy, but that's part of it. It's financial. And then you are stressed because you are worried about paying bills. Sometimes the stress can lead to eating.

P2 described the financial limitations of balancing both healthy eating and medical treatment, which was a common sentiment:

> If you are not in a position to afford it or your insurance does not pay for it, then it would be challenging. At first, I could not afford both copays and to eat healthy but then I got another job where I can.

P11 explained a similar story in this way:

> It's a challenge now because with the pandemic, they raised my rent $80. It's scary to go to grocery store. Medications have gone up…But yeah, money, that's a big stressor… I'll put it this way, there are supplements that I really should be on that I have to put by the wayside. Right now, I should be taking a zinc supplement, because I'm usually low in zinc. Um, but I should be taking a multivitamin, vitamin D, vitamin B-12 for energy, a multi-vitamin, and fish oil for omega-3. You know, but I look and it's like you kind of juggle.

Three participants described their providers recommending cost prohibitive treatment options for them. P18 was prescribed a weight loss medication that was helpful, but was then marked up, "And then the medicine that did work, was recently since March 31st was marked up to $790 for 30 pills, and I no longer have access to it." P7 shared, "My doctor told me "'You can get liposuction.' And I'm like, 'Who's going to pay for that?'… Because I have tried everything else." In addition to treatment options, other cost prohibitive health-related ideas were also suggested. P8 explained:

> And she says maybe you should do Weight Watchers and maybe I should give that a try. And I'm on a very strict budget. So, that really doesn't help me a lot…. I do not want to talk to them about it… I was getting $500 a month in social security. And that was from my own earnings… With the money that I have I

> have to buy a lot more fattening type of foods. I cannot good pieces of meat. All the fresh fruits and vegetables. It does impact you.

Several participants had experienced disruptions in their health insurance over the years that had impacted their weight loss treatment. P8 explained how this made her feel:

> I had some very good insurance from an ex-husband and then he took that away. And then, I am semi-retired. I had Obamacare medical card and with that I do believe you get the worst medical care that you can get. You are not important. That is just the way it is. And now I just started getting Medicaid and I um and I am not even sure what that covers and what that does.

P7 shared how working part-time jobs with fluctuating hours impacts her weight loss management:

> It very frustrating when I see diet things that I think can help and I cannot get ahold of them. That's stresses me out as well… I do not have the money to purchase them. I don't work a lot of hours. My hours fluctuate.

Subtheme 8b: Stress Related to Joblessness

Under the subtheme of stress due to joblessness emerged, several participants described their how their unemployment impacted their weight management. P13 reported losing his job during the pandemic, "To begin with which was the Pandemic. As soon it started, I was not getting enough sleep, stressed, lost my job, and had anxiety." Other participants described joblessness negatively impacting their stress levels. P7 described:

> It stresses me out where I live in an area where there’s not a lot of jobs. It kind of makes you stressful. I live in a complex where there’s a lot of people where they are not clean in my apartment, and I just found out that my rent just went up $150 here. That’s kind of stressful. And I don’t know how I’m going to afford that especially being laid off. There’s all types of stress besides my weight. You know, each and every day I try to take it one day at a time.

P8 described this subtheme of his joblessness led to increasing weight, as well as a previously discussed theme of his physical health impacting his weight treatment due to chronic pain:

> I would probably say, years ago it was with my back, my lower back, the left side. I was in a lot of pain for many, many years. But I did do a lot of walking because I was younger. But I stopped working for a while and then I started my weight started escalating. I wasn’t running around as much, getting up early, getting ready for work, doing the daily grind. You know? And at any normal job you are probably standing or burning calories, or walking, and you know, just doing maybe productive work, like cleaning, or things like that.

However, one participant was non-conforming in that she described a dissimilar experience with joblessness. P6 shared feeling more motivated since retiring, suggesting that joblessness may be more related to the stress of financial limitations: “Since I retired, I’ve been thinking more and more about trying to get healthy and trying to do the right things.”

Additionally, a subtheme that will be reviewed below, Perceived weight discrimination also had shared meaning with the subtheme stress due to joblessness, as P18 explained: "I do really well in zoom interviews and then I show up, and you see their faces, and I do not get the job offer." P7 shared her experience with this:

> I remember there was a couple of positions I was trying to get, and I found out that they did not hire me because of my weight…. So, overeating and obesity overpowers your work experience. Yeah, that affected me a lot because I was trying to better myself and get a full-time job. I had been working part-time and wanted to get the benefits. I was so hurt.

Theme 9: Importance of Provider Being Respectful

Many participants highlighted the importance of providers being respectful while answering different interview questions. I grouped these parts of their stories into two subthemes: 9(a) perceived weight stigma and 9(b) perceived discrimination.

Subtheme 9a: Perceived Weight Stigma

Under the first subtheme of perceived weight stigma, several participants described feeling judged by the medical providers due to their weight, including people in their medical offices. P14 described how it feels at times in the primary care office, "Well they just look at you like your fat. You are wasting our time sometimes. If you just lose weight, everything would be fine… it's the way they act towards you." P17 shared this part of his story in this way, "I've been judged by my medical provider. He blames me for being the cause of it due to the fact that he warns me against my sugar level, but I disregard him."

When I prompted more information about what their providers do specifically to make them feel judged, P4 shared:

> I think the tone in how you're telling me I'm gaining weight is probably the not helpful part. I realize I'm wearing sweatpants because I've gained weight. I don't need you to tell me… I don't think that you're actually walking, because you gained weight. Or "I don't think that you're actually dieting, because you gained weight. You say something and they just naturally go, "No you are not." That skepticism.

Subtheme 9b: Perceived Discrimination

Under the subtheme of perceived discrimination, two participants described feeling discriminated by their providers due to the color of their skin. P5 stated, "Okay, my ethnicity is I'm Black and my provider is White. You have to explain more. You have to get in details maybe he is discriminating you at times maybe, but at first but now it's okay." P12 explained:

> Because of my race, in previous years, yes… it was this white doctor, and it was not me alone. I had some many people come tell me he treated them the same… He made me feel unmotivated and this is someone that would expect to motivate you but that is definitely not what he did.

Theme 10: Importance of Having a Good Relationship With Medical Provider

In addition to the importance of providers being respectful, another common theme revealed in the stories of these participants was the importance of having a good

relationship with their medical providers. P11 shared how important having a consistent and good relationship with her medical provider was:

> I have a great medical provider. Maybe you do not hear this from a lot of people. I think I started seeing him in 2002. Um, and I was starting to feel like crap, but I could not figure out why. And I thought, 'okay I'm gaining a little bit of weight in my stomach, but that first doctor was still doing a lot of foot surgeries, and I thought okay that's from that… He listens. Um, he sat down with me, and we figured out a plan…But I'm feeling, right now, and my doctor, he doesn't care about the number… But they know I take care of myself… He is very sensitive to how I feel about that. When you go to someone for 20 years, they kind of know you inside and out, and that's a nice feeling. He knows as this is a serious critical illness, and I think, one of the nurses once said, "He respects that you take really good care of yourself, and you can tell." It's kind of obvious with blood work and blood pressure. He's well aware of how I feel with that. I think he said, "It's out of your control with food. It's all chemical and hormonal." … I do the best I can.

She also related this theme to two previously discussed themes, co-occurring physical health problems that impact weight management treatment and the importance of self-efficacy as she described that her doctor knows she takes care of herself.

Another participant described having a good relationship with his provider. P15 shared this part of this story, while also touching on a previously reviewed theme of the importance of self-efficacy.

> He understands me. I understand him. I'm the one who makes the decisions. He gives me options and I make the final decision. I also come to him with things. You know I always do my research 24-7. Cause when I go see him, it's only for a half an hour… The most helpful thing is people being on my side. You know, being on my side. And if I wanted to try something and, um, they were there with me. And I think what is very important is that they do their homework as well. So that has been very helpful.

Some participants experienced inconsistency in medical providers in their community due to a shortage and having to rely on short-term contract doctors. P3 said: "I guess they have to change them because there are not a lot of doctors available in my town. You may go in and see one doctor one time and have another one another time." Two other participants described having trouble getting regular appointments during the pandemic.

However, most participants shared concerns that they did not have a good relationship with their provider which they felt negatively impacted their weight treatment. Several revealed that they felt their providers did not understand what their experiences were. P4 described, "Doctors don't really understand what I'm going through… It feels more stressful to talk about than it does then like get help." Other participants added on to this concept of the importance of understanding. P4 related her provider's lack of understanding her history of eating disorder in this way:

> I guess, but it is kind of hard to say that she understands. Like she cannot relate to that. And I'm not sure she really understands how she is supposed to treat that.

> But I try to keep a lot of empathy for the situation, because I know it has to be difficult for her. It's difficult for me but I am trying not to be mean about it. But I don't think that she really understands.

P16 described how witnessing his friend's weight-related health deterioration has impacted his perspective about his relationship with his medical provider:

> My best friend is 10 years younger than me, and he's got a million things wrong with him. He's diabetic. He's about to lose his leg. All this stuff. But he didn't have a relationship with his doctor. And everything happened quickly for him. And uh, you know, and now he's getting recommendations to dieticians, and he needs to exercise. But now, he's almost like, 'You know I don't even care anymore.' And that's rough. And I worry that, you know that my relationship with my doctor is not strong enough to withstand something like that, with him.

Theme 11: Importance of Relatability of the Provider

In addition to having a good relationship, participants also revealed the importance of feeling that their providers could relate to them. P14 described:

> I don't think he understands anything about weight loss… I need to find a fat doctor so they know what to ask, know what I'm going through… Oh they can't (relate). I don't anyone who has not had this problem can't. They just look at you like you can just change so much. And I've done, trust me. I've done that Like I said, I don't think anyone asks.

P10 shared the importance of feeling understood by her provider which she felt may improve if her provider was the same gender. In her story, she also revealed a previously discussed subtheme of perceiving weight stigma by her provider:

> They don't know me personally. They don't know what I'm going through… I don't know if he was still there, but he was a male. I don't know if there was a female here, but he was going to look down at me, like "You're just a fat woman." You know what I'm saying. I feel disgusted at my own self. That is a horrible way to tell someone that you are overweight. That I'm obese? That is a horrible word. That's like telling someone they're stupid. You can just say, you are overweight and need to lose a few pounds. It's dehumanizing me… If you just give them a label and not ask them why they are gaining this weight, like 'hey what is going on that you are getting this chunky.

P8 shared more about how important relatability is to her when being treated for weight management by a medical provider:

> I called and asked her once what she thought about me doing the Keto, and she said sure go ahead and try that. Well, now I read that that's really not good for older women. It doesn't give you what you need. Now when I go in, she's lost a lot of weight. She's a young lady, maybe late or early 30s. Somewhere in there.

Another participant described a non-conforming story, as she revealed that she felt her provider could relate to her. P2 explained:

> I feel like she understands the position I am in… because she is struggled with weight loss herself and I believe I look up to her because she has managed to her

> weight. I know she also struggled after giving birth. I think I am dealing with someone who has really lived my life.

Theme 12: Importance of Encouragement

Several participants described the importance of their provider being encouraging to them during their weight management treatment. P5 commented on this as well as previously discussed subtheme of awareness of the need for self-directed behavior when he shared, “He cannot fix these problems for me, but I don’t know. Maybe he could offer encouragement.” And P2 explained further:

> By being there to encourage me and see the progress I have made over the years, especially if I have been dealing with it for a number of years. Don’t just tell me what’s wrong, but when someone tells me this, it feels really nice… By telling me positive things and offering encouragement, not just focusing on what is wrong.

P17 contributed a similar sentiment:

> He can support my weight loss treatment by providing encouragement, having or suggesting a health care therapy that will encourage me to feel better and ensure I take my medication for improvement. Also, he should research more on how to make better improvement toward my weight loss problem.

Theme 13: Challenges to Weight Loss

As a narrative inquiry, I ended the interview by asking two broader questions about overall challenges and if there is anything else the participants would like to share, as is a common technique in narrative approaches (Clandinin & Connelly, 2000). This strategy led to a variety of answers to these questions, but two common themes were

obvious: (a) challenges to weight loss and (b) recommendations for improving weight loss treatment. Related to the challenges to weight loss, many participants revealed a lack of ability to control their food choices and intake, similar to another theme, the importance of self-efficacy. P2 described, “The most challenging thing is being able to eat the right amount of food when to say no and when to say yes and being able to avoid certain foods.”

Some participants described not knowing what could help them in succeeding in their weight management treatment. P3 stated, “I just don’t know how to help myself. And I don’t think they know either.” Other participants said that they do know what to do, such as P5 “I know what I’m supposed to do, but it is hard.” P18 shared:

> There’s lack of understanding that if I knew how to be skinny, that I wouldn’t do everything to do that. There’s a lack of understanding that I know how to diet. Most of my fat friends are diet experts. We know down to the milligram what we are putting in our mouth, even if it’s a Cheeto. Most of us haven’t seen a Cheeto or eaten one in 20 years.

Other participants shared their biggest challenge of weight management treatment was the difficulty with maintaining their weight loss. P14 shared:

> I have been obese my whole life. I have been to so many doctors for it. I don’t know. I have done everything there is to do, short of having my mouth wired shut. When I was younger, I went to a Weight Watchers for Kids. Then I tried every diet in the world that I was prescribed, Nutrisystem, Weight Watchers, Jenny Craig. I have a lap band that is disconnected and not working. Whatever else, the

> Y, exercise programs, umm, keto, low carb, low calorie… umm. I think you name it I have probably done it… I would lose it and then gain it back. They all were when I was doing them. Then as soon as I quit and went back to real life, I gained them back… you do gain it back…. I think most of these people know exactly what to do or not to do it. It's just the fact of doing it…It is very hard to stay on a no carb diet for the rest of your life. It would be very hard to only drink water for the rest water for the rest of your life. It would be very hard to not have a piece of cake at a graduation party. Um, so every day is a challenge.

Others had difficulty with maintaining weight loss despite successes, such as weight loss surgeries. P8 described it this way, including previously discussed subtheme of eating as a coping mechanism:

> I've gained weight again. Bounce up and down. And, you know, my blood is a tiny bit high, and my diabetes is up. I got up to 274 pounds and things were starting to happen. I went and had a lap band put in. Um, and I lost almost 100 pounds and for 10 years I pretty much kept it off, working out and everything. Then I got the esophageal problem and they removed everything out of the lap band. I would not let them take it out of my body. It is like a crutch for me. But over these last two years, I have gained about maybe 35 to 40 pounds. So, things are starting to act up again. I eat when I'm sad and stressed.

P4 described the challenge of slow progress, "It's very slow and it's something that I don't really like. Small steps in the right direction. I'm still going in the right

direction. And I try to be positive about it." P5 reiterated this, "It's slow but its progress." P1 shared, "It is not drastic, but I can see progress." P15 shared:

> It is going slow, but I have to realize something. I didn't gain this all overnight. It's going pretty well. It's just at a stand-still right now. When I started revisiting weight loss surgery, I was 352 pounds. Now I'm down 315, so it's slow progress, but I feel like it's working.

P16 explained his biggest challenge is a sedentary lifestyle:

> My sedentary lifestyle. I will be quite honestly with you... If I do it, it works. If I do weights, it works. Everything works. The problem is that I live mostly a sedentary lifestyle... I just live a sedentary lifestyle. I need to get out of my sedentary lifestyle and start moving. That's really what I need to do. I need to move. That's my personal problem. And I eat too much. I do eat too much, but there are people right now to me eating just as much as I am.

Theme 14: Recommendations for Improved Weight Loss Treatment by Participants

Many participants responded to the "Is there anything else you would like to add?" with suggestions for improvement to weight loss treatment. Even though, at no time did I specifically ask for recommendations, many participants shared insightful suggestions that they feel would help them. P6 recommended, "I mean even if they can just send out a newsletter, giving you hints about what to do, or even just to be able to pick up in the office. But there's nothing like that."

P7 shared her suggestions and one that also related to a previously discussed theme, having a person-centered treatment plan:

> They can generally check on me and gave me a weight loss plan. They can also set me up with therapy and go to gym and go to exercise classes. They can probably set up teleconferences with me. They can probably do that. And pretty much go to dietician seminars… seminars where we can learn what foods or what can we do to replace our habits. Because a lot of people have different ideas out there and I like to hear what other people are saying about the topic.

P10 shared a common sentiment from other participants who reported that they would like to know more about contributing factors, such as comments made in their introductory email for their reasons for wanting to be part of this study:

> Be a little more concerned and caring for my weight loss program. Maybe help me with my diet. Give me some type of substitutes, on what I should buy and what I should not, at the store. Give me a paper pamphlet. Here… here's your to do list. And maybe have me come in every other month. Because a lot of people don't let to go to doctors, because they're embarrassed… So, they need to give you a little more information about what the problem is, even information about is contributing to the weight.

P18 expressed her frustration with the lack of not knowing more about contributing factors in this way:

> So, I read a really helpful book written by a physician in 2012, that said obesity is not a root cause. It's a symptom. And obesity is the symptom of something broken. And I cried. I cried hard. Because I have been told over and over again that I need to lose weight to be healthy. That I cannot be healthy fat.

P8 described several recommendations and revisited the themes of the importance of communication and referral to mental health provider:

> You know I would like it if they even ask you about it. Seeing you more often would be very helpful to talk to you and see how you are doing. And I think, it would be very important to send someone to a psychologist along with it. Because if we could do it on our own, we would. I think you need both of those.

P16 recommended more time with patients and reiterated the themes of the importance of consistent communication and having a good relationship with their patients:

> Hopefully doctors today can establish more time with their patients… I think doctors, its different than back in the 80s and maybe even in the early 90s. Doctors had special relationships with their patients. It's almost like they were family. I don't feel like that with my doctor. So, I think they should do that… I guess it's just the lack of explanation or talk. I mean communication would be the word that I am looking for… Cause I'm sure if I brought it up, it'd be like, 'yeah you need to lose some weight.' I'm sure I'd hear it, umm, cause we talk about everything else. So yeah. Maybe it is. That might be it. It's uncomfortable. And I don't want it, that to be what kills me. I don't. I don't want it to be what kills me, but at the same time, it's the way it's looking. If I don't change.

Where thematic analysis considered all transcript data, the narrative approach allowed me to identify key part of the stories repeatedly told and patterns of new meanings related to the categories that were embedded in the research questions,

including physical health, psychological, and socio-environmental elements of their stories. I combined these commonalities to produce a general story that represented and was congruent with the lived experiences of these participants. This overall narrative was repeated across the individual stories. As called for when using the narrative approach, I attempted to retell the 18 stories told by these participants with ELA exposure in weight loss treatment as one over-arching narrative that captured the context of their personal experiences and in the framework of their social setting (Clandinin & Connelly, 2000). The story of individuals with ELA exposure in weight loss treatment demonstrates the long lasting physical and mental health challenges that contribute to living with chronic stress, increased by the lack of social supports, financial/employment insecurity, and overall stress from living with obesity/overweight. Their story also includes the recognition that self-efficacy deficits, eating as a coping mechanism, and the perceived disrespect from their medical providers are common elements of their experiences and pose challenges to their weight loss treatment.

I reviewed discrepant and non-conforming responses within each section reviewing themes. Compared to other participants, P7 described more awareness in the connection between her ELA and chronic health and overweight problems. Additionally, P11 described a non-conforming experience than other participants, as she explained more hope with managing her weight and physical health problems with a more positive mindset. P6 described feeling more motivated since retiring, while the other participants felt not working negatively impacted their weight treatment. Unlike other participants, P2

shared that her provider could relate to her weight loss management since she was a mother and had struggled with losing weight after having her child as well.

Summary

In this chapter, I reviewed the results related to each research question, which were each informed by the biopsychosocial model (Engel, 1992). The first research question sought to explore how the participants with ELA exposures described their stories related to their experiences with weight loss treatment, specifically related to their physical health. This research question informed the first interview question and brought forth the more consistent and conforming answers from the participants. The overall first theme was co-occurring physical health problems that impact weight management treatment. There were two distinct subthemes that fell under this theme: (1a) physical health problems negatively impact weight loss and (1b) overwhelmed by managing both weight and physical health problems.

A second theme under this first research question related to physical health was the importance of the provider developing a person-centered treatment plan. Three subthemes under this second theme were: (2a) the importance of provider's understanding of how physical health issues impact weight, (2b) the importance of referrals to other providers, and (2c) the importance of consistent communication with provider about weight.

The second research question sought to uncover how these participants told their lived stories about their experiences with weight loss treatment, specifically related to their mental health. This research question illuminated a number of themes and

subthemes. The first theme that applied to this research question that related to psychological health was theme number 3: the importance of recognition of mental health in weight loss treatment for this population. Due to the complexity of this issue, I divided this overall theme into five subthemes: (3a) importance of provider's recognition of and stress from co-occurring physical and mental health issues, (3b) importance of referral to mental health counselor, (3c) weight management negatively impacted by mental health, 3(d) awareness of connection between mental health and weight, and (3e) awareness of ELA impacts.

Participants also described other themes related to how their psychological health and weight loss treatment relate. I selected theme four, eating as a coping mechanism, from several codes such as eating to cope with sadness, eating to cope with anxiety, eating to cope with depression, and eating to cope with stress. I selected theme five, chronic stress related to weight, from a group of codes and categories that related to stressors caused and contributing to the participants' weight. Theme six grouped concepts related to the importance of self-efficacy, which included the importance of self-concept and self-esteem.

I designed the third research question to learn how these participants described their stories during weight lost treatment, related to any socio-environmental experiences. The importance of support system in weight loss treatment was theme number seven. Socioeconomic factors were brought up frequently and grouped into theme eight: chronic stress related to economic status. Two subthemes fell under this theme: (8a) chronic stress due to financial limitations and (8b) stress related to joblessness.

Several themes related to interactions and relationships with their providers. Theme nine was the importance of provider being respectful, which I divided into two subthemes: (a) perceived weight stigma and (b) perceived discrimination. Theme ten related to the importance of having a good relationship with their PCP. Theme eleven included a group of categories about the importance of relatability of the provider. I selected theme twelve from a group of codes that related the importance of encouragement. The final two themes related to broad questions that I asked at the end of the interviews: (13) challenges to weight loss and (14) participants' recommendations for improved weight loss treatment.

In Chapter 5, I will review the study's purpose and approach. Additionally, each of these themes will be compared to the literature reviewed in Chapter 2, and the findings will be interpreted to explore how they support, extend, confirm, or disconfirm the existing research related to these topics. I will also review the limitations to this study, recommendations for additional research, and implications for positive social change that these findings might contribute.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

An important part of narrative inquiry is learning the inner experiences of individuals through hearing their stories. I selected narrative inquiry to learn the personal stories of how the ELA-exposed population experienced weight management in their primary care settings, specifically related to aspects of their biological, psychological, and socio-environmental functioning. I conducted this study to gain a better of understanding of this population’s experiences that can improve screening, prevention, and intervention efforts in treatment.

The key findings consisted of 14 themes: co-occurring physical health problems that impact weight management treatment, the importance of the provider developing a person-centered treatment plan, the importance of the recognition of mental health in weight loss treatment for this population, eating as a coping mechanism, chronic stress related to weight, the importance of self-efficacy, the importance of the support system in weight loss treatment, chronic stress related to economic status, the importance of the provider being respectful, the importance of having a good relationship with the provider, the importance of relatability of the provider, the importance of encouragement by the provider, challenges to weight loss, and finally the participants’ recommendations for improved weight loss treatment.

Interpretation of Findings

The literature reviewed in Chapter 2 revealed a complex set of interrelated pathways between ELA exposure and adult psychosocial and physical health problems (Berens et al., 2017; Campbell et al., 2016; Felliti et al., 1998; Ferraro et al., 2016; Herzog & Schmahl, 2018; Imperatori et al., 2016; McEwen et al., 2016; Mundi et al., 2021; Murphy et al., 2020; Wall et al., 2019). I sought to expand on these findings to learn more in-depth, contextualized experiences of ELA-exposed individuals in treatment for overweight/obesity. Using the biopsychosocial model provided structure to organize the participants' stories as they related to the research questions while also honoring the complexity of the participant's experience (Engel, 1992). This theoretical framework proved to have been an ideal fit for exploring this research topic as the participants described many co-occurring and interrelated factors in their stories about their weight loss management.

Research Question 1 - Theme 1: Co-Occurring Physical Health Problems That Impact Weight Management Treatment

This study's findings support and confirm many of the previously reviewed studies and extend the knowledge of the ELA-exposed population's experiences in weight management treatment.

Subtheme 1a: Physical Health Problems That Negatively Impact Weight Loss

Beginning with the first theme, co-occurring physical health problems that impact weight management treatment, most of the participants in this study described co-occurring physical health problems that negatively impact their weight loss treatment,

which confirmed existing research results in general populations (Baker et al., 2015; Walker et al., 2018). Most participants in this study confirmed physical health issues that included cancer, diabetes, chronic respiratory disease, high blood pressure, obesity, and several different autoimmune disorders, all of which they described interfered in some way with their weight management. This finding is consistent with the results of the first seminal study linking ACEs with increased risk of several leading adult causes of death, including cancer, diabetes, heart disease, stroke, chronic respiratory disease, alcohol abuse, and obesity (Felitti et al., 1998).

All the participants who reported chronic physical health problems described in their stories that these illnesses negatively impacted their weight loss treatment in some way, which previous research has shown with more general populations (Walker et al., 2018). Seven of the participants in this study described chronic pain negatively impacting their weight management treatment, which previous research has shown in more general populations (Baker et al., 2015). Five participants described believing that their older age negatively impacted their ability to lose weight. P7, P11, and P18 spoke about medications that may impact their weight loss treatment, and P7, P15, and P18 described not being able to exercise due to their physical health problems. Each of these findings support previous findings that demonstrate how physical health problems can negatively impact weight loss treatment in more general populations (Baker et al., 2015; Walker et al., 2018). Previous research has suggested that patients feel that their providers do not take into consideration how other contributing factors contribute to their weight problems (Bloom et al., 2018), which participants in this study echoed. P7, P12, and P15 described

feeling that their obesity was either the cause or contributed significantly to their physical health problems.

Subtheme 1b: Overwhelmed by Managing Both Weight and Physical Health Problems

The participants consistently described another subtheme in these stories of being overwhelmed trying to manage both their weight and their physical health problems, such as diabetes or chronic respiratory problems. Five participants reported that their intensive medication regimen was overwhelming or stressful. Three participants, P4, P6, and P18, described a delay in their physical health diagnosis, such as thyroid problems and cancer, that negatively impacted their weight loss treatment. These findings were not found in previous research and add to the understanding of what unique challenges this population may experience in their weight loss treatment.

The previously reviewed literature found elevated risk of obesity increased across the lifespan in this population (Felitti et al., 1998; Mundi et al., 2021; Rehkopf et al., 2016), which this study confirmed as several participants described struggling with obesity since childhood. A French study linked emotional abuse and neglect to developing adult obesity and binge eating disorder (Quilliot et al., 2019), and in another study, emotional abuse was shown to increase emotional eating (Michopoulos et al, 2015). Campbell et al. (2016) found history of sexual abuse and verbal abuse were most correlated with adult obesity. While I did not design my study to explore correlation, it was interesting that the only two examples of childhood abuse participants spontaneously volunteered were sexual and emotional abuse even though I did not ask any direct questions about trauma histories. Both participants self-reported meeting criteria for

obesity; however, neither seemed to connect their abuse to their weight struggles. The lack of awareness of the connection between sexual abuse and other ELAs and obesity is particularly concerning when one recent large population study of 10,894 adults in the United States demonstrated that sexual abuse in childhood were 27% more to experience obesity and 72% more likely to experience extreme obesity (O'Neill et al., 2018).

Research Question 1 - Theme 2: Importance of Person-Centered Treatment Plan

The stories summarized above related to physical health problems are consistent with what is known about the long-term, interrelated, and cumulative effects of ELA on the body (Felliti et al., 1998). Despite most of the participants reporting these potential adverse health effects, many of them described feeling that they did not have a personalized treatment plan that incorporated their individual needs. This finding is consistent with previous research in more general populations that found that patients do not feel that their providers see them as an individual or whole person, but that they are more singularly focused on their weight without considering how other issues may be affecting it (Bloom et al., 2018).

Subtheme 2a: The Importance of Their Provider's Understanding of How Their Physical Health Problems Impact Their Weight

Many of the participants' stories included statements relating to the first subtheme under this theme of the importance of their provider's understanding how their physical health problems impact their weight loss. They described frustration with the standardized guidance of providers telling them to lose weight or watch what you eat. They shared how unhelpful this feedback was, especially when they felt other physical or

mental health issue may be hindering their weight loss treatment. P8 explained that providers told her to eat more salads and exercise would not work but being given more personalized guidance and emotional support would be more helpful. Their stories included as a consistent message that they wanted a plan or detailed instructions, which aligns with other research findings (Bloom et al., 2018). Like this previous study, this study's participants described wanting clear weight loss goals, specific weight loss plans, detailed exercise plans, and specific diet or meal plans, including what to eat and what not to eat (Bloom et al., 2018).

Subtheme 2b: The Importance of Their Provider Making Appropriate Referrals to Other Providers

The second subtheme relating the importance of referrals to other providers, participants expressed the need for their providers to refer them to weight loss specialists or other appropriate providers such as dieticians or nutritional counselors. This finding is consistent with the previous literature in more general populations which demonstrated that patients do not feel that their primary care providers are adequately trained to support them in their weight loss treatment (Bloom et al., 2018), as well as the need for coordination and collaboration with other specialists and adding expertise to the team (Royall et al., 2017). Several the participants explained they felt they needed a weight loss team. This finding supports previous research in more general populations that demonstrated the need for a team-based approach to weight loss including other medical professionals specializing in what the individual needs (Bloom et al., 2018). One participant, P6, on her own found a weight loss wellness center for cancer patients at the

same medical center after being treated for breast cancer. This example speaks to the importance of providers having awareness of the need for a more person-centered treatment plan.

Under the subtheme relating the importance of consistent communication with the provider about weight, several participants described wanting their providers to initiate the topic of their weight and talk about it more often, which aligns with Bloom et al. (2018). One participant, P16, shared that his provider does not bring it up and worries that this may be due to him inadvertently intimidating her. He described wanting the provider to be more "proactive versus reactive." This finding supports other findings in more general populations that providers are apprehensive about bringing up the topic of weight, because they fear offending their patients (Walker et al., 2018).

Subtheme 2c: The Importance of consistent Communication Between Them and Their Provider About Their Weight

The importance of talking about weight more often before it gets to the point of obesity was a common subtheme. P6 shared her frustration with reading advice about walking a half a mile a day for weight loss in the notes, but the provider never mentioning weight in the appointment. P15 was one of only two participants who reported that he had a weight loss team, and he explained how using My Chart to message his provider about his weight management treatment was helpful. Another previous finding in more general populations related to the importance of communication was the importance of hearing similar messages about weight loss from all medical providers (Baker et al., 2015). No participant in this study stated this directly, but P3,

P12, P14, and P18 all reported being confused about the different advice their providers have given them.

Research Question 2 - Theme 3: Importance of Recognition of Mental Health in Weight Loss Treatment for This Population

Most of the participants described varied experiences with mental health symptoms, which is consistent with previous ELA literature. The existing research has demonstrated significant and long-term detrimental effects of ELA on adults, including alterations in the neurotransmitter metabolism and functioning that regulate mood and emotional regulation (Berens et al., 2017; Herzog & Schmahl, 2018; McEwen et al., 2016) and increased risk of psychiatric disorders (Campbell et al., 2016; Imperatori et al., 2016; Murphy et al., 2020). However, this study contributed improved understanding into these relationships, as the participants shared their in-depth storied experiences about how their mental health symptoms impacted their weight loss treatment.

Subtheme 3a: The Importance of Provider's Recognition of and Stress From Co-Occurring Physical and Mental Health Issues

An over-arching subtheme that presented itself under this main theme was the importance of the provider's recognition and awareness of the co-occurring mental and physical health conditions that this population experiences. Depressive symptoms were the most cited mental health symptoms in this study that impacted the participants' weight loss treatment, including feelings of sadness, low motivation, sleep problems, and feelings of hopelessness. This finding supports other research that has found predictive relationships between early life maltreatment and the development of adult depressive

symptoms and weight control problems (Hanson et al., 2016; Miller & Lumeng, 2018; Murphy et al., 2020; Schneiderman et al., 2021; Sokol et al., 2019; Stapp et al., 2020; Windle et al., 2018). Many of the participants described feelings of hopelessness associated with their weight loss treatment, which supports previous research that demonstrated adaptations in neurological functioning of ELA exposed adults that can lead to lower motivation, dysregulation in responsiveness to rewarding stimuli, and negative affect such as perceptions and feelings of hopelessness (Hanson et al., 2016). Most participants referred to increased eating habits when feeling sad, which I will discuss in more detail under the next theme, eating as a coping mechanism.

Subtheme 3b: The Importance of Referral to Mental Health Counselor

Despite these findings, only two participants had been referred to mental health counseling, the second subtheme. Only one participant had been treated for depression with an antidepressant. Most of the participants shared that their providers did not ask direct questions about how their mental well-being was associated with their physical health and weight problems. P16 answered a question directly about childhood trauma on his intake form, which he answered openly that he had been sexually abused as a child. He reported that his provider did not discuss this with him, despite his life-long struggle with obesity, and the provider made no mental health referral.

Some of the participants felt their physical health problems contributed to their mental health symptoms. However, most of them were not referred to mental health counseling, which may explain why no participant cited other commonly linked mental health disorders with ELA exposure, such as PTSD, ADHD, mood disorders, and

substance abuse disorders (Murphy et al., 2020). These findings extend the understanding of how physical and mental health may influence each and negatively impact weight loss treatment for this population, which has not been clearly demonstrated in any other known study.

Subtheme 3c: Weight Management Negatively Impacted by Mental Health

A third subtheme under this theme was the awareness that their weight loss treatment was negatively impacted by their mental health symptoms. Many of the participants told stories of long-term mental health impacts that they feel impacted their weight loss treatment and described that their providers seemed unconcerned. P3 and P14 described struggling with any weight loss plan due to inability to remain focused on it. This finding supports previous research that links executive functioning and symptoms of ADHD with ELA which contributes to higher BMI over the lifespan (Windle et al., 2018).

Subtheme 3d: Awareness of Connection between Mental Health and Weight

Several participants described anxiety, which has been shown to be correlated with ELA exposure in previous literature (Murphy et al., 2020). However, this was the first known study to explore how anxiety impacts weight loss treatment in ELA-exposed adults experiencing overweight or obesity in this way. Despite this gap in the overweight/obesity-ELA research, most of the participants demonstrated awareness that their anxiety led to challenges in their weight loss treatment, which led to the fourth subtheme: participants' awareness of the connection between their mental health symptoms and weight. Eight participants described eating to soothe their anxiety or

stress. P5, P7, and P8 described a feedback loop between their anxiety and eating, where they ate more when anxious, which then led to increased anxiety and stress. P6 and P12 described lower motivation to work on their weight loss when stressed. P9 stated that she felt treatment for anxiety would benefit her weight loss treatment.

Subtheme 3e: Awareness of Impacts of ELA

The fifth subtheme that emerged in the participants' stories, was the awareness of impacts of ELA on their mental health and weight loss treatment. This study was the first to explore this topic in this way and contributed an improved understanding to what was already known. Previous research has demonstrated that adults with ELA exposure are more likely to report negative experiences with their medical provider when discussing weight loss treatment (Mundi et al., 2021). However, most of these participants described confusion about how their ELA exposure may continue to affect them. Only two participants, P1 and P7, were aware that there was a possible connection between their ELA exposure, their obesity, and their mental health. Most participants considered this during the interview process, and some commented that they would like to learn more about the long-term effects of their ELA exposure as it relates to their weight control problems. P10 and P18 expressed that they would like to know more about contributing factors to the challenges in weight loss treatment that they have experienced.

The two participants that had been to counseling confirmed that it was helpful for their mental health, but also confirmed previous research that it was ineffective in helping them progress in their weight loss treatment (Walker et al., 2018). This finding suggests that further understanding is needed to determine the type of interventions that may be

more efficacious therapeutic interventions for treating weight loss in this population. One study previously demonstrated that providers do not fully understand how mental health professionals can help weight loss treatment (Hayes et al., 2017).

Research Question 2 - Theme 4: Eating as a Coping Mechanism

Another commonly occurring theme told in their stories, were the participants descriptions of using food as a coping mechanism. Eight participants described eating to cope with stress or anxiety. Three reported eating to cope with sadness, and two reported eating to cope with depression. Two participants described using food to cope with emotions, and four participants reported eating when not hungry. One participant, P7, used food to cope with sleep problems, sharing that she ate in the middle of the night to help her fall back to sleep. These findings were surprising since there were no direct interview questions about eating behaviors or coping. These findings also are consistent with previous research outside of this population that demonstrated the correlations between emotional dysregulation, maladaptive coping strategies, and emotional eating (Ansari et al., 2018; Hemmingsson, 2018).

Additionally, participants described choosing unhealthy food when stressed, and most reported feeling chronically stressed for a variety of reasons that I will explain in the following themes. These findings are consistent with previous research that has shown that individuals living with stress related to excessive weight may attempt to reduce this stress by over-eating or choosing unhealthy foods (Tomiyama, 2019). Another study found adults with ELA exposure consumed fewer fruits and vegetables (Windle et al., 2018). A busy mother of four, P4 described often reaching for a sugary

coffee drink after a stressful day of managing her family. P8 confirmed wanting cookies or chips “to soothe” herself when she has a stressful day at work.

Additionally, emotional dysregulation and overactive stress responsiveness are two of the more common potential long-term impacts ELA exposure due to alterations in brain regions these and the reward network that increase risk of emotional eating (Osadchiy et al., 2019). Neurocognitive deficits have been found in areas of the brain associated with executive control and self-regulation, including reduced volume in the prefrontal cortex area involved in controlling food intake (Hawkins et al., 2020; Luo et al., 2020). Despite the extensive literature linking lower self-regulation and obesity in this population (Hemmingsson, 2018; Hanson et al., 2016; Mundi et al., 2021; Osadchiy et al., 2019), many of the participants described their lack of control over their eating habits with limited understanding of what may be contributing to them. P16 was the only participant that described suspecting that his stress eating was related to his history of childhood maltreatment. This theme over-lapped significantly with the next theme, chronic stress related to weight, as P12 described not having the motivation to work on his weight when he is already stressed and overwhelmed.

Research Question 2 - Theme 5: Chronic Stress Related to Weight

Each participant described experiencing chronic stress. They reported various stressors, which is consistent with previous research that demonstrated adults with ELA exposure had increased risk of multiple and cumulated stressors across the lifespan (Cuevas et al., 2019). Examples of these stressors included limited social support resources (Font and Maguire-Jack, 2016; Sokol et al., 2019), adverse life events in

adulthood (Cuevas et al., 2019), sleep problems (Windle et al., 2018), financial strain (Cuevas et al., 2019), and overall chronic stress from living with overweight (Tomiyama, 2019). I will review social support and economic stressors in more detail further on in this chapter as they were additional themes.

However, this study's findings confirmed these existing findings, as many of the participants' described the stress of living with overweight or obesity. P15 explained how he wished he did not care how people looked at him, but that he did. Other participants described stress from being able to find clothes or dress the way they want. Existing research has demonstrated how living with overweight or obesity and weight stigma, can led to increased chronic psychological stress (Tomiyama, 2019). There is a well-established link between early life chronic psychological stress and lifelong biological embedding and allostatic load, which alters the areas of the brain and body involved in responding to stress (Berens et al., 2017; Miller & Lumeng, 2018). The cumulative effect of chronically elevated stress hormones in the developing brain and body in childhood leads to dysregulation in the autonomic nervous system and certain areas of the brain that result in heightened perceived threat assessment, response, and emotional reactivity (Berens et al., 2017; Duffy et a., 2018; Miller & Lumeng, 2018). These alterations impact neuroendocrine functioning dysregulation in neurotransmitter metabolism and production, including serotonin, dopamine, and glucocorticoid receptors which regulate stress and mood (Berens et al., 2017). These participants unknowingly are likely being impacted by neurobiological and behavioral responses to stress that put them at risk to physical health, mental health, and overweight/obesity problems (Felitti et al., 1998;

Miller & Lumeng, 2018), while at the same time living with increased risk of stressors across the lifespan (Cuevas et al., 2019; Tomiyama, 2019).

Many of participants described wanting their providers to understand the chronic stress that they live with. P15 described how his obesity limits his life adding to his chronic stress, such as having to plan his trips to the grocery store to make sure they have an electric chair to be able to shop. Other participants described resistance going to their providers due to the way they are looked at. This finding is consistent with previous research, which has shown that patients do not feel that their providers consider the stressors that impact their weight management (Bloom et al., 2018).

Research Question 2 - Theme 6: Importance of Self-Efficacy

Another consistent theme that most participants in this study described in their stories was the awareness that they struggled with managing their stress or the obstacles in their weight loss treatment. P8 stated, "I can't take stress," and how this negatively impacted her self-esteem. P7 reiterated this finding when describing how her weight caused her stress. However, even with the awareness that she can do other things like take a walk when she is stressed, she feels she cannot. Many of the participants shared related stories about their self-esteem and overall self-concept being affected by their lack of ability to lose weight. This finding is consistent with existing literature on the known negative effects of living with chronic and cumulative ELA, such as negative affect and self-perceptions (Hanson et al., 2016; Hymowitz et al., 2017).

Some participants shared that they believed that they needed to be strong advocates for themselves. P4 described how when she began to advocate for herself, she

felt more heard and received more helpful advice. P14 described his confidence in his ability to overcome his insurance not paying for his weight loss medication by contacting the pharmacist himself to find another way to get it. This finding is consistent with what patients have described in previous research about the importance of advocating for themselves for both time with their providers as well as available resources (Bloom et al., 2018).

These increased feelings of personal control and self-efficacy have previously been shown to influence weight loss treatment success (Annesi, 2018; Annesi, 2020). Some research framed this concept as an internal versus an external locus of control, which demonstrated decreased prognosis for ELA exposed women in weight loss treatment (Walker et al., 2018). Other research has shown that overall negative self-perception was a key mediator between childhood emotional abuse and obesity risk (Hymowitz et al., 2017). These findings confirm the importance of self-concept and self-efficacy when treating this population.

P11 shared a non-conforming story about her self-efficacy helping her manage chronic physical health challenges that led to chronic adrenal problems that led to weight gain. She stated, "I think it's mind over matter." She described feeling confident in her ability to manage her weight and take care of herself despite still not being where she would like to be in her weight loss treatment. "There are so many bad things that have happened to me, and I can get upset and cry over it. So, I just try to be positive." This finding is consistent with a Turkish study that found that self-efficacy and internal locus of control increases psychological resilience from childhood trauma (Türk-Kurtça &

Kocatürk, 2020). This previous study did not relate these factors to weight control issues, suggesting that the ELA population may experience the same or similar resiliency potential, which may then inform more trauma-informed healthcare approaches.

Previous research supports this approach, as Annesi (2018) found that overall self-efficacy and health related behaviors such as nutrition and exercise, can be improved by teaching goal setting and self-regulation skills. Annesi (2020) found that increased self-efficacy, self-regulation, and overall mood predicted successful weight loss treatment for women in the first 6 months. While these studies were not exclusively ELA-related, they relate to key concepts previously reviewed about the well-researched long-term risk of negative mood and self-dysregulation in the ELA population (Felitti et al, 1998). These findings combined with the participants stories related to their chronic stress and feelings of defeat in coping with this stress demonstrate the importance of incorporating addressing self-efficacy in weight loss treatment for the ELA population.

Research Question 3 - Theme 7: Importance of Support System in Weight Loss Treatment

The importance of social supports was another theme that the participants included in their stories. Many of the participants described wanting to be healthier for their family and friends, which contributes new understanding to the ELA weight loss experience. P5 and P16 described feeling guilty that their families were concerned about their weight. P5 described wanting to be more active with his kids. P6 shared that she would like to learn healthier behaviors so that she can share them with her family members.

P7 explained how her physical health limited her ability to socialize with friends which left her feeling more depressed. P15 described how his physical health and obesity limited his ability to go out with friends due to mobility limitations. While previous research has linked ELA to adult social isolation and deficits in social support resources (Salas et al., 2019. Sokol et al., 2019), these participants explain how physical health and obesity itself may be interrelated.

Several of the participants described disrupted social relationships, including with life partners and their adult children. This finding supports previous research that demonstrated increased risk of cumulative relationship stressors in across the lifespan in the ELA population including loss of peer relationships (Cuevas et al., 2019; Sokol et al., 2019). As P7 described, limited social supports can lead to depressive symptoms, which is consistent with previous research that has demonstrated female young adults with histories of childhood maltreatment were at risk of internalized symptoms such as anxiety and depression and overweight and obesity due to fewer social supports (Schneiderman et al., 2021). The frequency of divorce and separation was also seen in this study as previous research has shown the ELA population are more likely to be divorced or separated (Font and Maguire-Jack, 2016).

Several participants also shared the value of incorporating social supports into their weight loss treatment. P11 gave examples of successfully combining social time with friends with a walk around the track or taking a class after work. This finding confirms previous research that interviewed physicians from various roles who reported recognizing the importance of incorporating a patient's support system into their weight

loss treatment (Baker et al., 2015; Royall et al., 2017; Walker et al., 2018). Quality of peer friendship was found to be protective of developing higher BMI in all age groups (Sokol et al., 2019). The results of this study suggest that exposure to early life maltreatment may limit the social support resources that are otherwise potentially protective of the development of overweight across the life span.

Research Question 3 - Theme 8: Chronic Stress Related to Economic Status

Subtheme 8a: Chronic Stress due to Financial Limitations

Many participants described chronic stress related to two subthemes: financial limitations and stress related to joblessness. Under the first subtheme, most participants described financial stress, which is consistent with previous research that has shown this population is at increased risk of financial stressors (Cuevas et al., 2019). Several participants described not having enough money to buy healthier foods which is consistent with previous research findings (Walker et al., 2018). P16 shared how challenging it is to eat healthier when he is low on money, but usually must eat fast food during these times.

Recent rising inflation rates may have impacted the results of this study, as several participants described stress related to recent, significant rent, food, or medication price increases. P7 described just finding out that her rent will go up $150, and P11 plans to come out of retirement and return to work. These experiences added additional stress to these participants, which they described will impact their ability to invest money in healthier eating, copays, or medications/supplements for their weight loss treatment. This is a new finding that may be related to current economic experiences post-pandemic.

Several participants described having to balance eating healthier with other costs related to their weight management or treatment, such as copays and supplements. P7, P8, and P18 shared examples of their medical providers recommending weight loss treatment options that were cost prohibitive for them, such as expensive weight loss programs or meal delivery services. P18 gave the example of her provider recommending a weight loss drug that cost $790 for 30 pills, which she was not able to continue purchase. These findings contribute new more in-depth understanding to the literature of what was already known about the risk of socioeconomic disadvantage in this population (Ferraro et al., 2016; Font and Maguire-Jack, 2016).

Several participants described confusion about what their insurance covered and if their insurance would pay for any referrals such as dieticians or counselors. This finding is consistent with previous research, which found both patients and providers had questions about if insurance would pay for referrals to nutritional counseling or dieticians (Baker et al., 2015). Also related to insurance, several participants described challenges maintaining their insurance plans consistently due to divorce or joblessness, which leads into the next subtheme.

Subtheme 8b: Stress Related to Joblessness

Many of the participants described difficulty securing or maintaining full-time employment. P7 reported a friend had told her that her weight caused her to lose a full-time job with insurance benefits, resulting having to live in an unsafe neighborhood where she is limited in her ability to exercise due to safety. This finding is consistent with

previous research about how high crime neighborhoods can impact individuals' ability to exercise (Walker et al., 2018).

P13 described losing her job during the pandemic, resulting in chronic financial stress and mental health concerns such as anxiety. P7 described living in an area of an inner city that does not have a lot of jobs. These findings are consistent with previous research that has found that the ELA population is more prone to obesity due to lower-income and less education achievement (Font & Maguire-Jack, 2016).

Research Question 3 - Theme 9: Importance of Provider Being Respectful

That majority of participants described in separate ways the importance of their provider being respectful. I selected two common subthemes from these stories: perceived weight stigma and perceived discrimination.

Subtheme 9a: Perceived Weight Stigma

P17 described feeling "blamed" by his medical provider for not being able to reduce his weight. Other participants described feeling judged by the way their providers or people in their office "look" at them. P14 described feeling like the healthcare staff would look at her like she is wasting their time. P4 and P18 described believing that the provider did not believe that they were taking active steps to be more physically active and lose weight. They both later described having undiagnosed physical health problems at the time that they feel contributed to the weight gain they experienced. These findings are consistent with previous research that has shown that healthcare providers experience both implicit and explicit weight bias towards obese patients (Lawrence et al., 2021). And other research findings have confirmed that even pregnant or postpartum patients

reported feeling shamed, guilted, or judged by their providers for their weight (Incollingo Rodriguez et al., 2020).

Subtheme 9b: Perceived Discrimination

In addition to perceived weight stigma, two participant described feeling discriminated against due to their race. P5 and P12 described feeling that they were treated differently because of they are African American, and their providers are Caucasian. This finding is consistent with previous research that has shown people of color report increased perceived discrimination by their providers. This finding is similar to another finding that related to AI/AN patients, which showed that as perceived weight stigma by the provider increased, patient motivation and action decreased (Gonzales et al., 2017). These findings confirm the importance of the patient-provider relationship being respectful for optimal weight loss treatment.

These findings also confirm another previous finding that both ELA exposed women and men are more likely to perceive weight discrimination (Udo & Grilo, 2016) and to feel judged or report negative perceptions of provider interactions (Mundi et al., 2021). Other findings highlight the importance of conceptualizing this issue as interrelated to previously reviewed influential factors, such as the ELA associated risk of internalization of perceived weight stigma that have been shown to increase feelings of blame, shame, and vulnerability (Salas et al., 2019). Additionally, internalized perceived weight stigma reduces motivation and comfort with providers, which contributes to challenges weight loss progress (Salas et al., 2019).

Research Question 3 - Theme 10: Importance of Having a Good Relationship with Medical Provider

Consistent with the literature reviewed, this study's findings support the importance of positive relationships between individuals and their providers in weight loss treatment (Baker et al., 2015; Bloom et al., 2018; Walker et al., 2018). Some participants described good and helpful relationships with their providers, while most others did not. These findings support one previous research study that demonstrated the disparity between how providers perceive their patients' role in their weight management (Walker et al., 2018). Walker et al. highlighted how some providers hold their patients solely responsible for making changes, while other providers try to help patients develop personalized solutions, such as playing in the park with their grandchildren.

Several participants described not feeling it is possible to have good relationships with their providers due to limited time. P16 stated that he noticed a change in his provider relationships when larger companies purchased their medical offices. The lack of time was cited as a common obstacle in weight loss treatment both by participants in this study, as well as previous research findings (Baker et al., 2015; Bloom et al., 2018). Both patients and medical providers have previously reported frustration with the lack of time to plan weight loss treatment (Baker et al., 2015; Bloom et al., 2018).

Some participants described a lack of consistency with their providers due to shortages of healthcare providers in their communities or only have short-term "contract doctors." P4 described the difficulty being limited to only seeing military doctors, which she felt negatively impacted their understanding of treating her unique positive of being

overweight but also recovering from a restrictive eating disorder. She described her provider repeatedly weighing her and advising her to count calories, despite the participant telling this provider repeatedly these are triggers for her eating disorder. This finding confirms existing literature for more general populations that has shown that patients do not trust their providers can treat their weight loss or understand how other factors contribute to their weight status (Bloom et al., 2018).

These findings demonstrate the importance of increased provider awareness about how their ELA exposed patients experiencing obesity/overweight may more likely feel judged, have negative perceptions about the patient-provider relationship, and have lower overall self-esteem (Mundi et al., 2021). This problem is a complex and interrelated set of factors that influences the stability of the patient-provider relationship. However, it is clear from these findings and from the literature that the establishment of a secure relationship is key in weight loss success for this population.

Research Question 3 - Theme 11: Importance of Relatability of the Provider

Related to the previous theme, many of the participants described in numerous ways the importance of feeling that their provider could relate to them. This may be due to what previous research has shown as an increased risk of internalization of weight bias which can lead to feelings of stress, blame, vulnerability, and shame (Salas et al., 2019). P14 described wanting "a fat doctor, so they know what to ask … know what I am going through." As participants described various ways in which they wished their provider related to them more, it became clear to me as a clinician that these participants were describing this theme in a way that seemed to be a combination of many of the other

themes: the importance of social supports, the importance of the provider understanding their limited financial resources, the acknowledgement of their higher or lower self-efficacy, the importance of a person-centered treatment plan, the importance of feeling respected, and the provider understanding how their physical and mental health impacted their weight loss treatment.

Previous research has shown that providers feel unprepared to treat weight loss even in non-ELA exposed populations, including what approaches to take and what their specific roles should be versus other providers such as nutritionists and psychologists (Hayes et al., 2017). It could be even more complicated treating overweight and obesity in the ELA-population with their unique experiences. Although no providers were interviewed in this study, many of the participants seemed to support this finding as they described not believing their providers knew how to help them with their weight lost goals.

Research Question 3 - Theme 12: Importance of Encouragement

Several of the participants described wanting more encouragement, which is consistent with other findings that demonstrated how patients desired more positive feedback from their providers about their weight lost treatment (Bloom et al., 2018). P5 acknowledged that his doctor “cannot fix these problems for me, but I don’t know. Maybe he could provide me encouragement.” P2 described how not just hearing negative things from her doctor would be encouraging. P17 incorporated several other themes previously reviewed when he described wanting his provider to offer encouragement as well as research how he can improve his weight loss plan.

These findings also contribute further understanding about what at least these participants feel they may need more of in weight loss treatment with their PCP. The concept of encouragement may also relate to previous findings that individuals with ELA exposure experiencing obesity or overweight internalize weight bias which can lead to feelings of vulnerability, blame, and shame (Salas et al., 2019). Incorporating more provider encouragement into weight loss treatment could be a key aspect of creating more trauma-informed interventions.

Research Question 3 - Theme 13: Challenges to Weight Loss

In this study, most participants described their biggest challenges were related to not being able to engage in more health-related behaviors, such as controlling their food intake or engaging in physical activity. However, as previously described, there were many physical health, mental health, and socioeconomic obstacles. Most of the participants did not seem to feel that they could overcome these challenges, which adds further understanding to what is already known about the importance of self-efficacy in weight loss treatment. P2 described not being able to control the quantity and quality of foods. These findings illuminate how self-regulation and self-efficacy intersect. Previous studies have shown that health behaviors such as exercise and eating are positively related to self-regulation and self-efficacy (Annesi, 2020), and lower self-regulation and emotional dysregulation are correlated with an increase in emotional eating (Ansari et al., 2018).

Self-efficacy related to another common challenge reported which was the difficulty with maintaining any progress they have made. P14 described “I have done

everything there is to do, short of having my mouth wired shut…. It is very hard to stay on a no carb diet for the rest of your life." P8 described losing 100 pounds and keeping this off for 10 years, until he experienced a physical health complication and gained more than a third of it back. These findings contribute a unique understanding of how physical and mental health challenges may influence self-efficacy and therefore impact weight loss treatment success overall.

One participant, P16, described his sedentary lifestyle being his biggest challenge to weight loss, but no other participant described this as an obstacle. Other participants, P4, P5, and P5, explained how slow the progress is as the main challenge they face in their weight loss treatment. This finding suggests that maintain motivation may be a key factor in treating this population, as previous research has shown that motivation is an important component of weight loss treatment (Bloom et al., 2018).

One finding that was not previously found in the literature is the different levels of awareness about what to do to improve their weight loss treatment success that these participants described. Some participants shared that they knew what they needed to do but struggled to execute these things due to the barriers previously mentioned, such as physical health problems. P5 explained, "I know what I'm supposed to do, but it is hard." P18 stated, "There's a lack of understanding that I know how to diet. Most of my fat friends are diet experts."

Others described not knowing what they could do to improve their weight loss treatment prognosis. P3 reported, "I just don't know how to help myself. And I don't think they know either." These findings were not found in previous research on this topic

and add to the understanding of the complexity of treating weight loss in this population and the need to incorporate patient education into the treatment plan.

Research Question 3 - Theme 14: Recommendations for Improved Weight Loss Treatment by Participants

As mentioned above, I used a narrative inquiry technique to finish the interviews with a broad question about anything else the participants might want to add. Many of the participants answered this question with recommendations for improve weight loss treatment for this population. These suggestions included P6 suggesting that primary care offices send out an educational newsletter with helpful suggestions to try, and P8 shared how important it was for him to have his provider ask him more regularly about his weight loss. P7 also shared that more regular check-ins with her provider and having a weight loss plan specific for her would be helpful. She suggested teleconferences in between appointments or attending dietician seminars to learn from others. These findings reinforce the previously reviewed themes and subthemes of the importance of social supports, person-centered treatment plan, and communication. These findings are also consistent with previous research that has demonstrated both providers and patients want more standardized and effective interventions for weight loss treatment in primary care settings, including providers having more resources to provide patients (Baker et al., 2015; Bloom et al., 2018; Hayes et al., 2017; Walker et al., 2018).

Several other participants described wanting to know more about the contributing factors to weight gain. P10 and P18 described needing more information about what is causing their weight gain, as P18 shared how impactful it was for her to read a book that

described "obesity is the symptom of something broken." This finding contributes new understanding to the literature and suggests the importance of providers addressing and validating contributing factors such as physical or mental health problems or chronic stress from socioeconomic factors that may be impacted weight loss treatment outcomes.

Many of the participants also described the importance of exploring mental health effects from their ELA exposure as potential contributing factors towards their weight control challenges. Although none of the participants reported knowing the well-researched link between ELA and obesity across the lifespan (Felitti et al., 1998; Mundi et al., 2021), they described suspecting this as a contributing factor both in several of their introductory emails for the study and during the interviews. As mentioned earlier, many of the participants described in their emails requesting to be included in the study an interest due to a curiosity or suspicion that their challenges with their weight loss treatment were someone connected to their physical health or ELAs. This finding is consistent with previous studies that have shown adverse childhood experiences are not screened for by most medical professionals despite knowing the associated long-term obesity risk for more than 20 years (Felitti, 2017).

Limitations of the Study

Two main limitations were present in this study. First, the data collection procedures were mainly self-report, which poses the risk that not all participants were forthcoming and fully honest in their responses (O'Grady, 2016; Rubin & Rubin, 2012; Shenton, 2004). I used interview prompts and follow-up questions to elicit additional

information or clarification when needed, and I provided the interview questions to the participants in the consent form.

Secondly, there was a risk of unintentional researcher bias. My role as a licensed professional counselor specializing in trauma potentially created subjective interpretation and internal bias throughout the data collection, analysis, and reporting processes. I used empathic neutrality to maintain research versus clinical boundaries (Patton, 2015). Additionally, the influence of the researcher is expected and built into the narrative inquiry approach, and I used reflective journaling notes to provide transparency and reduce the risk that this influence unintentionally altered meaning of data (Clandinin & Connelly, 2000).

Recommendations

The cumulative long-term impacts of living with chronic psychological stress exposure in childhood have been reviewed here, and the participants in this study confirmed many of them. Despite this knowledge, several gaps in the research became clear while reporting these results. First, additional research is needed to develop more comprehensive screening of ELA exposed adults in treatment for weight loss, including possible physical and mental health problems and chronic stressors related to commonly occurring adverse life events such as unemployment, financial stressors, and lack of social supports. Increased understanding is needed about the mechanisms that may link ELA with weight loss challenges, particularly the negative impacts of chronic physical health, chronic pain, and limited ability to be physically active due to physical health problems.

The original ACE study was completed with a predominately higher income and education population (Felitti, 2017). Further awareness of the impact of social determinants of health on weight problems in this population are necessary, including financial limitations and how these may impact weight loss treatment. Additional understanding may be needed to understand how current post-pandemic economic influences are impacting weight loss treatment for this population.

Additionally, more research is necessary to develop appropriate protocols for screening for ELA exposure and potential need for referral for mental health counseling. Considering the extensive literature related to this population's increased risk of developing psychiatric disorders (Campbell et al., 2016; Imperatori et al., 2016; Murphy et al., 2020), the next obvious research area is the how to bridge the gap between the disciplines of physical and mental health and raise awareness of common ELA exposure long-term effects, particularly as they relate to weight loss interventions.

In the field of mental health, additional research is needed to create evidence-based therapeutic interventions for this population. Further understanding is needed to determine the type of interventions that may be more efficacious for weight loss for this population. For example, previous research has explored the use of a narrative repair model for treating obesity in a more general population (Salas et al., 2019). Exploring the use of narrative therapeutic approaches combined with trauma-informed approaches that promote self-efficacy may be a promising approach to develop more self-compassionate and self-efficacious coping and to reduce internalized weight stigma and shame. Additional understanding is needed to explore how some individuals in this population

are able to develop a strong sense of self-efficacy as an adult even without counseling, while others cannot.

Implications

This study explored a well-researched topic but with the intent to broaden the scope of what has been studied in the past. First, I choose the term ELA as a broad definition of childhood maltreatment and other chronic psychological stress that may impact adult weight loss treatment. Secondly, I choose this study's framework to gain a comprehensive understanding of the research problem, which is consistent with the medical community's transition away from the biomedical model, towards a biopsychosocial approach to treating the whole individual (Felitti, 2017). The ACE Study originally established the link between ELA and long-term obesity and other health outcomes in 1998; however, the medical community in general has not been able to incorporate these findings in any significant way (Felitti, 2017).

The results of this study crossed multiple disciplines to confirm many of the biological, psychological, and socio-environmental associations and pathways involved in the etiology of obesity and overweight in this population. For this reason, the biopsychosocial model was a natural framework choice for this study and informed each the three research questions. The results of this study build on the wide breadth of existing literature related to the impacts of ACEs and ELAs across the life span and offer more comprehensive and contextualized understanding of how individuals experience weight loss in the current medical system.

Many of the well-researched known effects of cumulative and chronic childhood psychological stress were confirmed with this study's results. These participants' stories extended this knowledge in richly detailed ways that can bring about positive social change at the individual or larger societal level in the areas of public policy, healthcare organizations, and physical and mental health screenings and interventions. Key findings included the need for increased awareness of the interrelated physical and mental health challenges this population faces during weight loss treatment. With this improved understanding of how these challenges impact patients in this population, providers may be more likely to ask specific questions about their challenges, which would promote more meaningful communication between patient and provider. These findings demonstrate the need for a more holistic approach to treating weight loss in this population and could lead to lasting social change by motivating insurance companies to offer additional benefits, such as more frequent visits.

Another key finding that could lead to social change is the need for individualized treatment planning due to the increased prevalence of physical and mental health conditions across the life span that this population faces. These participants almost universally reported the need for their providers to incorporate other specialists into their weight loss treatment and posited that the development of person-centered plans would include these specialists as part of their weight loss team. This is consistent with other research that has demonstrated the need for including other healthcare professionals who specialize in an area that the individual needs (Bloom et al., 2018).

Sharing this knowledge with providers benefits them as well. Previous research has shown the hesitancy of providers of bringing up weight due to fear of offending patients (Walker et al., 2018). The participants in this study described wanting providers to address their weight concerns, before reaching obesity levels. They explained that they should not have to read their diagnosis of obesity or recommendations for losing weight in the notes, but that they need to trust that their providers care enough to have these difficult conversations. These findings could contribute towards social change by informing providers that patients in this population want to have these conversations and want to improve their health. This information could be reassuring and motivating for providers to engage patients in productive conversations that could reduce perceived stigma and discrimination.

Most of these participants described living with chronic stress, which was related to physical or mental health problems, financial stress, joblessness, or poor social supports. These findings could bring about positive social change by adding to the awareness of the importance of considering social determinants of health when treating this population. Providers recommending high-cost weight loss options to patients already experiencing financial stress could demotivate them even more. Public policy may consider implementing food programs that work to overcome the commonly reported challenges that healthy foods and gym memberships can be cost-prohibitive to many.

Additionally, asking a patient about possible ELA, such as parental abuse and childhood sexual abuse is difficult for providers to do (Felitti, 2017). Mundi et al. (2021)

described the importance of bringing up the topic of childhood trauma in a nonjudgmental manner (Mundi et al., 2021). The participants in this study reported wanting to know more about the link between ELA and their challenges with their weight, including citing this as the reason they wanted to participate in this study. With this study's findings and the previously reviewed literature, trauma-informed screening and interventions could be developed for providers in multiple disciplines who may interact with this population. The findings related to the importance of self-efficacy could inform approaches, which could include planning for shared challenges, as described in these stories. Considering the high prevalence of ELA exposure and overweight/obesity, implementing these improvements would bring wide-reaching positive social change in the disciplines of physical and psychological health.

Conclusion

Over the past two decades, extensive literature has demonstrated ELA exposure increases individuals risk of obesity, depression, and various other physical and mental health problems across the life span. Despite the persistent and cumulative adverse effects of ELA, most of the participants in this study had never been screened for exposure to ELA and had never been referred to a mental health counselor. Many were unaware of this connection, and some reported that they had always suspected there was a link. These findings demonstrate that need for more ELA screening and trauma-informed interventions in primary care settings. With these changes, early screening and appropriate referrals for mental health counseling could change the trajectory of health for so many adult survivors of ELA.

References

Abajobir, A. A., Kisely, S., Williams, G., Strathearn, L., & Najman, J. M. (2017). Childhood maltreatment and high dietary fat intake behaviors in adulthood: A birth cohort study. *Child Abuse & Neglect, 72*, 147–153. https://doi.org/10.1016/j.chiabu.2017.08.002

Annesi, J. J. (2018). Effects of self-regulatory skill usage on weight management behaviours: Mediating effects of induced self-efficacy changes in non-obese through morbidly obese women. *British Journal of Health Psychology, 23*(4), 1066–1083. https://doi.org/10.1111/bjhp.12338

Annesi, J. J. (2020). Contrasting personal characteristics and psychosocial correlates of exercise and eating behavior changes in women successful vs. unsuccessful with weight loss and maintenance. *Applied Psychology: Health & Well-Being, 12*(3), 703–723. https://doi.org/10.1111/aphw.12203

Ansari, N., Shakiba, S., Mousavi, M. E., Mohammadkhani, P., Aminoroaya, S., & Poor, N. S. (2018). Role of emotional dysregulation and childhood trauma in emotional eating behavior. *Journal of Practice in Clinical Psychology, 6*(1), 21–28. https://doi.org/10.29252/nirp.jpcp.6.1.21

Bakalar, J. L., Barmine, M., Druskin, L., Olsen, C. H., Quinlan, J., Sbrocco, T., & Tanofsky-Kraff, M. (2018). Childhood adverse life events, disordered eating, and body mass index in US Military service members. *The International Journal of Eating Disorders*, *51*(5), 465–469. https://doi-org.ezp.waldenulibrary.org/10.1002/eat.22851

Baker, A. M., Smith, K. C., Coa, K. I., Helzlsouer, K. J., Caulfield, L. E., Peairs, K. S., Shockney, L. D., & Klassen, A. C. (2015). Clinical care providers' perspectives on body size and weight management among long-term cancer survivors. *Integrative Cancer Therapies*, *14*(3), 240–248. https://doi-org.ezp.waldenulibrary.org/10.1177/1534735415572882

Belli, H., Ural, C., Akbudak, M., & Sagaltıcı, E. (2019). Levels of childhood traumatic experiences and dissociative symptoms in extremely obese patients with and without binge eating disorder. *Nordic Journal of Psychiatry, 73*(8), 527–531. https://doi.org/10.1080/08039488.2019.1662085

Berens, A. E., Jensen, S. K., & Nelson, C. A. (2017). Biological embedding of childhood adversity: From physiological mechanisms to clinical implications. *BMC Medicine, 15*(1), 1–12. https://doi.org/10.1186/s12916-017-0895-4

Bick, J., & Nelson, C. A. (2016). Early adverse experiences and the developing brain. *Neuropsychopharmacology, 41*(1), 177–196. https://doi.org/10.1038/npp.2015.252

Bloom, K., Adler, J., Bridges, C., Bernstein, J., Rini, C., Goldstein, A. O., & Ripley-Moffitt, C. (2018). Examining patient perspectives on weight management support in the primary care setting. *Journal of Primary Prevention*, *39*(4), 387–399.

Boynton-Jarrett, R., Rosenberg, L., Palmer, J. R., Boggs, D. A., & Wise, L. A. (2012). Child and adolescent abuse in relation to obesity in adulthood: The Black Women's Health Study. *Pediatrics, 130*(2), 245–253.

https://doi.org/10.1542/peds.2011-1554

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101, https://doi.org/10.1191/1478088706qp063oa

Brown, S., Mitchell, T. B., Fite, P. J., & Bortolato, M. (2017). Impulsivity as a moderator of the associations between child maltreatment types and body mass index. *Child Abuse and Neglect, 67*, 137. https://doi.org/10.1016/j.chiabu.2017.02.029

Campbell, J. A., Walker, R. J., & Egede, L. E. (2016). Associations between adverse childhood experiences, high-risk behaviors, and morbidity in adulthood. *American Journal of Preventive Medicine, 50*(3), 344–352. https://doi.org/10.1016/j.amepre.2015.07.022

Clandinin, D. J. & Connelly, F. M. (2000). *Narrative Inquiry: Experience and Story in Qualitative Research.* Jossey-Bass.

Cuevas, A. G., Chen, R., Thurber, K. A., Slopen, N., & Williams, D. R. (2019). Psychosocial stress and overweight and obesity: Findings from the Chicago Community Adult Health Study. *Annals of Behavioral Medicine: A Publication of the Society of Behavioral Medicine, 53*(11), NP. https://doi.org/10.1093/abm/kaz008

Curtis, D. S., Fuller-Rowell, T. E., Doan, S. N., Zgierska, A. E., & Ryff, C. D. (2016). Racial and socioeconomic disparities in body mass index among college students: Understanding the role of early life adversity. *Journal of Behavioral Medicine, 39*(5), 866–875. https://doi.org/10.1007/s10865-016-9756-4

Danese, A., & Tan, M. (2014). Childhood maltreatment and obesity: Systematic review and meta-analysis. *Molecular Psychiatry*, *19*(5), 544–554. https://doi-org.ezp.waldenulibrary.org/10.1038/mp.2013.54

Delpierre, C., Fantin, R., Barboza-Solis, C., Lepage, B., Darnaudéry, M., & Kelly-Irving, M. (2016). The early life nutritional environment and early life stress as potential pathways towards the metabolic syndrome in mid-life? A lifecourse analysis using the 1958 British Birth cohort. *BMC Public Health, 16*(1), 1–19.

Dong, T. S., & Gupta, A. (2019). Influence of early life, diet, and the environment on the microbiome. *Clinical Gastroenterology and Hepatology, 17*(2), 231–242. https://doi.org/10.1016/j.cgh.2018.08.067

Duffy, K. A., McLaughlin, K. A., & Green, P. A. (2018). Early life adversity and health-risk behaviors: Proposed psychological and neural mechanisms. *Annals of the New York Academy of Sciences, 1428*(1), 151–169. https://doi.org/10.1111/nyas.13928

Engel, G. L. (1992). The need for a new medical model: A challenge for biomedicine. *Family Systems Medicine, 10*(3), 317–331. https://doi-org.ezp.waldenulibrary.org/10.1037/h0089260

Felitti, V. J. (2017). Future applications of the adverse childhood experiences research. *Journal of Child & Adolescent Trauma*, *10*(3), 205–206. https://doi.org/10.1007/s40653-017-0189-1

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and

household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *14*(4), 245–258. https://doi-org.ezp.waldenulibrary.org/10.1016/s0749-3797(98)00017-8

Ferraro, K. F., Schafer, M. H., & Wilkinson, L. R. (2016). Childhood disadvantage and health problems in middle and later life. *American Sociological Review, 81*(1), 107–133. https://doi-org.ezp.waldenulibrary.org/10.1177/0003122415619617

Fleischer, T., Ulke, C., Beutel, M., Binder, H., Brähler, E., Johar, H., Atasoy, S., Kruse, J., Otten, D., Tibubos, A. N., Zöller, D., Speerforck, S., Grabe, H. J., Ladwig, K.-H., & Schomerus, G. (2021). The relation between childhood adversity and adult obesity in a population-based study in women and men. *Scientific Reports*, *11*(1), 14068. https://doi.org/10.1038/s41598-021-93242-4

Font, S. A., & Maguire-Jack, K. (2016). Pathways from childhood abuse and other adversities to adult health risks: The role of adult socioeconomic conditions. *Child Abuse & Neglect, 51*, 390–399. https://doi.org/10.1016/j.chiabu.2015.05.013

Fryar, C.D., Carroll, M.D., & Afful, J. (2020). Prevalence of overweight, obesity, and severe obesity among adults aged 20 and over: United States, 1960–1962 through 2017–2018. *National Center for Health Statistics Health E-Stats.* https://www.cdc.gov/nchs/data/hestat/obesity-adult-17-18/overweight-obesity-adults-H.pdf

Gonzales, K. L., Garcia, G. E., Jacob, M. M., Muller, C., Nelson, L., & Manson, S. M. (2017). Patient-provider relationship and perceived provider weight bias among

American Indians and Alaska Natives. *Obesity Science & Practice, 4*(1), 76–84. https://doi-org.ezp.waldenulibrary.org/10.1002/osp4.135

Grigsby, T. J., Rogers, C. J., Albers, L. D., Benjamin, S. M., Lust, K., Eisenberg, M. E., & Forster, M. (2020). Adverse childhood experiences and health indicators in a young adult, college student sample: Differences by gender. *International Journal of Behavioral Medicine, 27*(6), 660–667. https://doi.org/10.1007/s12529-020-09913-5

Guest, G., Bunce, A., and Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59–82. https://www.youtube.com/watch?v=_0HxMpJsm0I

Hanson, J. L., Albert, D., Iselin, A.-M. R., Carré, J. M., Dodge, K. A., & Hariri, A. R. (2016). Cumulative stress in childhood is associated with blunted reward-related brain activity in adulthood. *Social Cognitive & Affective Neuroscience, 11*(3), 405–412. https://doi.org/10.1093/scan/nsv124

Hawkins, M., Ciciolla, L., Colaizzi, J., Keirns, N., Smith, C., Stout, M., Addante, S., Armans, M., & Erato, G. (2020). Adverse childhood experiences and cognitive function among adults with excess adiposity. *Obesity Science & Practice, 6*(1), 47–56.

Hayes, S., Wolf, C., Labbé, S., Peterson, E., & Murray, S. (2017). Primary health care providers' roles and responsibilities: A qualitative exploration of 'who does what' in the treatment and management of persons affected by obesity. *Journal of Communication in Healthcare, 10*(1), 47–54.

Hemmingsson, E. (2018). Early childhood obesity risk factors: Socioeconomic adversity, family dysfunction, offspring distress, and junk food self-medication. *Current Obesity Reports, 7*(2):204-209. https://doi:10.1007/s13679-018-0310-2

Herzog, J. I., & Schmahl, C. (2018). Adverse childhood experiences and the consequences on neurobiological, psychosocial, and somatic conditions across the lifespan. *Frontiers in Psychiatry, 9*. https://doi-org.ezp.waldenulibrary.org/10.3389/fpsyt.2018.00420

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health, 2*(8), e356–e366. https://doi-org.ezp.waldenulibrary.org/10.1016/S2468-2667(17)30118-4

Hymowitz, G., Salwen, J., & Salis, K. L. (2017). A mediational model of obesity-related disordered eating: The roles of childhood emotional abuse and self-perception. *Eating Behaviors, 26,* 27–32. https://doi.org/10.1016/j.eatbeh.2016.12.010

Imperatori, C., Innamorati, M., Lamis, D. A., Farina, B., Pompili, M., Contardi, A., & Fabbricatore, M. (2016). Childhood trauma in obese and overweight women with food addiction and clinical-level of binge eating. *Child Abuse & Neglect, 58*, 180–190. https://doi-org.ezp.waldenulibrary.org/10.1016/j.chiabu.2016.06.023

Incollingo Rodriguez, A. C., Smieszek, S. M., Nippert, K. E., & Tomiyama, A. J. (2020). Pregnant and postpartum women's experiences of weight stigma in

healthcare. *BMC Pregnancy and Childbirth, 20*(1), 499. https://doi-org.ezp.waldenulibrary.org/10.1186/s12884-020-03202-5

Jia, H., & Lubetkin, E. I. (2020). Impact of adverse childhood experiences on quality-adjusted life expectancy in the U.S. population. *Child Abuse & Neglect, 102*. https://doi-org.ezp.waldenulibrary.org/10.1016/j.chiabu.2020.104418

Joung, K. E., Park, K.-H., Zaichenko, L., Sahin-Efe, A., Thakkar, B., Brinkoetter, M., Usher, N., Warner, D., Davis, C. R., Crowell, J. A., & Mantzoros, C. S. (2014). Early life adversity is associated with elevated levels of circulating leptin, irisin, and decreased levels of adiponectin in midlife adults. *The Journal of Clinical Endocrinology and Metabolism, 99*(6), E1055–E1060. https://doi-org.ezp.waldenulibrary.org/10.1210/jc.2013-3669

Kim, Y., Lee, H., & Park, A. (2020). Adverse childhood experiences, economic hardship, and obesity: Differences by gender. *Children and Youth Services Review, 116*. https://doi.org/10.1016/j.childyouth.2020.105214

Kuhlman, K. R., Robles, T. F., Bower, J. E., & Carroll, J. E. (2018). Screening for childhood adversity: the what and when of identifying individuals at risk for lifespan health disparities. *Journal of Behavioral Medicine, 41*(4), 516–527. https://doi.org/10.1007/s10865-018-9921-z

LaPelle, N. R. (2004). Simplifying qualitative data analysis using general purpose software tools. *Preventive and Behavioral Medicine, 16*(1), 1–20. https://doi.org/10.1177/1525822X03259227

Lawrence, B. J., Kerr, D., Pollard, C. M., Theophilus, M., Alexander, E., Haywood, D.,

& O'Connor, M. (2021). Weight bias among health care professionals: A systematic review and meta-analysis. *Obesity* (Silver Spring, Md.). https://doi-org.ezp.waldenulibrary.org/10.1002/oby.23266

Loxton, D., Forder, P. M., Cavenagh, D., Townsend, N., Holliday, E., Chojenta, C., & Melka, A. S. (2021). The impact of adverse childhood experiences on the health and health behaviors of young Australian women. *Child Abuse & Neglect, 111*. https://doi.org/10.1016/j.chiabu.2020.104771

Luo, Q., Zhang, L., Huang, C.-C., Zheng, Y., Kanen, J. W., Zhao, Q., Yao, Y., Quinlan, E. B., Jia, T., Banaschewski, T., Bokde, A. L. W., Bromberg, U., Büchel, C., Flor, H., Frouin, V., Garavan, H., Gowland, P., Heinz, A., Ittermann, B., … Robbins, T. W. (2020). Association between childhood trauma and risk for obesity: A putative neurocognitive developmental pathway. *BMC Medicine, 18*(1), 278. https://doi.org/10.1186/s12916-020-01743-2

Malmqvist, J., Hellberg, K., Möllås, G., Rose, R., & Shevlin, M. (2019). Conducting the pilot study: A neglected part of the research process? Methodological findings supporting the importance of piloting in qualitative research studies. *International Journal of Qualitative Methods*. https://doi.org/10.1177/1609406919878341

Mason, S. M., Austin, S. B., Bakalar, J. L., Boynton-Jarrett, R., Field, A. E., Gooding, H. C., Holsen, L. M., Jackson, B., Neumark-Sztainer, D., Sanchez, M., Sogg, S., Tanofsky-Kraff, M., & Rich-Edwards, J. W. (2016). Child maltreatment's heavy toll: The need for trauma-informed obesity prevention. *American Journal of Preventive Medicine, 50*(5), 646–649.

https://doi.org/10.1016/j.amepre.2015.11.004

Maxwell, J. A. (2009). Designing a qualitative study. In The SAGE handbook of applied social research methods (pp. 214-253). SAGE Publications, Inc., https://www-doi-org.ezp.waldenulibrary.org/10.4135/9781483348858.n7

McDonnell, C. J., & Garbers, S. V. (2018). Adverse childhood experiences and obesity: Systematic review of behavioral interventions for women. *Psychological Trauma: Theory, Research, Practice, and Policy, 10*(4), 387–395. https://doi.org/10.1037/tra0000313.supp

McEwen, B. S., Nasca, C., & Gray, J. D. (2016). Stress effects on neuronal structure: Hippocampus, amygdala, and prefrontal cortex. *Neuropsychopharmacology, 41*(1), 3–23. https://doi-org.ezp.waldenulibrary.org/10.1038/npp.2015.171

McLaughlin, K. A., & Lambert, H. K. (2017). Child trauma exposure and psychopathology: Mechanisms of risk and resilience. *Current Opinion in Psychology, 14*, 29–34. https://doi.org/10.1016/j.copsyc.2016.10.004

Meng, X., Fleury, M. J., Xiang, Y. T., Li, M., & D'arcy, C. (2018). Resilience and protective factors among people with a history of child maltreatment: a systematic review. *Social Psychiatry and Psychiatric Epidemiology, 53*(5), 453-475. https://doi.org/10.1007/s00127-018-1485-2

Michopoulos, V., Powers, A., Moore, C., Villarreal, S., Ressler, K. J., & Bradley, B. (2015). The mediating role of emotion dysregulation and depression on the relationship between childhood trauma exposure and emotional eating. *Appetite, 91*, 129–136. https://doi.org/10.1016/j.appet.2015.03.036

Miller, K. F., Arbel, R., Shapiro, L. S., Han, S. C., & Margolin, G. (2018). Does the cortisol awakening response link childhood adversity to adult BMI? *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association, 37*(6), 526–529. https://doi.org/10.1037/hea0000601

Miller, A. L., & Lumeng, J. C. (2018). Pathways of association from stress to obesity in early childhood. *Obesity (Silver Spring, Md.), 26*(7), 1117–1124. https://doi-org.ezp.waldenulibrary.org/10.1002/oby.22155

Mundi, M. S., Hurt, R. T., Phelan, S. M., Bradley, D., Haller, I. V., Bauer, K. W., Bradley, S. M., Schroeder, D. R., Clark, M. M., & Croghan, I. T. (2021). Associations between experience of early childhood trauma and impact on obesity status, health, as well as perceptions of obesity-related health care. *Mayo Clinic Proceedings, 96*(2), 408. https://doi-org.ezp.waldenulibrary.org/10.1016/j.mayocp.2020.05.049

Murphy, S., McElroy, E., Elklit, A., Shevlin, M., & Christoffersen, M. (2020). Child maltreatment and psychiatric outcomes in early adulthood. *Child Abuse Review, 29*(4), 365–378. https://doi-org.ezp.waldenulibrary.org/10.1002/car.2619

Non, A. L., Román, J. C., Gross, C. L., Gilman, S. E., Loucks, E. B., Buka, S. L., & Kubzansky, L. D. (2016). Early childhood social disadvantage is associated with poor health behaviours in adulthood. *Annals of Human Biology, 43*(2), 144–153. https://doi.org/10.3109/03014460.2015.1136357

Nunes-Neto, P. R., Köhler, C. A., Schuch, F. B., Solmi, M., Quevedo, J., Maes, M., Murru, A., Vieta, E., McIntyre, R. S., McElroy, S. L., Gearhardt, A. N., Stubbs,

B., & Carvalho, A. F. (2018). Food addiction: Prevalence, psychopathological correlates, and associations with quality of life in a large sample. *Journal of Psychiatric Research, 96*, 145–152. https://doi-org.ezp.waldenulibrary.org/10.1016/j.jpsychires.2017.10.003

Nusslock, R., & Miller, G. E. (2016). Early-life adversity and physical and emotional health across the lifespan: A neuroimmune network hypothesis. *Biological Psychiatry, 80*(1), 23–32. https://doi.org/10.1016/j.biopsych.2015.05.017

O'Grady, E. (2016). Research as a Respectful Practice: An Exploration of the Practice of Respect in Qualitative Research. *Qualitative Research in Education (2014-6418)*, *5*(3), 229–254. https://doi-org.ezp.waldenulibrary.org/10.17583/qre.2016.2018

O'Neill, A., Beck, K., Chae, D., Dyer, T., He, X., & Lee, S. (2018). The pathway from childhood maltreatment to adulthood obesity: The role of mediation by adolescent depressive symptoms and BMI. *Journal of Adolescence, 67*, 22–30. https://doi.org/10.1016/j.adolescence.2018.05.01

Oh, D. L., Jerman, P., Marques, S. S., Koita, K., Boparai, S. K. P., Harris, N. B., & Bucci, M. (2018). Systematic review of pediatric health outcomes associated with childhood adversity. *BMC Pediatrics*, *18*(1), 1–19. https://doi-org.ezp.waldenulibrary.org/10.1186/s12887-018-1037-7

Orb, A., Eisenhauer, L., & Wynaden, D. (2001). Ethics in qualitative research. *Journal of Nursing Scholarship: An Official Publication of Sigma Theta Tau International Honor Society of Nursing*, *33*(1), 93–96. https://doi-

org.ezp.waldenulibrary.org/10.1111/j.1547-5069.2001.00093.x

Osadchiy, V., Mayer, E. A., Bhatt, R., Labus, J. S., Gao, L., Kilpatrick, L.A., Liu, C., Tillisch, K., Naliboff, B., Chang, L. & Gupta, A. (2019). History of early life adversity is associated with increased food addiction and sex-specific alterations in reward network connectivity in obesity. *Obesity Science & Practice, 5*(5), 416–436. https://doi-org.ezp.waldenulibrary.org/10.1002/osp4.362

Palmisano, G. L., Innamorati, M., & Vanderlinden, J. (2016). Life adverse experiences in relation with obesity and binge eating disorder: A systematic review. *Journal Of Behavioral Addictions, 5*(1), 11–31. https://doi-org.ezp.waldenulibrary.org/10.1556/2006.5.2016.018

Patton, M. Q. (2015). Qualitative research & evaluation methods: Integrating theory and practice (4th ed.). Thousand Oaks, CA: SAGE.

Pinto Pereira, S. M., Stein Merkin, S., Seeman, T., & Power, C. (2019). Understanding associations of early-life adversities with mid-life inflammatory profiles: Evidence from the UK and USA. *Brain, Behavior, and Immunity, 78*, 143–152. https://doi.org/10.1016/j.bbi.2019.01.016

Purswani, P., Marsicek, S. M., & Amankwah, E. K. (2020). Association between cumulative exposure to adverse childhood experiences and childhood obesity. *PLoS ONE*, *15*(9), 1–10.

Quilliot, D., Brunaud, L., Mathieu, J., Quenot, C., Sirveaux, M.-A., Kahn, J.-P., Ziegler, O., & Witkowski, P. (2019). Links between traumatic experiences in childhood or early adulthood and lifetime binge eating disorder. *Psychiatry Research, 276,*

134–141. https://doi.org/10.1016/j.psychres.2019.05.008

Ramirez, J. C., & Milan, S. (2016). Childhood sexual abuse moderates the relationship between obesity and mental health in low-income women. *Child Maltreatment, 21*(1), 85–89. https://doi.org/10.1177/1077559515611246

Rehkopf, D. H., Headen, I., Hubbard, A., Deardorff, J., Kesavan, Y., Cohen, A. K., Patil, D., Ritchie, L. D., & Abrams, B. (2016). Adverse childhood experiences and later life adult obesity and smoking in the United States. *Annals of Epidemiology, 26*(7), 488. https://doi.org/10.1016/j.annepidem.2016.06.003

Remigio-Baker, R. A., Hayes, D. K., & Reyes-Salvail, F. (2017). The relationship of adverse childhood events to smoking, overweight, obesity and binge drinking among women in Hawaii. *Maternal and Child Health Journal, 21*(2), 315–325. https://doi.org/10.1007/s10995-016-2116-8

Royall, D., Brauer, P., Atta-Konadu, E., Dwyer, J. J. M., Edwards, A. M., Hussey, T., & Kates, N. (2017). Eliciting provider and patient perspectives on new obesity management services in a team-based primary care organization. *Canadian Journal of Dietetic Practice and Research: A Publication of Dietitians of Canada = Revue Canadienne de La Pratique et de La Recherche En Dietetique: Une Publication Des Dietetistes Du Canada, 78*(3), 109–116. https://doi-org.ezp.waldenulibrary.org/10.3148/cjdpr-2017-005

Rubin, H. J., & Rubin, I. S. (2012). Qualitative interviewing: The art of hearing data (3rd ed.). Thousand Oaks, CA: Sage Publications.

Ruiz, A. L., & Font, S. A. (2020). Role of childhood maltreatment on weight and weight-

related behaviors in adulthood. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association, 39*(11), 986–996. https://doi.org/10.1037/hea0001027

Sacks, R. M., Takemoto, E., Andrea, S., Dieckmann, N. F., Bauer, K. W., & Boone-Heinonen, J. (2017). Childhood maltreatment and BMI trajectory: The mediating role of depression. *American Journal of Preventive Medicine, 53*(5), 625–633. https://doi.org/10.1016/j.amepre.2017.07.007

Salas, X. R., Forhan, M., Caulfield, T. Sharma, A.M., & Raine, K.D. (2019). Addressing internalized weight bias and changing damaged social identities for people living with obesity. *Frontiers in Psychology*, *10*. https://doi-org.ezp.waldenulibrary.org/10.3389/fpsyg.2019.01409

Schneiderman, J. U., Davis, J. P., & Negriff, S. (2021). Associations between psychosocial functioning and physical health in youth with maltreatment experiences. *Children and Youth Services Review, 127*. https://doi.org/10.1016/j.childyouth.2021.106080

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63–75. https://doi-org.ezp.waldenulibrary.org/10.3233/EFI-2004-22201

Sokol, R. L., Ennett, S. T., Gottfredson, N. C., Shanahan, M. E., Poti, J. M., Halpern, C. T., & Fisher, E. B. (2019). Child maltreatment and body mass index over time: The roles of social support and stress responses. Children & Youth Services Review, 100, 214–220. https://doi.org/10.1016/j.childyouth.2019.03.006

Spall, S. (1998). Peer debriefing in qualitative research: Emerging operational models. *Qualitative Inquiry, 4*(2), 280–292. https://doi.org/10.1177/107780049800400208

Stapp, E. K., Williams, S. C., Kalb, L. G., Holingue, C. B., Van Eck, K., Ballard, E. D., Merikangas, K. R., & Gallo, J. J. (2020). Mood disorders, childhood maltreatment, and medical morbidity in US adults: An observational study. *Journal of Psychosomatic Research, 137*, N.PAG. https://doi.org/10.1016/j.jpsychores.2020.110207

Sutton, J., & Austin, Z. (2015). Qualitative research: Data collection, analysis, and management. *The Canadian Journal of Hospital Pharmacy, 68*(3), 226–231. https://doi.org/10.4212/cjhp.v68i3.1456

Tomiyama, A. J. (2019). Stress and obesity. *Annual Review of Psychology*, *70*, 703–718. https://doi-org.ezp.waldenulibrary.org/10.1146/annurev-psych-010418-102936

Türk-Kurtça, T., & Kocatürk, M. (2020). The role of childhood traumas, emotional self-efficacy, and internal-external locus of control in predicting psychological resilience. *International Journal of Education and Literacy Studies*, *8*(3), 105–115.

Udo, T., & Grilo, C. M. (2016). Perceived weight discrimination, childhood maltreatment, and weight gain in US adults with overweight/obesity. *Obesity, 24*(6), 1366–1372. https://doi.org/10.1002/oby.21474

Walker, R. E., Kusch, J., Fink, J. T., Nelson, D. A., Morris III, G., Skalla, J., & Cisler, R. A. (2018). Facilitating factors and barriers to weight management in women:

Physician perspectives. *Journal of Patient-Centered Research and Reviews, 5*(1), 18–27. https://doi-org.ezp.waldenulibrary.org/10.17294/2330-0698.1495

Wall, M. M., Mason, S. M., Liu, J., Olfson, M., Neumark-Sztainer, D., & Blanco, C. (2019). Childhood psychosocial challenges and risk for obesity in U.S. men and women. *Translational Psychiatry, 9*(1), 16. https://doi.org/10.1038/s41398-018-0341-1

Windle, M., Haardörfer, R., Getachew, B., Shah, J., Payne, J., Pillai, D., & Berg, C. J. (2018). A multivariate analysis of adverse childhood experiences and health behaviors and outcomes among college students. *Journal of American College Health, 66*(4), 246–251. https://doi-org.ezp.waldenulibrary.org/10.1080/07448481.2018.1431892

Wingenfeld, K., Kuehl, L. K., Boeker, A., Schultebraucks, K., Ritter, K., Hellmann-Regen, J., Otte, C., & Spitzer, C. (2017). Stress reactivity and its effects on subsequent food intake in depressed and healthy women with and without adverse childhood experiences. *Psychoneuroendocrinology, 80*, 122–130. https://doi.org/10.1016/j.psyneuen.2017.03.014

Wiss, D. A., Avena, N., & Gold, M. (2020). Food addiction and psychosocial adversity: Biological embedding, contextual factors, and public health implications. *Nutrients, 12*(11). https://doi-org.ezp.waldenulibrary.org/10.3390/nu12113521

Wiss, D. A., & Brewerton, T. D. (2020). Adverse childhood experiences and adult obesity: A systematic review of plausible mechanisms and meta-analysis of cross-

sectional studies. *Physiology & Behavior*, 223. https://doi-org.ezp.waldenulibrary.org/10.1016/j.physbeh.2020.112964

Appendix A: Interview Guide

1. Let's begin with what you can tell me about any physical health issues that may impact your weight loss treatment?
    a. How do you feel your medical provider understands how your physical health may affect your weight loss treatment?
    b. How can your provider better support your weight loss treatment related to your physical health challenges?

2. Can tell me if you have ever had mental health issues that you feel may impact your weight loss treatment?
    a. How do you feel your medical provider understands how your mental health may impact your weight loss treatment?
    b. How can your provider better support your weight loss treatment related to your mental health?
    c. Can you tell me if your weight has ever caused you stress?
        i. If so, in what ways?

3. Can you tell me about any other issues that may impact your weight loss treatment?
    a. Tell me about your relationship with your medical provider.
    b. Can you tell me if you have ever experienced challenges related to your weight loss treatment due to your gender?
    c. Can you tell me if you have ever experienced challenges related to your weight loss treatment due to your race or ethnicity?
    d. Can you tell me if you have ever experienced challenges related to your weight loss treatment due to your education level?
    e. Can you tell me if you have ever experienced challenges related to your weight loss treatment due to your financial status?
    f. Can you describe how well do you feel your medical provider understands weight loss challenges?
    g. Can you describe if and how you feel heard?
    h. Can you explain if you have ever felt judged by your provider or anyone else within their medical office?
    i. How can your provider better support your weight loss goals overall?
    j. Is there anything else you would like to tell me about your interactions with your healthcare providers?
    k. Do you feel like any healthcare providers contributed to this progress? If so, in what ways?

4. How do you feel about your weight loss progress overall?

a. Can you give me a specific example of what was helpful?
b. Can you give me a specific example of what was unhelpful?

5. What is the most challenging part of managing your weight loss progress?

Appendix B: Recruitment Flyer

Seeking volunteers to take part in a study exploring the experiences of adults with histories of childhood hardship and treatment for overweight or obesity

If you are 25 or older and are being treated for weight loss by your primary care physician, you may be eligible to participate.

Your participation in this study will help medical providers treat and understand the specific challenges adults with histories of childhood hardships experience in weight loss treatment. This information may help reduce weight stigma in the healthcare profession and inform improved and more trauma-informed weight loss interventions.

If uncomfortable at any point during your participation in the study, you may choose to no longer participate and resources will be available if you feel you need support. A small gift card will be offered as appreciation for your participation

Contact: Megan Propps at xxx for more information.
Location: Appointments will be made at your convenience for virtual, phone, or electronic interviews.

If you are unsure about eligibility, please feel free to email Megan Propps at xxx for clarification.

The study is being conducted for the completion of a dissertation under Walden University.

Eligibility: You are eligible if you are 25 years or older, have seen a medical provider before for treatment of overweight or obesity, and have a history of early life adversity, including any chronically stressful experience such as any form of abuse, neglect, food or housing insecurity, or any family member with substance abuse, mental health issues, or incarceration.