UNIVERSITY OF CALIFORNIA SAN DIEGO

The Weight of Medical Authority:
The Making and Unmaking of Knowledge in the Obesity Epidemic

A dissertation submitted in partial satisfaction of the requirements
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in

Sociology (Science Studies)

by

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The Dissertation of Julia Ellen Rogers is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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DEDICATION

For Eric and Anderson

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Acknowledgements

This dissertation is a stopping point along a journey that began long before graduate school and will continue on afterward. There were many times along this journey when I thought it might be at an end. I am indebted upon its completion, in countless ways, to many people.

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ABSTRACT OF THE DISSERTATION

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By

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Concern about the growing rate of obesity in the United States and globally has been constructed as a public health problem referred to as the "obesity epidemic." Massive public health efforts have been marshalled to address this concern, all premised upon a hegemonic idea about the meaning, measure, and etiology of obesity. This meaning of obesity is presented to the public as a matter of settled science. However, a close reading of the scientific literature reveals multiple, ongoing disputes and controversies within the field of weight science around the meaning, measurement, and control of obesity. This dissertation applies a Science and Technology Studies (STS) lens to the obesity epidemic. Using social worlds analysis and the STS tradition of controversy studies to analyze multiple, on-going

debates within weight studies with their resultant contests over authority, validity and meaning-making around obesity I trace the history of three debates within weight-science: the crisis of evidence around long-term weight maintenance, the "obesity paradox," and the growing support for a Health At Every Size approach to weight. I further investigate the public impacts of knowledge production around obesity through a discussion of weight-related stigma and an ethnographic analysis of fat activist online spaces (sometimes referred to as the Fat-O-Sphere). These groups represent both implicated others and lay-experts in knowledge production about the obesity epidemic.

INTRODUCTION

Obesity has been called a "time bomb," a threat to national security, an epidemic, a pandemic, and the greatest public health challenge of our age. Medical officials have warned that obesity rates are rising quickly and projections about this trend continuously verge on the apocalyptic. We are warned that epidemic obesity will bankrupt our medical systems, kill our children, ruin our nation, destroy the environment, and undo decades, if not centuries of medical and public health advancement. Given such dire predictions it is no wonder that some scholars have deemed this reaction to rising obesity rates a "panic" and questioned whether or not these predictions are unduly hyperbolic. The narrative around fatness as a pathology has become so pervasive it is both invisible and totalizing. We no longer question the validity of assertion that fatness is dangerous, nor is it easily conceivable that fatness would be anything but unhealthy.

Since C. Everett Koop declared a war on obesity 1994 millions of dollars have been spent by private citizens and public agencies in an effort to reduce the average weight of the population. The diet industry is thriving in the US. Despite the presentation of obesity as a simple problem of overconsumption and an easy solution of balancing the equation of "calories in, calories out" the "war on obesity" has largely been a public health failure. In the United States obesity rates have stabilized but refused to decline and continue to hover around 33%. Worldwide since the start of the war on obesity not one country has managed to lower their rate of obesity (McNeil, 2014:D5). One study found that the odds of an "obese" person attaining a "normal" weight sat at 1 in 210 for men and 1 in 124 for women in any given year (Fildes, Charlton, and Rudisill et al, 2015:e55). What the "war on

obesity" has achieved is a dramatic increase in anti-fat attitudes, fat bias, and incidents of prejudice and oppression. The "war on obesity" has codified anti-fat attitudes as not only normal and acceptable, but as desirable.

Fatness has existed as long as there have been humans. Statuary and other artefacts found in ancient caves depict fat bodies as far back as the 30,000 BCE[1]. The history of obesity is the history of the world. The meanings ascribed to fat over time have changed from era to era. Many histories of fat, fatness, and obesity have been written, tracing the ebb and flow of favor and disfavor around the limits of corpulence. Standards of beauty change, preferences for distribution of fat on the body come into and out of mode. Ideas about how healthful or harmful corpulence is have changed as well, and are difficult to disentangle from the lens of our modern conceptions of both obesity and health. From the writings of Hippocrates we can find evidence that the ancient world had fat people, that they were sometimes unhealthy, that they were sometime foreign, and that they also sometimes had better deaths than their thin counter-parts. Prior to the mid-1800s a little extra pudge might have been seen as an insurance policy against disease or evidence plentiful access to food (Vigarello, 2013). It might also have been seen as evidence of wealth which could be an evidence of moral superiority of a corrupting influence (ibid). The link between gluttony and fatness might seem self-evident and natural to our contemporary viewpoint, but to a 19th century thinker such a link might be inverted. Thinness was once thought to be a sign of

[1] In this I refer to the "Venuses" the most famous of which is the "Venus of Willendorf" a 4.4 inch fetish statue discovered in Austria. The statue is a rotund female figure with large breasts, thighs, and a protruding abdomen. It is sometimes utilized as a symbol by the Fat Acceptance movement. It is one of dozens of depictions of large women that have been found.

gluttony, evidence of excess food consumption resulting in dyspeptic digestion and an emaciated frame (Schwartz, 1986). We might find it hard to believe but there was once an epidemic of thinness in the United States, and the rhetoric and concerns around it were remarkably familiar and similar to those I will be discussing in this dissertation (Schwartz, 1986). The history of meaning making around fatness is interesting, but beyond the scope of this project. However, it is important to note that I am not starting at the beginning, In some ways I am starting at the end. The current ideology around obesity naturalizes it as a category and so it makes it appear that the ideas around obesity I will be discussing here-in are ideas that have always been. This is not the case. In fact our current set of ideas around fatness and health emerged mostly in the post-world-war II era and continues to grow at a steady pace until the catalyzing event of the "obesity epidemic" rapidly shifts public attention and attitudes around fatness. It is here that I tentatively begin my analysis, with the impact of the "obesity epidemic" as a cultural artefact and intellectual paradigm.

This dissertation utilizes situated analysis and social worlds theory to conduct a controversy analysis of several, ongoing, unresolved controversies within the arena of weight science. It takes a snapshot of the current struggles over meaning making and knowledge production within this arena and uses that to identify what the points of struggle are, who the interested actors are, and what tactics are being deployed to seek legitimacy and dominance of differing viewpoints. I explore multiple scientific controversies that are playing out simultaneously within this arena and explore how various actors within different social worlds work to resolve these controversies and delineate the boundaries between science and non-science, valid and invalid ideas, control over identities, and dominance in

asserting the meaning of obesity. I am not necessarily interested in which social world has the "correct" interpretation of obesity. However, I can identify whether or not standards of what constitutes "truth" are being applied evenly across the different scientific theories presented and investigate why the standards of proof being used might vary. I can also investigate what sorts of strategies are being deployed to make claims to truth (or Truth). Further, I can identify challenges to the resolution of these controversies both within the arena being studied and being imposed from outside. Last, this analysis demonstrates the ways that the theory methods package that is currently dominant within weight science has highly influenced the shape of the current social worlds in weight science and the terms of the debate as it is presently playing out.

Weight Science is the term I use in this dissertation to describe the arena of competing disciplines and groups of people who are attempting to claim the right to create valid knowledge about the topic of obesity. I have chosen to use weight science rather than "obesity" or "fatness" out of awareness of the weight that these very terms have taken up within this arena. The words that an actor within these worlds uses is revealing of their position, if I were to take up one word or the other I would take up position within those worlds. When I describe the knowledge produced within that world, its theories, methods, actions and activities I utilize the phrases and terminology that the group being described favors. As such, when I write about the obesity paradox I use the medical terms "obesity" and "overweight." When I describe the crisis of evidence in dieting I vary between uses of "fat," "fatness," "obesity," and "overweight" in an effort to reflect the vigorous debate regarding not only the viability of intentional weight loss efforts but the very nature of the

object of study within this debate. When I describe the Health At Every Size® (HAES®)[2] intellectual movement I use terms like "fat," "fatness," "large bodies," and "higher BMI" in an effort to reflect the worldview that has been conscientiously developed and taken on within this group. Last, when I discuss the fat acceptance activism communities I use the language they favor for describing themselves: "fat" and "fatty." In all other instances throughout this dissertation I make an effort to use the most neutral terminology available to me, this includes use of the term "adipose" or "adipose tissue" to describe body fat, "adiposity" or "excess adipose tissue" to describe fatness, and "higher or lower BMI" to discuss medical categories.

Networks, Social Worlds, and Expertise in Making Scientific Knowledge

It is the position of Science and Technology Studies (STS) that science is necessarily social. STS concerns itself with the social conditions and societal effects of science as well as the "social structures and processes of scientific activity" (Ben-David and Sullivan, 1975). Much of the work of STS has been focused upon the structure of scientific communities from institutional frameworks to networks comprised of people, places, objects and technologies (Bowker and Star 1999; Latour, 1996) and also the relationship of these structures to the development, acceptance, or rejection of scientific facts (Fleck, 1935/2012; Kuhn 1962/2012). Analysis of the process of science is integral to an understanding of knowledge production within science. One practice within STS has been a focus upon mapping out the relational forces that produce knowledge. This may include mapping out

[2] Health At Every Size and HAES are registered trademarks of the Association for Size Diversity and Health and is used here-in under the "fair use" guidelines.

the actors (both human and non-human) and the work that they do (Latour, 1996) or the use of social worlds approach which envisages "universes of discourse" (Clarke and Star, 2008) and incorporates other social actors involved or implicated by scientific knowledge production (Garrety, 1997: 731). These studies into the process and practices of science have focused upon the challenges, struggles, and benefits of sharing and transmitting knowledge within and between social worlds. Scientists may use analytic packages, toolkits, and boundary objects to allow discussion and collaboration across disciplinary boundaries (Fujimura, 1988; Star and Griesemer, 1989; Fujimura, 1992). These sensitizing concepts allow STS to think about the relational ecologies of social worlds (Clarke and Star, 2008) and can be particularly useful for analysis of controversies within science and those involving science and the public. Social worlds and situated analysis are particularly helpful for analysis of controversy for their ability to map actors/actants across disciplinary boundaries, inside and outside of science, and the flexibility of the social worlds framework. Social world are malleable and fluid where networks might not be.

Public input into science and science policy is another familiar topic of interest for STS. Public concerns about the developments and use of technology and its impact upon the natural world and human body draw the public into the scientific process. The public might want to create boundaries around acceptable and unacceptable topics of investigation like the development of an abortion drug (Clarke and Montini,1993) or question the safety of scientific endeavors and their impacts upon the environment (Murphey, 2006; Oreskes and Conway, 2010;). Further, as in the case of AIDS activism, the public might be invested in directing research aims out of reliance upon scientific endeavors to prolong life (Epstein,

1995). Once devised epistemological toolkits may also be used by groups outside of science to stake claims to scientific authority and participation in the production of knowledge production by virtue of their status as lay-experts or push for new investigations (Epstein, 1995; Martin, 1991).

Controversies in science often involve struggles over credibility where experts will attempt to delineate whose side is correct by asserting their own credibility and questioning the credibility of competing experts. As Shapin (1994) points out credibility is the backbone of moral order in scientific inquiry and the basis for public faith in scientific authority. Battles over credibility involve "the constant attempt by different players to rephrase the definition of 'science' so that their particular 'capital' – their forms of credibility – have efficacy within the field" of contestation (Epstein 1996: 19). Accusations of pseudoscience, conflicts of interest, or lack of expertise or authority all attempt to delineate science from pseudoscience and good science from bad science.

The Sociology of Scientific Knowledge (SSK) tradition of symmetrical analysis in analyzing controversy and debate has often favored the "underdog" in such debates. In recent analyses this underdog position is often held by the social movements which seek to influence science (Epstein, 1996; Murphy, 2006). Recently, some STS scholars have begun to question the wisdom of this practice. Oreskes and Conway (2010) documented the way that artificial extension of the public debate around smoking as the cause of lung cancer and the reality of global warming were goaded on by corporate interests. Dissenters did not have proof that they were correct; they only provide enough doubt to prolong uncertainty. Tensions and debates between scientific realism and social constructionism are perennial

within STS and have been made more salient by contemporaneous concerns about a growing public distrust of science and a general cultural flexibility around "facts." Collins and Evans (2007) propose a tension between the problem of legitimacy and the problem of extension: The public has a right to contribute to science and without their input technological developments will be distrusted, however boundaries need to be set around legitimate contributions (Collins and Evans, 2007: 113). The public has been expecting an ever-increasing say in the process of science, aided by the abundance of access to information provided by the internet, a general flattening out and democratizing attitude regarding expertise has grown. Evaluation of scientific controversies, particularly those in fields where a failure to produce quick and decisive results has produced a credibility gap (like nutrition and obesity treatment) might add to public questioning of the authority of science. However, presenting consensus when consensus has not been achieved or simplifying complicated matters also runs the risk of jeopardizing scientific authority and credibility.

Scientific Controversies

Science and Technology Studies (STS) has a long tradition of analysis of scientific controversies. Controversies are one opportunity to observe interaction between the social and the scientific. Scientific controversies allow a unique opportunity for understanding how science is conducted in the real world, how credibility is produced, research is verified and validated, and how the dividing line between science and pseudo-science is created and maintained. Controversies require scientists to evaluate evidence for competing theories. They can demonstrate the structures both institutional and intellectual that build scientific

ideas. Through analysis of how science bends or breaks around controversies reveals a great deal about the scientific process. Controversies are an opportunity to study science in action (Latour, 1987).

STS distinguishes between priority disputes about who made particular scientific discoveries and wider disputes like those about global warming or cigarette smoking causing cancer (Oreskes and Conway 2010). Following an SSK tradition evaluations of scientific controversies have usually upheld an impetus to explain the controversy symmetrically (Bloor 1976). It is not enough for one side or the other to have hold of the truth (or Truth) and it cannot be presumed that the reason for victory is superiority engagement with logic or rationality. Instead studies of controversies must look at the way that evidence is marshalled, resources mobilized, tactics deployed to appear credible, and the kinds of work that scientists do to delineate boundaries between experts and non-experts (Fujimura, 1992; Gieryn 1999).

Many studies of scientific controversies focus upon the intersection of science and the public. These might involve public concerns about the appropriateness or safety of science or technology practices such as in the case of debates about genetically modified vegetables, DDT use, or fluoridation of water. They might arise from disputes about how best to investigate, treat, treat or control a disease like HIV/AIDS. Often such studies pit scientists against social movement groups who seek to gain influence over the scientific knowledge production or authority (Martin 1991; Richards 1991; Epstein 1996).

Analysis of controversies might also focus upon assessment of the various actors and actants within a social network (Latour, 2005), within social worlds (Gieryn, 1999), or as

part of arenas of fields of competing interest and situated knowledges (Clarke and Montini, 1993; Clarke, 2005). Evaluations might focus upon how scientists create alliances, gain credibility, exert expertise and authority, and bring closure to debates (Bloor 1976; Shapin and Schaffer 1985; Shapin 1995). Scientific controversies and debates may not achieve a state of closure, but sometimes persist for years (Simon 2002) such debates may persist due to a small group digging in and refusing to concede or they may persist due to the influence of outside social movement groups, or external actors intentional seeking to sow doubt (Oreskes and Conway 2010). This has led some researchers to argue that symmetrical analysis may not be appropriate and that science studies scholars should seek out a more normative approach (Collins and Evans 2007).

In this dissertation I engage in a symmetrical analysis of a series of emerging debates within weight science. I draw upon Clarke (2005), Fujimura (1988), and Gieryn (1999) to evaluate the ensuing controversy, struggles over boundaries, dominance of competing theories and methodological approaches, and competing social worlds. I evaluate claims to expertise and authority from scientists and lay experts. The influence of social movements upon science has been demonstrated time and again, but my evaluation departs from these others as I am examining a competing framework that arose from within science but it is utilizing a concordant relationship with a social movement to prolong debate and avoid closure. To avoid the pitfalls of symmetrical analysis I have chosen to evaluate multiple controversies with varying degrees of agreement with the hegemonic approach to obesity, this allows me to doubly evaluate each controversy, seek out symmetry, but avoid unduly favoring one side or the other.

Fatness, health, and stigma

Interest in the scholarly examination of fatness as a social identity and object of cultural interest and social regulation has grown over the last decade. A thriving interdisciplinary community of scholars has written about fatness in a sub discipline that has been named "fat studies." Fat studies scholars have examined the historical development of interest in fat as a moral, personal, and medical problem (Schwartz 1986; Farrell, 2011; Boero, 2012). Other scholars have focused upon legal treatment of obesity and the fat acceptance quest for legal protections and rights (Kirkland, 2008). Extensive analysis has been conducted of the fat acceptance movement, fat activism, and fat performativity (Johnston and Taylor, 2008; Kwan, 2009; Meleo-Erwin, 2012; Pausé, 2015; Cooper, 2016; Lupton, 2018). Comparisons have been made to the civil rights movement, disability rights activism, and gay rights (Cooper, 1997; Kirkland, 2008b; Aphramor, 2009, O'hara and Greg, 2012). Considerable time has been spent examining fat identity (LeBesco, 2004; Murray, 2005; Saguy and Ward, 2011), and the "framing" of fat (Saguy and Riley, 2005; Saguy, 2012; Kwan and Graves, 2013). Methods of resisting fat embodiment have also been explored in great detail as have analyses of the "moral panic" around obesity and obesity epidemic (Saguy and Almeling, 2005: LeBesco, 2010). A few scholars have looked at the obesity epidemic as an expression of biomedicalization and conducted Foucaultian analyses of the biopolitics of obesity (Morgan, 2011; Wright, 2012; Lupton, 2018). Though fat a social construction is assumed in much of the literature there is a dearth of theoretical work on the subject. However, up to this point there has not been a science and technology studies intervention into the obesity epidemic nor scholarship that introduces STS concepts into the fat studies arena. This is an oversight as STS has a great deal to offer the fat studies

discipline including tools of analysis for understanding the special social forces that science and medicine can exert upon the lives of medical subjects. Further, the obesity epidemic and fatness are ideal candidates for an STS intervention. The obesity epidemic is a biomedicalized epidemic. Over the last 100 years fatness has been transformed form normal bodily variation into disease entity that required intense monitoring, intervention, regulation, and technoscientific control. Analysis of this change is exactly the kind of project that STS has been designed to understand.

Methods

In order to examine the changing meaning of adiposity in the United States, I implemented multiple strategies to examine the production of knowledge about adiposity and ensuing struggle over authority and expertise claims-making around fat bodies. I utilized a grounded theory method and chose to engage in a multi-methods situational analysis of adiposity as an arena of contested knowledge. I identified relevant social worlds that had a stake in producing knowledge about adiposity that were also making claims to authority about the meaning and regulation of obesity/fatness. My research has a United States focus, but also includes evaluation of influential social worlds, actors/actants (both human and non-human), and events outside of a United States focus but still within the English-speaking world. I employed multiple qualitative methods including situational mapping, an online netnography of the fat acceptance and Health at Every Size community, participant observation at movement events, content analysis of fat acceptance and Health at Every Size blogs, document analysis, and interviews with key actors.

First, I set out to produce a situational map of adiposity in the United States using the competing definitions of "obesity" as the central action of interest and the "obesity epidemic" as the situation to be analyzed. The action of mapping this situation was repeated continuously throughout the project. Through the use of this analytic tool I identified relevant social worlds to focus my analytic efforts upon. Given the limited scope of a dissertation project I chose to focus my efforts toward contests over authority, expertise, and knowledge production aimed at defining (and thus making meaning out of) the category "obesity[3]." I initially identified three primary social worlds that I could focus my attentions upon: the medical world, the fat acceptance movement, and the Health at Every Size movement. From repeated mapping[4] and the additional qualitative methods I employed, I identified additional subworlds, individual human and non-human elements and actors, discursive constructions, temporal elements, major contested issues and debates, sociocultural and symbolic elements, and related discourses. I then mapped these elements and their relationship influence upon the analytic category of obesity, the cultural category of fatness, and the situational category of the "obesity epidemic." I created multiple situational maps at varying levels of analysis (from the macro-social to the micro-social, internal and external to subworlds, and between oppositional sides in controversies). These

[3] Here-in I include "overweight" in the category of "obesity." "Overweight" was initially conceptualized as "grade-1" obesity and later redefined as "pre-obesity" and eventually received its own nomenclature of "overweight." Despite this rebranding, overweight is analytically and epistemologically inseparable from obesity.

[4] To map these social worlds I created visual maps using word clouds or bubble and line clouds as Clarke demonstrates in her 2005 book. I also created a large, interactive, ongoing map through the use of string, notecards, and push-pins that allowed me to constantly move and reshape the map.

maps reflected my evolving understanding of the obesity arena as generated by my other qualitative methods.

Second, I collected and analyzed a variety of relevant documents and audio-visual items including: published research and commentary on the obesity epidemic, published research and comments on the obesity paradox, published research and comments on Health at Every Size, recordings of lectures, conferences and debates, consensus committee statements and policy statements from the World Health Organization (WHO), Centers for Disease Control (CDC), and American Medical Association (AMA), and training materials from a Health at Every Size course. These documents were analyzed to identify major themes and primary actors. I utilized the computer program AtlasTi to code, sort and organize discourse from my netnography. I utilized Excel files, situational maps, field notes and memos in analyzing research publications and commentaries, media reports, video footage of debate, and observation from conferences in analysis and identification of major themes in the obesity paradox debate, the efficacy of diets debate, and the classification of obesity as a disease. Comments to the media, letters to the editor, interviews with key actors, and press releases were all helpful in constructing the history of the obesity paradox debates, as well as the strategies used by scientists to create and maintain boundaries around the debates and attempts to force closure. These documents along with interview data and secondary sources aided me in constructing a history of the Health at Every Size concept and movement. Observation in online spaces and movement events was instrumental in understanding how lay-expertise was generated and utilized within the HAES and fat

acceptance communities. I again made use of situational maps to evaluate the social worlds associated with these documents.

Third, I undertook a long-term online netnography of the "fat-o-sphere" consisting of the networked online fat activist and Health at Every Size spaces. This included my participation and observation on numerous Health at Every Size related listservs, Health at Every Size Facebook groups, fat acceptance and fat activist Facebook groups, fat acceptance blogs and message boards. A netnography is method of study specifically for analysis of online communities which involves participant observation, field notes, situational maps of the online communities and actors, and text and discourse analysis of postings. I followed multiple subcommunities online simultaneously in order to validate that my findings were representative of the group as a whole. As both fat acceptance and Health at Every Size are long-standing social movements whose communities moved from a largely off-line focus to online communities I utilized "real world" participant observation, field notes, and interviews to validate the themes I was observing online. I attended multiple fat acceptance social gatherings and conferences. As veracity of identity and claims online can sometimes be suspect I chose to confirm the themes discovered by analyzing online discourse through participant observation and informal interviews at in-person activist events. When quotes are presented they are selected for being representative of the discourse that I observed over the long-term. Privacy in online spaces is liminal at best, the forums and list-servs I observed have hundreds and thousands of people on them and do not require invitations for membership. However, I do recognize that within these spaces there is a higher expectation of privacy than their might be in a completely open forum. Out of respect for this

expectation I have de-identified all quotes from online spaces and made them anonymous. I have further chosen to utilize my field notes from my participant observations on listservs, but decided to not use direct quotes from these spaces.

Third, I conducted formal and informal, structured and unstructured interviews with key actors within the networks I was analyzing. I interviewed key actors from within the fat acceptance community as well as activists all along the hierarchy and at varying levels of participation. Most (26) of my fat activism and HAES interviews were unstructured interviews, but ten Health at Every Size and seven fat acceptance interviews were structured interviews with key actors within the network. Finally, I conducted interviews with seven individuals who have been active in the scientific debates about the obesity paradox. Structured interviews were conducted between June of 2014 and February of 2018. Interviews were conducted in person, over the phone, or through the use of Skype. These interviews were audio recorded, transcribed and coded. Informal interviews were not audio-recorded but were quoted in field notes. Interviews lasted between 20 minutes and 2 hours. I used a generalized interview guide which can be found in Appendix A, but as my structured interviews were with key-actors each interview was also tailored to address the contributions and arguments from those researchers. I also conducted one life-history interview with Marilyn Wann who insisted on being "on the record." All other interviews were anonymized. The vast majority of my HAES and fat acceptance respondents were female. The majority of my obesity paradox respondents were male. Three participants identified as gender-queer or transgender, requesting use of non-binary pronouns.

Given the demographic distribution of gender within my sample use of gendered pronouns could potentially compromise anonymity for my participants. I have therefore elected to utilize "they/them/their" for all interview quotes. Further, as my interviews were conducted under the guarantee of anonymity, but were also conducted with key actors within these debates I have taken steps to be certain that I do not artificially bolster the arguments of any actor's position as stated on the record through anonymous agreement in interview quotes. It is worth noting that interviews with the scientists involved in the obesity paradox debate were very challenging to obtain, despite my best efforts. Researchers who were critical of the obesity paradox data felt that the research did not deserve additional attention and were reluctant to speak with me. Many researchers who conduct obesity paradox research had grown weary of interview requests and distrustful of the representation of their work. Health at Every Size researchers were more willing to speak with me, especially in an informal setting, but were likewise concerned with representation of their position.

Last, I was cognizant that my own body size and shape might sway the content or comfort of my interview respondents. Whenever possible I took steps to make my own body-size less obtrusive during the interview process. I did not try to hide my identity as a fat woman, but I did choose to utilize technology that made my size less salient during the interview. It was my hope that this would allow respondents to be more candid in their responses about obesity, particularly when discussing issues of lifestyle habits, bodily habitus, stigma, and stereotypes.

Plan of the Dissertation

The first chapter provides a brief historical overview of biomedicalized obesity and an introduction to the arena of weight science. This chapter primarily outlines the rise of a standardized, technoscientific definition of obesity as part of the obesity epidemic theory/methods package. The use of body mass index (BMI) to measure obesity and the classification of obesity as a disease has been contested by some healthcare professionals, but these concepts have become central to the public health approach to obesity. The public health approach to the obesity epidemic treats overweight and obesity as a significant threat the health of the nation. The public health repertoire treats obesity as public problem with an individual solution reflecting the biomedical individualism model currently dominant within public health. In this chapter I outline how the hegemonic definition of obesity, combined with the obesity epidemic bandwagon and theory/methods package has combined to transform the category of obesity into a technology.

After chapter one the dissertation is divided into two parts. Part one (encompassing chapters two, three, and four) looks at the scientific controversies that lie at the heart of the struggle for control of definition and treatment of obesity: The evidence crisis in diet maintenance and the obesity paradox. These chapters deal with conflicts over authority and validity in knowledge production about embodied adipose tissue and adiposity. Conflict over the viability of intentional weight loss and the mortality rates of different BMI cut-off points are important to the debate about how to define adiposity. These conflicts begin to pick apart the component parts of obesity as a technology and threaten to destabilize the hegemonic theory/methods package within the arena of weight science. Each controversy

contains within it debates about the viability of the obesity epidemic tool-kit, questioning its suitability for analyzing, containing, and controlling excess adiposity within the population.

In chapter two I trace the evidence crisis around diet-maintenance within weight science. The ability to effectively and permanently lower weight in overweight and obese patients is central to the hegemonic understanding of risk management and health promotion that constitutes the public health approach to the obesity epidemic (the weight-dependent paradigm). As data was published indicating that attempts at long-term weight maintenance overwhelming resulted in failure a schism developed within weight science dividing healthcare practitioners into two camps: those that would pursue a weight-dependent approach to health and those that would develop a new approach to weight-and-health management. This chapter also traces the emergence of the Health at Every Size paradigm as arising naturally out of evidence crisis in diet-maintenance. The crisis of evidence about weight-loss maintenance in weight science resolves through a suspension closure. Proponents of Health at Every Size view the controversy to be closed by virtue of sound argument and treat their declaration that "diets don't work" as settled science. While they acknowledge that a large portion of their fellow researchers continue to prescribe diets and conduct research on dieting they also assert that the failure of diets is an open secret within the field. Researchers who continue to adhere to the weight dependent model continue to treat the problem of weight-loss maintenance as a "doable" problem within weight science. They do not assert that the controversy is resolved per se, but that it is resolvable with appropriate application of technoscientific methods. The result is that weight-dependent approach researchers pay very little attention to the work of their Health at Every Size peers

whose advocacy for a paradigm shift is perceived as a solution to a problem that doesn't exist. In contrast the kinds of criticisms and methodological practices that the HAES subworld has been championing find new champions form within the weight-dependent paradigm when "obesity paradox" data threatens the stability of BMI categorization of risk.

In chapter 3 I trace the emergence of data supporting potential protective effects of higher adiposity for some groups and its subsequent labeling as an "obesity paradox." When first presented this data is responded to as a fascinating anomaly, but as the phenomenon persists skepticism and hostility rise when the phenomenon appears to apply not just to certain specific sub-populations but to populations as a whole. This becomes a tipping point and an anomaly becomes a controversy. In this chapter I focus upon the overweight-mortality paradox debate, tracing the arguments, credibility and validity claims, and discrediting tactics utilized by the two dominant actors to delineate the boundary between good science and bad (non-) science. The opposing forces in this debate are of fairly equal footing in terms of prestige, available cultural capital, funding, and institutional backing that might impact their claims to credibility, authority and expertise in closing this controversy. As a result, forces external to the standard conception of science are utilized to try to close the debate, at times warranting censure from within the scientific community. Both sides perceive the other as having an agenda, being unduly influenced by conflicts of interest from market forces, and see their opposition's tactics as damaging to the field of weight science and potentially damaging to scientific credibility in general.

Analyzing the obesity paradox alongside the crisis of evidence in weight-maintenance and the rise of HAES allows me to conduct a symmetrical analysis of

controversy within weight science. In chapter 3, the comparison of these debates illustrates the similarities and differences between the standards of proof and evidence applied to arguments from researchers within the dominant theoretical approach to weight science and those researchers outside of it. The arguments, discrediting tactics, and standards of evidence for causation demanded of obesity research by the HAES subworld and the Harvard School of Public Health subworld are remarkably similar. Both groups ask for tight controls upon confounding variables and stringent isolation of adipose tissue as the "cause" of the effect being measured. Both groups accuse their interlocutors of bias, conflicts of interest, and unscientific standards. The Harvard group is able to harness considerably more institutional power, credibility, authority and cultural capital in the presentation of their arguments. What makes the similarity between their arguments striking is that the Harvard group's criticism of the obesity paradox is treated as legitimate, but the HAES application of the same standards of proof to hegemonic obesity research is treated as illegitimate and potentially science denial. Of further interest is the way that the obesity paradox data, which becomes the obesity paradox bandwagon, reopens the kinds of theoretical and methodological questions that the HAES researchers began engaging with after the schism regarding weight-maintenance. The obesity paradox data destabilizes obesity as a category and technology, incentivizing researchers to break apart and challenge the package of assumptions that went into the construction of obesity as part of the obesity epidemic.

In the second half of this dissertation I intentionally place fat people (not just their bodies) at the center of analysis. Within the arena of weight science, fat people are the implicated other, talked about but not seen or listened to. The knowledge that they attempt

to produce and the meaning making around fatness that claim lacks authority and is discredited. The intense scientific focus upon adiposity and specifically upon high adiposity has imposed an identity category upon people carrying more weight. This group must react to the imposed identity and either succumb, resist, or negotiate.

In chapter five I first highlight the impact of increased discourse around adiposity and the obesity epidemic upon fat bodied individuals and discuss fatness as a spoiled identity. I then outline the experience and impact that stigma, bias, and prejudice have had upon the life chances of fat people. In the second half of the chapter I deal specifically with the impact that obesity as a technology and the obesity epidemic theory/methods package has had upon the ability of fat people to access adequate healthcare.

In chapter six I look at resistance to the stigmatized fat identity by discussing the efforts of fat activists. Fat activists are seeking a place at the table and the authority to generate knowledge about adiposity. They want to have some ability to control the narrative and discourse around fatness. Health At Every Size is a useful tool for these purposes. It provides its own package that allows translation and collaboration between HAES and fat acceptance. In turn the fat acceptance use of HAES bolsters the standing of HAES as authoritative voices on the health and needs of fat people. While fat acceptance is at its heart a civil rights movement, it is out of necessity a public health program for the fat community.

Finally, in the conclusion, I will review the major findings and themes of the dissertation as well as articulate the scholarly contributions this work makes to science and technology studies, feminist science studies, and fat studies scholarship. I will also consider

the implications of the controversies that I have outlined. Moreover I discuss the climate in which these debates about obesity are taking place and how this might shape the success or failure of the Health at Every Size and fat acceptance movements over the coming years.

CHAPTER 1: OBESITY

In order to adequately describe and evaluate the three controversies that I will discuss within this dissertation (the crisis of evidence in weight management, the obesity paradox, and the rise of Health At Every Size) it is necessary that I first describe the dominant paradigm within weight science and some of the differences that constitute the social worlds that are vying for dominance in this arena. This chapter will briefly discuss the impact of the rise of the "obesity epidemic" and its role in producing the currently hegemonic theory/methods package in obesity research, which I term the "weight dependent paradigm." I will also delineate the social worlds and subworlds within weight science that are relevant to this project (there are other subworlds of weight science that I do not explore, but that other scholars have engaged with). Last, I will situate the arena of weight science within the larger social structure and its construction of meaning around adiposity.

Biomedicalization of Obesity

Medicalization occurs when the jurisdiction of medicine expands to redefine arenas once defined as social, legal or moral problems as medical problems (Clarke, Shim, and Mamo et al, 2010:1). In a very broad sense, medicalization of obesity began as early as the 1850s with the start of "diets" advertised to aid one's health. However, most of these diets originated not from physicians but from spiritual and moral leaders (Schwartz, 1986). In the mid- to late-1800s you start to see the rise of dietary interventions that are intended to improve physical and spiritual well-being, these come from both within the medical arena and outside of it. At the turn of the century cultural ideas around adiposity and anthropometric measures begin to shift, fatness or corpulence begins to be associated with a

different class of people in society (lower, rather than upper class). Where once corpulence was the cultural aesthetic of the elite, it began to be associated with ethnic minorities, immigrants, and poor people (Ibid). Thinness as an ideal and an aesthetic rises within the upper classes and quickly filters down to color cultural preferences around body habitus. By the middle of the first half of the 20th century physicians are much more heavily involved in the regulation of weight and weight-loss. They are beginning to prescribe diets and the first pharmacological interventions into corpulence begin. Insurance companies have noted a trend regarding adiposity and mortality among their mostly white, male, upper class client base and charge more for those who do not maintain their 25-year-old weight status. By the 1950s obesity is firmly within the purview of the medical profession. Fatness continues to be framed as a moral failing (as it had been increasingly presented since the 19th century) but it is also presented as a threat to health.

Medicine after World War II is transformed, in part due to the rise in epidemiological research. Epidemiological studies linking lifestyle factors (including smoking, diet, physical exercise, and weight) to morbidity and mortality provided new information about health and changed approaches to clinical medicine and public health. As I will discuss in great detail later in the dissertation the medical field has spent a considerable amount of time and energy from the 1950s to the present day seeking out an adequate and reliable treatment for obesity and documenting the ill effects associated with this bodily state. The technoscientific transformation of medicine that occurred around 1985 influenced the study of obesity. Concerns about obesity are central in concerns around optimization, longevity, and population level health. By the time the "war on obesity" and

the “obesity epidemic” are declared in the 1990s, obesity has been implicated as a major public health threat. In many ways the “obesity epidemic” is a quintessential example of the biomedicalization process.

Obesity as a disease state and a lifestyle is implicated as impacting health in all stages of life-course; from womb to tomb the specter of obesity is present within the current medical paradigm. Obesity in pregnancy increases not only risks for that birth but risk factors for the incubating fetus that persist long after they escape the womb. Obese mothers create epigenetic changes in their children which set them up for a life of health or illness through their future BMI. Thus mothers are not exempt from these concerns as dieting near the time of conception might accidentally program the epigenetics of a child to anticipate a food scarce world and activate “thrifty genes” designed to see humanity through famines. Monitoring of children for obesity begins in infancy and continues throughout their childhood and adolescence. Mothers are encouraged to breastfeed their infants, in part to reduce the incidence of childhood obesity and aid mom in losing pregnancy weight. Weight is taken at all physician appointments (and BMI calculated), even for psychiatric care and at dental appointments. The risks associated with obesity have multiplied since declaration of the “obesity epidemic” in part through the proliferation of research and publications on the topic. Coinciding with the declaration of obesity as an epidemic we have seen increasing monitoring and classification of individuals into identity subgroups. Not just stratified classification of obesity, but the creation of overweight as “pre-obesity” and the reconfiguration of BMI thresholds to optimize avoidance of risk and promotion of health enhancing behaviors on the part of individuals. By the time concern about obesity peaks

(~2005) obesity is conceptualized not just as a risk factor, or even only as a disease, but as a threat to life itself. Obesity has been constructed as dire threat that is capable of decimating population health in a matter of decades[5]. The use of computer based statistical analysis in epidemiological studies has become central to the study of population health and to the construction of our understanding of the meaning and impact of "excess" adipose tissue. Through the use of ever-larger data sets and ever-more complex data analysis, predictions about the dire impact of obesity (or the not so dire impact) have been made possible. One need only look at the highly technical debates around mortality and overweight outlined in chapter 3 to see the influence of the technoscientific upon the concept of obesity. The implication of these analyses is vast, including transformation of obesity from a disease of great excess of body weight to a common and threatening disease that represents a matter of a few pounds of difference in weight. Questions about where the nadir of a U-shaped mortality curve might lie depending upon how many and what kinds of confounds one

[5] In 2001, not long after the terrorist attacks of September 11, 2001, Surgeon General Richard Carmona referred to obesity as "the terror within" (Biltekoff, 2007:29). In 2010, First Lady Michelle Obama's prepared remarks on the Let's Move Campain included the statement, "Military leaders report that obesity is now one of the most common disqualifiers for military service. Economic experts tell us that we're spending outrageous amounts of money treating obesity-related conditions like diabetes, heart disease and cancer. And public health experts tell us that the current generation could actually be on track to have a shorter lifespan than their parents" (NPR, February 9, 2010). This refers to a 2005 paper published in The Lancet by Olshansky et al which predicted "A potential decline in life expectancy in the 21st century) and "Unless effective population-level interventions to reduce obesity are developed, the steady rise in life expectancy observed in the modern era may soon come to an end and the youth of today may, on average, live less healthy and possibly even shorter lives than their parents. The health and life expectancy of minority populations may be hit hardest by obesity, because within these subgroups, access to health care is limited and childhood and adult obesity has increased the fastest. In fact, if the negative effect of obesity on life expectancy continues to worsen, and current trends in prevalence suggest it will, then gains in health and longevity that have taken decades to achieve may be quickly reversed"(1138, 1143).

controls for might initially seem esoteric, technical, and minor but these debates deeply impact not only public health policy but clinical practice. Interventions into obesity have become increasingly reliant on science and technology with recommendations for use of bariatric surgery and pharmacological intervention occurring at lower and lower BMI thresholds and younger and younger ages. In fact, use of bariatric surgery as a prophylactic measure is part of what is being implicated for debate within the obesity paradox literature.

While data and concern about obesity stem from collective measures of population health, responsibility for correcting the obesity epidemic rests consistently with the individual. Public health policies target access to knowledge about obesity, screening and surveillance, and transformation of opportunity structures, but rely upon individual self-surveillance, prevention, and lifestyle choices for both treatment and prevention of obesity. As I will discuss later in this chapter, despite the proliferation of evidence that social, biological, and ecological structures shape the obesity epidemic, at the end of the day, the disease is reduced to lifestyle, personal choice, and a heuristic of identity. Obesity itself has become a biomedical technology of classification, monitoring, and surveillance that shapes theoretical possibilities of obesity research, public health policy, and individual level life chances.

The obesity epidemic

In the strictest terms the "obesity epidemic" refers to the rise in rates of overweight and obesity that were observed between the National Health and Nutrition Examination Survey (NHANES) NHANES II (1976 – 1980) and NHANES III (1988 – 1994) cohorts. The rate of obesity observed by the NHANES studies prior to 1980 had remained relatively

stable at about 15%, between the NHANES II and the NHANES II cohort levels of obesity jumped and continued to rise until 2006 at which point the percentage of the population that fell into the obese category was just over 30% (Nguyen and El-Serag, 2010). Of particular concern for researchers was the fact that rates of morbid obesity (BMI greater than 40) showed a significant jump in prevalence with the rates of morbid obesity quadrupling and the prevalence of super-morbid obesity (BMI of 50 or greater) quintupling (Stum, 2003)[6].

In practice, the obesity epidemic refers not only to rise in rates of overweight and obesity in the United States and worldwide, but the accumulation of data about this trend and the panicked response to it emanating from the public health sector, the media, and ultimately the general public. Discourses around obesity multiplied and changed in both tone and character during the 1990s and on into the 2000s (Saguy and Almeling, 2005). The language used to characterize fatness was increasingly pathologizing (deadly, plague, etc.) and catastrophic (obesity catastrophe, obesity time bomb, etc.). A great sense of urgency arose around the need to halt the rising rates of obesity and reverse them. This trend was particularly noticeable in response to rising rates of obesity observed in children (Campos,

[6] One could argue that the obesity epidemic has two faces. There is the gradual rise in prevalence of both mild obesity and overweight within the overall population, coupled with adjustments to the threshold of "overweight status" that occurred within health institutions from 1996 - 1998, that represents an average weight gain of about 10 – 15 pounds per person (Saguy, 2012). This increase is relatively minor but enough to push individuals up a risk category and to shift the percentage of people classified as overweight into the majority. The second face of the obesity epidemic is a very small percentage of the overall population who would be classified as having the highest grade of obesity. Media depictions of the "obesity epidemic" tend to utilize statistics regarding the rise in overweight and mild obesity, but depictions of the highest class of obesity creating the impression that 30-60% of the population has the kind of excess in adipose tissue that is present in 6% of the population.

Saguy, and Ernsberger et al, 2005). The resultant cultural changes around fatness that came out of this trend have been well documented and studied, especially by fat studies scholars[7]. However, the changes that occurred within the medical community as a result of the obesity epidemic rhetoric and panic has not been as well studied nor has the role of biomedicalization in this process[8]. The rising concern about obesity happened within a transforming medical system at the same time that a series of shifts occurred around the methodological practices of diagnosis and treatment for obesity. These changes helped to produce the arena of weight science that the current, and growing, controversies which I study exist within. The hegemonic theory/methods package around obesity is a biomedical individualism theory/methods package and this has shaped the debates to come.

The obesity epidemic bandwagon.

The obesity epidemic created a bandwagon effect within epidemiology. As Joan Fujimura (1996) explains, "A scientific bandwagon exists when large numbers of people, laboratories, and organizations commit their resources to one approach to a problem" (261). The obesity epidemic bandwagon was propelled by belief in the existence of an obesity epidemic, the popularity of the big two environmental thesis of obesity, and the existence of a tool-box technology and methods that produced a host of doable and intelligible problems for epidemiology, and later public health, to solve. The creation of "doable" problems, like

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[7] See Abigail Saguy's *What's Wrong With Fat* (2012), Natalie Boero's *Killer Fat: Media, medicine, and morals in the American "Obesity Epidemic"* (2012), and Sandra Gilman's *Fat: A Cultural History of Obesity* (2008) for further discussion.

[8] Gard and Wright's *The Obesity Epidemic: Science, Morality, and Ideology* (2005) and Deborah Lupton's *"Fat"* (2013/2018) do engage with a Foucaltian analysis of biopower but the analysis is heavily weighted toward consideration of the weight of social ideology influences public responses to medical facts.

measuring risk and linking obesity to a variety of disease entities, lifestyle factors, and genetic markers was particularly welcome as curing obesity was increasingly not a "doable" problem (see Chapter 2). The public and governmental concern that the obesity epidemic thesis stirred up was also very useful for accessing and directing funds for research.

A series of consensus conferences and policy changes happened in the second half of the 1990s that have shaped the dominant obesity theory/methods package. First, there was a shift to measuring obesity through use of the Body Mass Index (BMI), which was formalized with the adoption of lower BMI cut-off points for overweight in 1996 as part of the "Shape Up! America" program. The cut-off points were lowered again in 1998. These lower cut-points were the public's introduction to the BMI system. While BMI itself was proposed as a measure for measuring adiposity in 1972 by Ancel Keys, and had been being used by epidemiologists in their population data for at least a decade prior to these consensus statements, in clinical practice height-weight tables were still being used to diagnose individual cases of overweight and obesity. BMI is based upon Quetelet's equation which was derived and designed to deal with anthropometry of populations. Quetelet was interested in understanding what the dimensions of the "average man" were. The BMI was desirable for epidemiological data because it allowed for comparison between populations and more complex statistical analysis. However, it was never designed to be used as a tool for individuals. Even now, BMI cut-off points are supposed to be a screening tool rather than a diagnostic tool. In practice though, the BMI, and then subsequent changes in weight, are how overweight and obesity are diagnosed, tracked, and measured. This can be problematic because the BMI is not very accurate at measuring body fat percentage, which

is presumably what the diagnostic criteria for obesity is all about. The BMI can be "fooled" by differences in body composition. The BMI was also formulated based upon a white male standard and tends to be less accurate at predicting body fat percentage when applied to women and ethnic minorities. There are also questions about its applicability in diagnosis of children.

The lowering cut-off point for overweight was another change in methodology. Prior to this shift the cut off point for overweight[9] was a BMI of 27 and was set at this point because it was the BMI equivalent of the point on the insurance industry height-weight tables where elevated risk of mortality in the next 10 years increased. The shift downward to a BMI cut-off of 25 was reported as being reflective of recent research that indicated a lower BMI as the nadir of the U-shaped mortality curve. However, there was controversy (and there continues to be controversy) about the validity of those studies. The one member of the NIH counsel that voted against this change indicated that they believed the motivation to shift the BMI downward did not stem from scientific concerns. It has been suggested that the decision to reduce the cut-off points was based on a number of non-scientific concerns ranging from aesthetic preferences to a desire to incite concern about weight in the public which might motivate prevention of weight gain. Reacting to the NHANES data, and to recent reports that placed annual deaths attributable to obesity approaching that of smoking, the hope was that if the threshold was lowered it could act as a bulwark, preventing borderline overweight individuals from converting over into the overweight or mildly obese

[9]Different health agencies used different cut-off points. Usually at or around a BMI of 27, for instance the NIH had been using a cut-point of 27.3 for women and 27.8 for men prior to the 1998 standardization.

categories and into BMI ranges that carried risk. The lowering of the threshold occurred at the same time that overweight was formalized as a disease category "pre-obesity" or "obesity stage 1." At the same time that thresholds for overweight were lowered, thresholds were also lowered regarding the prescription pharmacological interventions into obesity treatment such as fenfluramine/phentermine (fen-phen). Over the next decade the threshold at which recommendation for pharmacological and surgical intervention for obesity would continue to be lowered. At present bariatric surgery is recommended for those with a BMI at or higher than 35 if they have comorbidities, or 40 if comorbidities are not present[10].

The last change that emerged out of the obesity epidemic is the classification of obesity as a disease rather than a risk category. Obesity had been recognized as a risk factor for a number of chronic diseases for at least a decade prior to the declaration of the obesity epidemic. The association between higher body fat and risk of chronic diseases, particularly heart disease, was usually considered as part of a constellation of risk factors that were interconnected. Obesity was associated with negative health end-points like heart attack, stroke, and heart failure. Obesity was also associated with other risk factors for these diseases like metabolic disorder, diabetes, high blood pressure and increased cholesterol. Over the course of the "obesity epidemic" obesity has been increasingly treated not only as a risk factor, but as a cause of disease independent of other risk factors. This is important because it begins to make an assumption about what obesity *is,* not just what obesity *represents*. This subtle change in how obesity is discussed and researched assumes a causal relationship between obesity and the various diseases which are also seen as having a causal

[10] For an average height woman (5' 4") this is 204 lbs. and 233 lbs., respectively.

relationship to end points like heart attacks, liver failure, kidney failure, heart failure, and stroke.

While some reference to the disease of obesity or inclusion of obesity in diagnostic manuals has occurred since mid-20th century, obesity was generally regarded as a disease of lifestyle and risk rather than a disease entity in and of itself. This began to change in the late 1990s. In 1998 National Heart Lung and Blood Institute (NHLBI) Obesity Education Initiative Expert Panel on the Identification, Evaluation, and Treatment of Obesity in Adults (US) released a report entitled *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report.* In this report obesity was referred to as a chronic disease; they further stated, "The primary classification of obesity is based on the measurement of BMI. This classification is designed to relate BMI to risk of disease. It should be noted that the relation between BMI and disease risk varies among individuals and among different populations" (paragraph 8). In 2008 The Obesity Society created a white paper arguing for classification of obesity as a disease. The committee assigned to this task came to the conclusion that obesity ought to be considered a disease:

> "The panel concluded that considering obesity a disease is likely to have far more positive than negative consequences and to benefit the greater good by soliciting more resources into prevention, treatment, and research of obesity; encouraging more high-quality caring professionals to view treating the obese patient as a vocation worthy of effort and respect; and reducing the stigma and discrimination heaped on many obese persons. The panel felt that this utilitarian analysis was a legitimate approach to addressing the topic, as well as the approach used for many other conditions labeled diseases, even if not explicitly so. Thus, although one cannot scientifically prove either that obesity is a disease or that it is not a disease, a utilitarian approach supports the position that obesity should be declared a disease"(1162).

The "utilitarian approach" that this paper mentions is an assessment that there is no objective, agreed upon definition of disease but that most conditions that produce adverse health outcomes get classified as a disease sooner or later, so we might as well go ahead and classify obesity as a disease. This approach recognizes that obesity does not meet most of the classical definitions of a disease entity but that social forces are likely to win out regarding the disease status. The paper also tacitly endorses the idea that obesity is causally linked to negative health endpoints. In 2013 the American Medical Association followed suit and "recognized" obesity as a disease, against the recommendation of its own Council for Scientific Affairs (CSA). Close reading of the AMA statement makes it clear that their classification of obesity as a disease also has a utilitarian motivation: the ability to collect insurance reimbursement for the treatment of obesity. This is one of the reasons offered in the TOC white paper and it appears again in the AMA resolution:

> "The AMA: (1) recognizes obesity in children and adults as a major public health problem; (2) will study the medical, psychological and socioeconomic issues associated with obesity, including reimbursement for evaluation and management of obese patients; (3) will work with other professional medical organizations, and other public and private organizations to develop evidence-based recommendations regarding education, prevention, and treatment of obesity …" (AMA, **H-440.902**).

And later in the document,

> "Our AMA Council on Medical Service and CSAPH will collaborate to evaluate the relative merits of bariatric surgery and the issue of reimbursement for improving health outcomes in individuals with a BMI greater than 35"(AMA, **D-440.952**).

In part this reflects institutional politics regarding boundaries between behavior and disease in deciding what practices are covered by insurance and funded through state sponsorship of healthcare. Obesity as a risk factor had long been considered the result of moral failing, it

was a behavior not a disease. As obesity was believed to result from a straightforward imbalance between calories in and calories out (the application of the first law of thermodynamics to bodily systems) it was not eligible for coverage by insurance companies. In particular, technoscientific interventions like bariatric surgery were not covered by insurance. In the AMA Council on Scientific Affairs report the issue of reimbursement is directly addressed as being motivational for the push to classify obesity as a disease. The Centers for Medicare and Medicaid Services (CMD) included a policy that would not reimburse physicians for treatment of obesity except in very specific and narrow circumstances. The policy recognized that "[o]besity may be caused by medical conditions such as hypothyroidism, Cushing's disease, and hypothalamic lesions or can aggravate a number of cardiac and respiratory diseases" and that treatment of obesity under the care of a medical professional would be necessary in these circumstances, but went on to say "[s]ervices in connection with the treatment of obesity are covered services when such services are an integral and necessary part of a course of treatment for one of these medical conditions" (CSA report, A-05). Uncomplicated obesity was not a disease and therefore not eligible for compensation.

The AMA report addresses other interested parties in the control of obesity including epidemiologists, public health officials, and private corporations. The AMA guidelines address regulation of the food industry, taxation of certain food stuffs, and regulation of the diet industry. In addition to concerns around compensation the AMA report makes it clear that obesity research and treatment should not be the sole domain of public health. Clinicians deal with obesity and its consequences as part of their practice and should hold

some authority in deciding how to research, define, and treat obesity. By defining obesity as a disease, not just a risk factor, the AMA brings obesity within the wheelhouse of the clinician. The AMA decision and the TOS white paper both recognize the increasingly complex understanding of obesity and this too is part of what they cite as a reason to consider obesity a disease.

An evolving definition of obesity.

Despite the heavy levels of concern about the rising trend in obesity rates, the reason for this trend was (and remains) unclear. As one of my respondents stated:

> "Why is this happening? Nobody knows why. I mean literally, nobody knows why we have this thing [obesity epidemic], it's happening all over the world, because it wasn't just the United States, it was all these different countries. … It is an interesting set of scientific questions from that point of view: why is this happening? Why did it happen? Why is the increase tapering off now? People have all sorts of explanations, but they are just possibilities. They are not really explanations. People say, 'It could be this,' and, yeah it could be that. It could be something else too, we don't really know" (epidemiologist 2).

The etiology of the obesity epidemic is unknown. There are many different theories and there is a hegemonic explanation in public health, but it is an underdetermined theory. The hegemonic explanation for the obesity epidemic is similar to the hegemonic explanation for obesity in general (poor diet, not enough exercise), but at a societal scale. McAllister, Dhurandhar, Keith et al (2009) explain,

> "The two most commonly advanced reasons for the increase in the prevalence of obesity are certain food marketing practices and institutionally-driven reductions in physical activity, which we have taken to calling 'the big two.' Elements of the big two include, but are not limited to, the 'built environment,' increased portion sizes in commercially marketed food items, inexpensive food sources such as fast food, increased availability of vending machines with energy-dense items, increased use of high fructose corn syrup,

> and less physical education in schools. It is important to distinguish the big two from energy intake and physical activity energy expenditure or more loosely "diet and exercise" with which they are often inappropriately conflated. That is, when we question the strength of the evidence of the big two as contributors, or certainly the chief and near sole contributors to the obesity epidemic, we are not questioning the importance of energy intake and energy expenditure, including physical activity energy expenditure in influencing obesity levels" (869).

The 'big two' refers to changes in society and environment that have occurred in the last few decades. While lack of willpower and restraint remains a dominant explanation for obesity at a personal level and is tacitly floated as the explanation for the obesity epidemic by some researchers, epidemiology recognizes that it is unlikely that the sum total of willpower, self-discipline, and moral maturity had declined within the population suddenly and with sufficient power to produce the kind of weight gain that the NHANES data (and other similar studies) have shown. Something else must be happening. There are have been two predominant theoretical avenues of investigation to explain this change: the environmental thesis (exemplified by the big two, above) and the genetic thesis. In some ways this debate is a technical protraction of the "nature/nurture" divide.

The genetic thesis posits that bodies can be genetically predisposed to put on weight or to resist losing weight. Interest in genetic explanations for diseases has increased throughout the 20th century and into the 21st and many different genes that are linked to body weight, size, and composition have been discovered. Initial speculation about the existence of an "obesity gene" emerged out of mouse studies in the 1990s. As with much of the search for genetic causes of diseases, it became evident over time that it was not a single gene that caused obesity. There are some single-gene defects (such as leptin deficiency) that have been found but they are rare, however genome variation has been identified in 32 regions of

the human genome that contribute to body weight. Estimates for inheritability of obesity range from 40 – 70%[11] (Wilding, 2012).

Critics of the genetic model point out that the human genome has not changed much in thousands of years, it is unlikely that it has shifted dramatically in the last 30 years;

> "genes may provide us with susceptibilities or vulnerabilities for obesity rather than acting as simplistic causal factors. Susceptibility genes increase risk for obesity but are not necessary or sufficient to cause the disease. A variation, mutation, or dysfunction in any of the candidate genes may increase one's risk for the expression of obesity, but the gene does not, by itself, cause obesity. These variations may manifest themselves with regard to differences in energy intake and requirements, energy utilization, taste preferences, and muscle fiber and metabolic characteristics, but these genetic variants do not explain the rapidly increasing prevalence of obesity in industrialized nations. The concept of susceptibility implies that the primary causes of obesity are not genetic" (Poston and Forey, 1999:201).

The emerging theory of epigenetic changes provides a new model of genetic influence that has brought focus back to genetic influences upon obesity. Importantly, epigenetics also allows a theoretical merging between the environmental thesis and the genetic thesis. The genetic thesis has evolved to be expressed as a disconnect between our genetic make-up and the modern built environment rather than a direct causal relationship. This is summed up with the often stated analogy that "genes load the gun, but environment pulls the trigger[12]" (Bray, 2004:115). The genetic makeup of humanity that evolution has produced is discordant with the built environment in which contemporary western society lives.

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[11] In fact estimates of attributable ranges also vary considerable from paper to paper.

[12] This statement appears to be attributable to Frank Hu and a number of other epidemiologists out of the Harvard School of Public Health, but it is such a frequently stated mantra within media coverage of obesity and in the research literature I have been unable to pinpoint the origination of the saying. The earliest version of this that I was able to identify is in the article cited above.

The environmental thesis was proposed in 1999 by Poston and Foreyt in the journal *Atherosclerosis,* "We believe that the main factors responsible for obesity in industrialized nations are environmental. There is strong evidence that the environment contributes to obesity by promoting problematic dietary and activity patterns. We also feel that socioeconomic status and place of residence contribute to the growing problem of obesity" (203). Amongst the proof provided for the environmental thesis is the "export" of obesity along with Western lifestyle and influence upon traditional cultures. The current food environment is "toxic" for the health of contemporary humans according to this view. The most common aspects of contemporary western culture pointed to in the environmental thesis are: availability and price of calorically dense food, portion sizes at restaurants, impoverishment and inequality (impacting food and physical activity choices), busy-ness of contemporary culture, lack of physical education in schools, car culture, and television viewing habits. This approach has led to proposed changes in the built environment as an effort to curb obesity, including initiatives to ban the sale of soda and chocolate milk in schools, reduce the presence of vending machines, tax a variety of targeted foods, bring back physical education programs in schools, and utilize wellness programs in work places to incentivize healthy behaviors. Efforts have been made to identify which food stuffs might be most problematic in the production of obesity so that those can be eliminated or regulated. This model has also favored creation of built environments that incentivize physical activity, like making it hard to find an elevator in a building. This is at odds with the push for universal design to accommodate disability. The approach can be summed up by the proposed "FLUORIDE" method, ''For Lowering Universal Obesity Rates Implement ideas that Don't depend on Effort'' the concept here is to institute easy universal changes that

encourage lower weight, ranging from addressing vitamin deficiencies and encouraging breast feeding to reshaping the environment to encourage thinness.

Over the last 20 years of effort it has become evident that solving the obesity epidemic is more difficult that had been anticipated. Despite millions of dollars in public health funding going to tackle the obesity epidemic the rates of obesity have not gone down. A *Lancet* article by Fleming et al (2014) examined the progress of obesity in 33 countries from 1980 – 2013 and found that not a single country has reduced their overweight or obesity rate despite the massive public health effort. At the same time the availability of funding for obesity related research has drastically increased our knowledge of how complex obesity is. As one respondent remarked:

> "you cannot lump all of obesity into one category, or one disease. Obesity is a result of dozens, probably hundreds, of genetic influences in combination with an obesogenic environment. So, one person's obesity is probably very different from a genetic and physiologic standpoint than another person's obesity. I tend to think of obesity as a fingerprint. Everybody's obesity is a little bit different. So, one person's obesity may be very largely dependent on hedonic responses and hedonic stimuli where another patient's obesity may be very metabolic, so that they have a very hard time losing weight no matter what they do.... It's very difficult to really, truly define obesity. Other than just BMI. ... So we now understand human weight regulation a lot better than we did 20 years ago. And we understand that there are significant biological and physiologic mechanisms to defend against weight loss. So, it's not ... You can't view weight gain or weight loss as a simple lifestyle decision" (Bariatric surgeon).

As a result of the massive amount of research that has been done on obesity, coming from the obesity epidemic bandwagon, we have a great deal more information about potential etiology of both obesity (in individuals) and the obesity epidemic (in populations). This new information complicates the existing theory methods package and potentially challenges the dominant paradigm in public health. This is part of why the controversies I outline within

the dissertation have become so contentious. While they may not result in a Kuhnian paradigm shift, they could change the hegemonic theory/methods package and dominance might shift from one social world (public health) to another.

Alternative (to the big two) explanations for the obesity epidemic include biological explanations, including but not limited to genetic diversity, sociological explanations, environmental causes not usually considered as part of the "built environment," and lifestyle factors other than diet and exercise. I have outlined these alternative explanations in Table 1 below; in compiling this table I have relied heavily upon Keith et al. (2006) and McAllister et al, (2009):

Table 1: List of potential obesity epidemic causes and descriptions

Theory Name	Description
Infections and obesity	A variety of microbes have obesogenic properties in laboratory experiments. Gut biome changes have been noted after gastric surgeries and may play a causational role in the reduction in weight.
Genetic explanations	Multiple genes have been identified that influence obesity. Epigenetics can link environmental causes to heritable genetic changes.
Maternal explanations	Rising maternal age is associated with higher rates of obesity in children. Increased maternal obesity is also linked to higher rates of obesity. May be due to increased pregnancy complications (gestational diabetes, C-section birth).
Sleep debt	There is evidence that less sleep can cause increased weight. The amount of sleep that US adults and children get has steadily declined over the last few decades.
Endocrine disrupters	A number of endocrine disrupting chemicals exist. There is evidence for an increase of them in the food supply. In laboratory experiments they are linked to obesity.
Ambient temperature	There is evidence that remaining in thermoneutral zones (such as climate controlled environments) promotes obesity be reducing caloric expenditure that would occur from the body regulating temperatures outside of this range.
Pharmaceutical iatrogenesis	Many prescription drugs that are commonly prescribed are known to increase weight. These include: many psychotropic medications, anticonvulsants, antidiabetics, protease inhibitors, antihypertensive, steroid hormones and contraceptives, antihistamines and antibiotics.
Reduction in smoking	Cigarette smoking suppresses weight, fewer people are smokers.
Demographic changes	Changes in distribution of age categories, racial and gender make-up may alter distribution of BMI. Economic inequality may also cause increases in BMI.
Stigma/stress	Some studies have indicated that stigmatizing obesity and shaming obese individuals can lead to those individuals gaining weight.

Many of these alternative etiological explanations for the obesity epidemic describe sources of the epidemic that are outside of individual control. Things like endocrine disrupters and genetics, or economic systems that induce poverty or racism appear to be outside of individual control. However, the hegemonic conception of the obesity epidemic within public health still interprets BMI as being largely within the control of the individual.

I will argue below that this is a result of the way that obesity is being defined and understood within the current hegemonic framework.

Webs of causation.

Within contemporary epidemiology causation is not considered to be a straight line, but instead is conceptualized as a cluster, a cake, or a web of causation containing proximal and distal causes. Proximal causes are usually given more weight within this web of causation, these are seen as the more immediate and alterable causes. They have historically also been the biomedical causes of disease, usually at a microbial level aligning public health nicely with the biomedical model and the germ-theory of disease. Obesity, is a different kind of disease entity. There isn't a known microbial cause, the proximal cause is perceived to be lifestyle choice. This understanding is produced through theoretical conventions. First, the tendency within epidemiology and public health is to favor biomedically individualistic explanation for disease, and second, the very narrow definition of "healthy lifestyle" that the definition of obesity produces.

Public health is dominated by the biomedical individualism model which utilizes epidemiological data to create policy strategies that intervene in population health through adjustments at the individual level. Individual level intervention is favored over societal level interventions. When societal level interventions are performed they are designed to provoke changes in individual behavior rather than changes in the social structure or economic system. This is the result of influences outside of what we would traditionally label as science. As Nancy Krieger explains:

> "It was another aftermath of World War II, however, that perhaps most strongly shaped the subsequent U.S. academic discourse about disease causation: the Cold War and its domestic corollary of McCarthyism. In a period when discussion of social class and social inequity was tantamount to heresy (even in the social sciences), and when early civil rights activists were branded as 'subversive' (e.g. supporters of the 1955 Montgomery bus boycott), it is not surprising that epidemiologists (like other academics) generally eschewed dangerous speculation about the 'social determinants' of health. Instead, most pursued research based upon more biomedical and individually-oriented theories of disease causation, in which population risk was thought to reflect the sum of individuals' risks, as mediated by their 'lifestyles' and genetic predisposition to disease" (1994:890).

Over the last two decades interest in and research about the "social determinants of health" have increased, however as Geary argues in his book *Anti-Black Racism and the AIDS epidemic: State Intimacies,* despite this increased interest in the social determinants of health, theorists often stop just short of recommending solutions that would change social and economic systems, such analyses often end up leading "inexorably back to behaviors and the kinds of subjects who enact them. This is a persistent failure of the biomedical individualism but also of the social analyses that reduce disease vulnerability to diffuse conditions, especially poverty" (74). When analysis focuses upon the influence of environmental and social factors in limiting choice availability for different groups it appears to alleviate some level of personal responsibility and moral blame for the disease state, but ultimately these explanations still reduce down to choices. In the stratification of risk and responsibility environmental factors are recognized but individual choice is still the point of final causation and public health intervention.

For obesity, this means that while there are many studies of various contributing factors for the rise in obesity which indicate that forces outside of the individual have potentially influenced the rise in weights worldwide, public health policy still focuses upon

the modification of individual choices through the auspices of education, choice constraint models, and efforts to get individuals to modify their lifestyle. The dominant model of obesity, which emphasizes BMI as itself the risk factors and *cause* of disease reinforces this focus, see Figure 1. Figure was developed using situational mapping.

The hegemonic understanding of obesity etiology at the individual level presumes that an

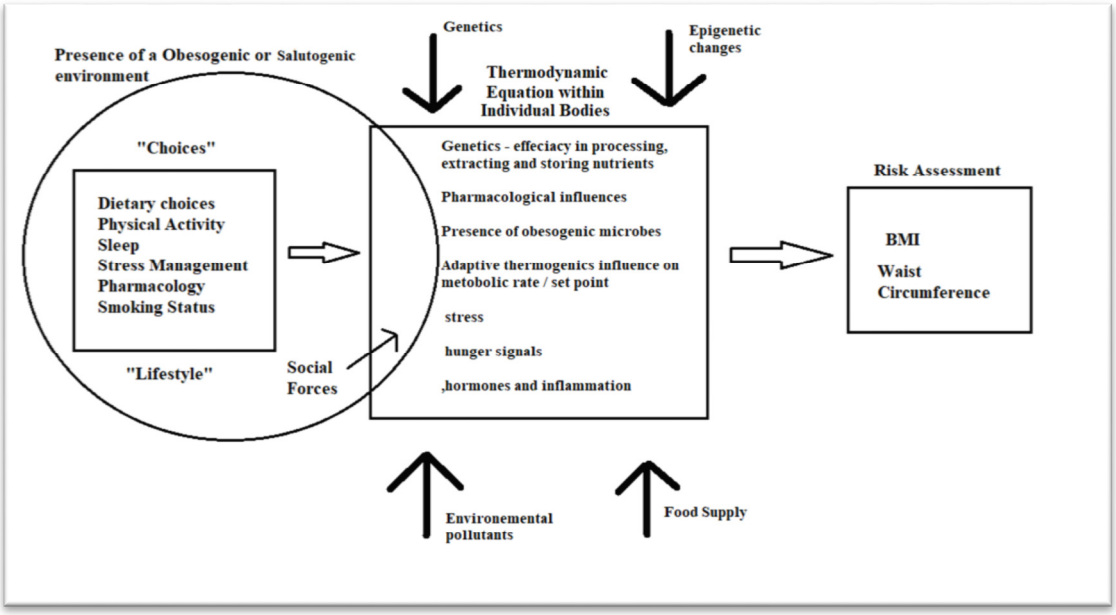

Figure 1: Model of Obesity Causal Web developed using situational mapping technique.

imbalance has taken place in the thermodynamic equation of the body, a positive surplus has been accrued which is stored as fat. However this imbalance came to be, whether it is the result of hedonic and gluttonous choices or from the influence of biological factors like a genetics or exposure to microbes or toxins, the imbalance has happened and the risk state has been acquired. In order to mitigate and change the risk state, the stores of fat need to be burned off. As health here is defined as occupying the lowest risk category, the behaviors

that correlate with health are those that produce a bodily habitus that places one within the low-risk category. This is the result of applying population level data to individual health.

We can see this logic by examining the recommendations for weight loss practices. Many of the recommended procedures for weight loss resemble what is diagnosed as disordered eating in thinner patients. Very Low Calorie Diets (VLCD) recommend caloric intake of 800 calories a day or fewer to be sustained as long as necessary to reduce weight and maintain that reduction. In the past jaw wiring and complete fasting have been recommending. Today intermittent fasting is a popular diet recommendation, not just for fad diets but within medical literature. Bariatric surgery has the effect of inducing anorexic and bulimic practices upon patients who are forced to eat very few calories, spaced out over small meals, or face consequences as benign as vomiting and gastrointestinal distress and as serious as burst stitches and sepsis. The focus upon attaining and sustaining weight loss has produced something of a paradox within nutrition and public health. A "healthy weight" is determined by BMI, and leading a "healthy lifestyle" is presented as producing this healthy weight. However, in practice a "healthy lifestyle" might not be sufficient to produce a "healthy weight" and "herculean efforts" might instead be required. This paradox becomes the basis of the theoretical divide between the hegemonic approach to weight science and the Health At Every Size paradigm that I will discuss in later chapters.

The emphasis upon attainment of BMI through education and modification of choice also ends up masking potential confounding factors that have been packaged into obesity as a disease. At present "obesity" as defined by BMI reduces a complex set of factors into a simple measure that approximates body fat. This measure is utilized not only to guide

individual assessment of health status, but to compile data about the risk of that group. This creates identity around risk group membership and also flattens out complexities within the group. In this way obesity becomes a very useful tool, it is a heuristic for a number of different factors all known to be associated with negative health outcomes. Lifestyle variables like physical activity and diet are the most commonly focused upon factors, but others are absorbed as well. The two most commonly recognized factors are social class and racial identity. The distribution of BMI in the United States maps closely onto racial differences and social class differences. When epidemiologists are testing the 'risks' of higher BMI they may also be testing the 'risks' of geographic distribution of resources, experience of racism and /or sexism, poverty, food insecurity, and economic disadvantage. Researchers are aware of this, and they do make efforts to correct for the variables they see as potentially confounding life gender, age and smoking status. Sometimes social class and race are also controlled or corrected for, however often they are not. Physical activity level and diet are very rarely controlled for in studies of obesity and overweight. This makes BMI into a black box, an input / output device where the exact mechanisms of causation are not known. Within the hegemonic understanding of obesity, these kinds of stratifications do not need to be known, because the proximal cause that needs to be changed for all of these factors is presumed to be the same: increased physical activity and improved diet. Societal issues that hinder access to these resources are recognized as being potentially important, but largely outside the scope of public health intervention. Thus, the hegemonic definition of obesity creates obesity as a useful technology of research, classification, and surveillance that black boxes social concerns and produces a much more doable project, which is shifting the BMI distribution within society.

The focus upon shifting BMI distribution makes sense from a public health standpoint for two reasons: First, obesity is a disease that appears to have straight-forward and simple cure. Second, even small shifts in the distribution of BMI in society are believed to be capable of significantly reducing the population level disease and mortality burden. Because obesity has been linked to so many diseases, an overall reduction in percentage of overweigh and obese in the population ought to produce a significant improvement in overall population health. The presumption here is that if you can suppress the number of overweight and obese people in the population you will see an attendant drop in some of the biggest causes of death, suffering, morbidity, and healthcare costs: cardiovascular disease (including heart failure, heart attack, and stroke), diabetes (which itself comes with an increased cardiovascular disease risk), various kinds of cancer, kidney disease (due to high blood pressure and diabetes), osteoarthritis, fatty liver disease, and pregnancy complications (NIH). The risk of many of these diseases 'stack' and so the risks from obesity can be seen as having a domino effect. As an example, diabetes can increase risk for cardiovascular disease and cardiovascular events; it can also impact the performance of your kidneys if you develop high blood pressure. In turn diabetes also independently appears to impact your risk of developing fatty liver disease and kidney disease. The risk factors for these diseases intertwine, the fact that people with lower BMI appear to have lower risk of these diseases combined with the apparent effect that weight loss can delay the onset of these diseases, has led to a focus upon shifting BMI population percentages.

PART 1: THE HIDDEN CIVIL WAR IN OBESITY RESEARCH

The study of scientific controversies has long been part of the tradition of Science and Technology Studies (STS). Scientific controversies encompass many topics that are of interest to the field, including: knowledge production, development and implementation of expertise and authority, consensus formation and theory choice, and potentially paradigm changes (Shapin and Schaffer 1985; Shapin 1995). Controversy studies asks questions like: How is scientific knowledge produced, constructed and evaluated? Who gets to have authority and expertise, how do they get those things? Whose claims have credibility and whose do not? How are these conflicts resolved? What happens if consensus cannot be reached? How is one theory chosen over other theories? What happens to those who still do not agree and will not become part of the consensus? Conflicts that also involve public opinion or understanding of science and the use of social movements or public opinion to resolve controversy allow for further evaluation of science have blurred the line between expert and lay person, making controversy research essential in the third wave of science studies and resolution of the problem of "extension"(Collins & Evans, 2002). Studies of scientific controversy must then, especially in an age that has coined the term "alternative facts" and who some proclaim to be "post-truth" also involves a study of credibility, another long-time interest of STS (Shapin, 1995). In short, studying controversies in science tells us a lot about how science is done.

The study of scientific controversy has been conducted at a variety of levels of sociological analysis. As Garrety (1997) noted studies of controversy have identified points of social influence at the micro-sociological level and the macro-sociological level (p. 729). A range of decision making factors influence scientific knowledge from choice of

experimental methods and evaluation of results (Collins,) to social structures and institutions that influence choice of research questions and institutional politics. Controversies and conflict can be part of normal science or the beginnings of a breakdown of a theory. Scientific controversies often involve the demarcation of the boundary between science and non-science (Gieryn, 1983) and the evaluation of knowledge claims as being legitimate or illegitimate (Shapin, 1995). How does a scientific fact become a scientific truth? And does that have a relationship to the Truth[13]? The STS study of controversy, informed by SSK theoretical alignment, often took on a constructivist view of scientific knowledge production.

Within STS there has been controversy about how best to conduct studies of controversy. Traditionally, controversy studies have utilized Social Studies of Knowledge (SSK) theoretical tradition and have favored a symmetrical analysis of the controversy (Bloor, 1976). This principle asserts that an analyst of scientific controversy cannot assume that the dominant scientific theory (the victor of the scientific controversy) won out because it was more true, rational, or logical. Explanations for the adoption or rejection of a theory ought to be explained through the same kinds of causal factors. Under this theoretical orientation alternative knowledge claims are treated as potentially valid and given equal standing in evaluation of the scientific controversy. Researchers ought to take the time to understand why varying knowledge claims were rejected or accepted (1976, p. 7). In practice, this means that "underdog" knowledge claims are given more consideration than

[13] I am indebted to Jennifer Croissant for the useful distinction between truth with a lower case "t" to designate a locally accepted truth and truth with a big "T" to designate a broader epistemological claim to absolute knowledge.

they would be in other kinds of analysis. At times controversy studies can take on a David and Goliath narrative, and some critics have charged that symmetrical analysis unduly favors alternative explanations. Refusal to take sides on a debate might inadvertently lend the researcher's credibility to the "underdog" theory, unduly prolonging debate (Latour, 2004) or creating doubt where it isn't warranted (Oreskes & Conway, 2010). One way to solve this consideration is to look to the demarcation of the scientific from the non-scientific.

In recent years, fueled by studies of controversies that were artificially extended by corporations (Oreskes and Conway, 2010) and increasingly powerful and potentially deleterious social movements (anti-vaccine campaigns) which seem to aim to spread disinformation rather than resolve "naturally occurring" controversy calls for a more normative approach to the analysis of scientific controversies have occurred. These calls see the balance of powers having tipped toward groups that had once been considered "underdogs" in such controversies. These increasing epistemological concerns have also spawned analysis of not just the production of knowledge, but the production of non-knowledge (ignorance, unknowing, misinformation, and lies) called "agnotology"(Proctor and Schiebinger, 2008; Fernández, 2017). Some scholars have attempted to distinguish true controversies from "science denial" (Diethelm & McKee, 2009) a practice which marks certain controversy positions as pseudoscience and requires the analysts to engage in demarcation practices (Hansson, 2017).

Demarcation of science from other forms of knowledge production and intellectual practices is a concern for those who study science from Comte to Merton. What makes scientific knowledge distinct? Does it have some special epistemological claim to truth or

should it be considered as one in a range of valid forms of knowledge production (Collis, 2002)? More directly related to controversy resolution, how do scientists themselves demarcate what is science from what is pseudoscience? Studies of controversies notice the tactics that scientists deploy to demarcate science from non-science, experts from non-experts, and the ways that scientists mobilize tactics to appear credible (Gieryn, 1983). Studies of controversy also often involve examination of how one side that is more powerful or has more powerful actors uses resources to limit debate and attempts to force a closure of the controversial issue. Similarly, it studies how those with less power deploy a variety of resources to perpetuate debate (Shapin & Schaffer, 1985; Martin 1991; Richards, 1991). Further, controversies sometimes involve social movements or intellectual movements that bolster the power of one side or the other in a scientific debate (Martin 1991; Richards 1991; Epstein 1996). When lay-people become involved with a scientific controversy demarcation and boundary work often emphasizes expertise and credibility. As Epstein (1996) notes, controversies often involve credibility struggles where all players engage in "the constant attempt … to rephrase the definition of 'science' so that their particular 'capital' – their forms of credibility – have efficacy within the field" of contestation (p. 19)

STS engagements with controversy also explore the ways the evolution, continuation and resolution of debates in science are steeped in and influenced by the social. Harry Collins and Trevor Pinch (1979) describe two forums in which scientific controversies take place: The constitutive forum and the contingent forum. The constitutive forum comprises all that is traditionally believed to constitute scientific knowledge production. The contingent forum comprises all that is supposed to be external to scientific practice such as political maneuvering and nonscientific arguments (Collins and Pinch, 1979: 239)

How and when does scientific controversy end? Within controversy studies the emphasis has been upon closure of the controversy. Tristram Engelhardt and Arthur Caplan note that controversies exist in more than one arena and that closure of controversies sometimes involves more than reason and theory choice: it can and does involve values and knowledge. They explain three approaches to closure. Engelhardt and Caplan note that some evaluations of scientific controversies act as if they are the result of purely rational debates with the various parties in agreement about: how to acquire evidence, how to reason with the evidence, and therefore how to come to a conclusion that resolves the controversy (p. 6). However, the rules for acquisition of evidence and drawing conclusions change over time and are identified with a particular scientific community, at a particular point in time and as such are subject to both internal and external sociopolitical forces in the resolution of controversies and debates (Mendelsohnn, as cited by Engelhardt and Caplan, p.7). Controversy resolution turns on shared understandings of truth, metaphor, rules of proof and causation, and shared values of the community that is resolving the matter. The process of resolution may not be the same from one scientific community to another. Engelhardt and Caplan argue for two kinds of sound argument closure: Sound argument closure in the strict sense and sound argument closure in the broad sense. The strict sense is an ideal, the broad sense means

> "The rules of evidence and rules of inference are historically, socially, and culturally conditioned. Actually communities resolve scientific controversies by appealing to rules of evidence and inference that are, as far as can be determined by the participants, correct and undistorted by the presuppositions of the participants. Historians and philosophers of science will, however, be able to disclose distortions" (p. 9).

Ultimately, Engelhardt and Caplan offer their own categorization of 5 types of closure: closure through loss of interest, closure through force, closure through consensus, closure through sound argument, and closure through negotiation (p. 13-15).

Some controversies fail to close. According to Epstein there are three challenges to closure: methodological, empirical, and political (1996, p. 29 – 30). They may be perpetuated from forces within the scientific community or outside of the scientific community. The controversy surrounding Cold Fusion is an example of a controversy that seems to have no end; a small group of scientists continues to believe that cold fusion is possible and continues with normal science under this premise despite the rest of the scientific community's consensus to the contrary (Locke, 2002). External forces can also prolong or prevent the end to a controversy. Oreskes and Conway discuss the extension of doubt and prevention of consensus (or public belief in a consensus) by corporations in debates over smoking causing cancer and the existence and cause of global warming. Other times, scientific consensus is achieved and closure appears to be satisfied but external and internal forces continue to agitate in an effort to re-open the controversy. This can be seen in the ongoing struggles around vaccination. Still other controversies fail to close due to growing instability of the paradigm and represent the need to choose a new theory.

Cognizant of the criticisms and concerns around the symmetrical analysis of scientific controversies I have made an epistemologically motivated choice to engage with and analyze two concordantly occurring controversies within weight-science: The crisis of evidence for successful dieting and the obesity paradox. These two controversies allow me to examine questions about standards of proof around causation, theory choice, and the use of external forums for the resolution of controversies in a uniquely symmetrical fashion.

This is because the proponents of controversy in one case (those who question the validity of the obesity paradox) are those who reject controversy in the other case (the crisis of proof around dieting). This allows for a symmetrical analysis that doesn't necessarily favor any one side of the controversy, but still analyzes the imbalance in power present.

Controversies in Obesity Research

If you pay attention to public health campaigns around obesity you likely have the impression that the science around obesity is simple, settled, and largely uncontroversial. Obesity is a simple matter of an expenditure-input deficit, easily explained and easily resolved through common-sense application of changes in diet and exercise patterns. You are also likely under the impression that excess adipose tissue is uncontestably bad for you and that thinner, with very few exceptions, is always better. The unified front presented about adiposity by public policy around obesity is out of step with the multiplicity of controversies present within obesity-related medical research. In the following two chapters I will outline the two largest controversies in obesity research: the crisis of evidence of dieting for weight-loss and the obesity paradox. These are not the only two controversies facing the discipline and I will occasionally touch upon other points of contention and controversy.

The controversies within weight science are particularly fascinating events because one segment of the scientific population is prolonging debate with the explicit mission of spurring a paradigm shift within the discipline. This group, the HAES paradigm proponents, sees the multiple controversies that I cover here not as problem solving within normal science, but severing threads in a web that holds up the current paradigm. They make an

argument that resolution of the current set of controversies requires overturning the dominant theoretical orientation of their field.

In this dissertation I join together the controversy studies tradition with sociological analysis of social movements to further understand how less powerful actors in the medical community have worked to keep debates active in disputes about the nature, treatment, and consequences of overweight and obesity. The two social movement groups I study (Health At Every Size and Fat Acceptance) have been accused of "science denial" and they find themselves in an increasingly fraught and hostile environment to be pushing a controversy forward. Within the public domain trust in science seems to be declining while hostility to "identity politics" is increasing. Strategies that seemed sound 5 years ago may now begin to be shaky ground in a rapidly shifting political environment. The HAES proponents have taken great pains to demarcate themselves as engaging in scientific practices and in search of resolution to the controversy they are embroiled in through implementation of rational means in the internal forum of science. Yet they are blocked from access to these internal forums through the efforts of more powerful actors who view the HAES paradigm as a negative intrusion ranging from idealistic and foolish to dangerous denialism. HAES has made an uneasy alliance with Fat Acceptance and taken their claims-making and evidence to external forums (like the media). Their message is also being spread in large part by lay-practitioners who utilize HAES in service of their own social movement aims. This strategy is designed to benefit both side in order to force confrontation and dialogue and possibly resolution through revolution.

As previously discussed, between 1950 and the present discourse around obesity, fat and fatness has multiplied. As institutional attention to the "problem" of fatness increased

differing solutions to the problem were proposed. Different branches of the medical field have, at varying times, been "the authority" on obesity offering their own solutions. Since the turn of the 20th century endocrinology, psychology/psychiatry, dietetics, epidemiology, and finally surgical specialties have all been positioned as "the authority" on weight-loss, and thus, on obesity. The failure of biomedicine to establish a singular, clearly successful and accessible treatment for obesity has created a crisis, giving way to competing conceptions of "obesity," competing frameworks for health and well-being, and the rise of a new ideological-technical theory/methods package for conducting medical studies of fatness (HAES) that I will discuss in a later chapter. In this chapter and the next I will outline the multiple crises and controversies that have arisen within medical science around the meaning, consequences, and treatment of excess adipose tissue.

There are two main types of weight related research: weight loss studies (clinical) and population studies comparing health outcomes across BMI categories (epidemiology). The two kinds of studies are epistemologically linked, but also studied as separate phenomena. Clinical studies test the success or failure of weight reduction interventions and their impacts in the short-term. Even long-term follow up studies for clinical studies (2-5 years) measure the maintenance of the clinical outcomes (weight loss, blood pressure, lipids, and sugars). It is rare to find studies that combine clinical efficacy with epidemiological outcomes like mortality, morbidity, and longevity. Epidemiological studies compare the "health" of high BMI people to "normal" BMI people, assuming that: 1) the bodies and health of formerly high BMI people would be the same as always "normal" BMI people once weight is reduced, and 2) weight loss would lead to health gain for the high BMI

population. Public health research further assumes that high BMI people can become normal BMI people[14] and that weight loss will have the benefits outlines by epidemiological research. These assumptions are not necessarily born out or even tested in the clinical research data. Thus, the whole picture of obesity policy is read across these two disciplines but rarely tested as a combination of these two studies. The potential uncertainty produced by this practice can be seen in the controversies I outline below. HAES practitioners want to see studies that compare those who engage with weight loss with those who remain fat and have never dieted: this is a clinical study with an epidemiological timeline. Critics of the "obesity paradox" want to interrogate the data to isolate the effects of obesity, or to conduct clinical studies which have people gain weight to see if the "obesity paradox" advantage conveys to that group. This is the use of clinical studies to confirm epidemiological findings. There have been attempts to bridge these research fields, but as I will discuss they often bring more questions than answers.

[14] Ignoring the evidence crisis around long-term weight management.

CHAPTER 2: THE CRISIS OF EVIDENCE IN WEIGHT-LOSS MAINTENANCE

> "Lifestyle modification, which involves utilizing behavior modification principles to make changes in diet and physical activity patterns, is the foundation on which all other obesity treatments rest" (Poston, Hyder, O'byrne & Foreyt, 2000, p. 191)
>
> "It is only the rate of weight regain, not the fact of weight regain, that appears open to debate" (Garner & Wooley, 1991, p. 740).

As highlighted in the above quote, obesity as a technology and the obesity epidemic theory/methods package, rely upon lifestyle modification as a means to alter adiposity to treat adiposity and manage obesity-related risk. Obesity is theorized as the result of caloric imbalance brought on by a mismatch between lifestyle choice and biological imperatives. The solution to this problem is the correction of lifestyle choices to produce weight-loss. Following the success of anti-smoking campaigns, the apparent simplicity of the solution to excess adipose tissue is part of what has made "overweight" and "obesity" tempting targets for public health. In the public health imaginary, overweight and obesity are associated with so many illnesses, and the solution so easy and low-cost, that the war against obesity ought to have been an "easy win." This has not turned out to be the case. This logic belied the growing crisis of evidence within weight science about the viability of weight loss and weight-loss maintenance as the result of diet and lifestyle change.

In 1959 Alfred Stunkard, M.D. and Mavis McLauren-Hume, M.D. published a meta-analysis and report of an intervention entitled, "The Results of Treatment for Obesity: A Review of the Literature and Report of a Series," in the *Archives of Internal Medicine.* The paper reported on the prior 30 years of obesity treatment research and a study of 100 obese

patients at the New York Hospital Nutrition Clinic. Stunkard and McLauren-Hume were highly critical of the research methodology of their peers:

> "Most, however, do not give figures on the outcome of treatment, and of those that do, most report them in such a way as to obscure the outcome of treatment of individual patients. Some authors, for example, report the total number of patients and the pounds lost without making clear how many patients achieved satisfactory results. Others report rates of weight-loss of groups of patients for whom the duration of treatment was short or even unspecified. Still others use as their standard the percentage of excess weight lost, without noting the amount in pounds. Perhaps the greatest difficulty in interpreting the results of weight-reduction programs, however, is due to the exclusion from reports of patients who did not remain in treatment or were otherwise 'uncooperative.' Such patients probably represent therapeutic failures, and they certainly constitute an impressive part of any group. Reports which exclude them, therefore, are not useful in evaluating treatment" (79).

In the 30 years' worth of publications that they reviewed, eight were sufficiently rigorous to warrant inclusion in their meta-analysis. Evaluation of those eight studies found that the majority of patients were not able to lose a "clinically significant" amount of weight, "although the subjects of these reports are grossly overweight[15] persons, only 25% were able to lose as much as 20 lb. and only 5% lost 40 lb."(84)[16]. Based upon this analysis Stunkard and McLauren-Hume concluded that current treatments were ineffective.

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[15]Note the use of "overweight" in this writing does not refer to the defined category of "overweight" as it would appear in contemporary literature, instead this is used as a catch-all term to refer to persons whose weight would be in excess of the ideal weight as catalogued in the Metropolitan Life Weight Tables. For their meta-analysis Stunkard and McLauren justified their threshold by choosing an amount of weight that would potentially allow an obese patient to lower their weight sufficiently to exit the category of "obese" and thus enter a different category of risk.

[16] This study is the first source of the often cited Fat Acceptance and HAES claim that "95% of diets fail."

They further concluded that obese patients ought to be treated with more respect (and less moralism) by the medical community, and that a modification of goals for weight-loss might be needed to reflect the likelihood of success in dieting. Finally, Stunkard and McLauren-Hume expressed concern that the myth of "easy" weight-loss was damaging to both patient and professional:

> "[T]he naive optimism of the medical profession about treatment for obesity has been widely accepted by the lay public. Most obese persons feel that they should be able to lose large amounts of weight in a short time and with little discomfort. When they find that these expectations are not realized and when they encounter the irritation of their physicians over this failure, they turn to any agency which promises results. The profusion of nonmedical agencies testifies to the extent of our patients' needs and to the magnitude of our failings" (84).

Interestingly, the notion was also expressed by some of my contemporary respondents. One bariatric surgeon that I interviewed remarked,

> "[T]hat's probably one of my biggest challenges when I deal with patients … unrealistic expectations of almost every single patient that tries to lose weight. I see so many patients that their expectation is to be a normal BMI, to get to their high school weight. … Most people want the numbers that you usually get only with bariatric surgery. And even then, you don't get those numbers. So people don't really understand it and they come in with very unrealistic expectations. … There's a lot of reasons. People talk to their friends, they read the internet and watch Dr. Oz and think that we have the right combination of diet and a formula that will make them lose the weight. I think that's a big part of the reason. [They think,] 'that's your fault. You can't lose weight, you're just not trying hard enough.' That is part of what society believes is that if you're overweight, it's because you can't do it" (Bariatric 1).

If patients and the public believed that substantial and long-term weight-loss was not only possible, but easily achieved, then Stunkard and McLauren-Hume feared that failure to achieve those results would be interpreted as either a failure of the individual or a failure of the institution of medical science.

The Stunkard and McLauren-Hume article was met with alarm and skepticism. Understandably, one article was not enough to overturn decades of advice regarding weight-loss, nor was it sufficient to topple the theory of obesity that was dominant at the time. Even a well-constructed meta-analysis cannot, and should not, knock out the existing theoretical foundation of a field. However, the results of this study were replicated with increasing frequency over the following decades. At the same time, and despite the cautions of Stunkard and McLauren-Hume, the majority of weight-loss research continued to have very short follow up periods. This research agenda reflected two camps of thought about behavioral and lifestyle modification as an effective means to produce weight-loss: those who favored long-term studies saw such interventions as a failure, those who favored short-term studies saw these interventions as a success.

The field continued to search for the perfect treatment that would produce both short-term results and long-term maintenance. Different types of psychological interventions, combination therapies (psychological and diet, or diet and pharmaceuticals), the addition of exercise, different kinds of dietary restrictions (very-low calorie diets, fasting, different combinations of nutrients) and drug therapies were all introduced and tested. In the 2000s, bariatric surgery and gut biome manipulation have been proposed as the solution[17].

Stunkard was initially one of the researchers who believed that a viable lifestyle intervention could be found. In 1979 he tested behavior modification as a means to long-

[17] While bariatric surgery has been around for decades, it is now proposed as a routine intervention for lower and lower BMI thresholds and even for children. Gut microbiome research is in the developmental stage but it is considered the "cutting edge" of bariatric and obesity research.

term weight-loss, this time he collaborated with his colleague Sydnor B. Penick, MD. They once again performed a meta-analysis and designed their own study with a 5-year follow up.

> "Clinically important weight-losses achieved by behavioral treatments for obesity are not well maintained. (Whether they are better maintained than weight-losses achieved by other - nonsurgical - treatments is impossible to determine because of insufficient information on the long-term results of these other treatments.) This is an important and disappointing conclusion, for we initially hoped that the first generation of behavioral treatments might produce enduring changes in weight related behaviors and, as a consequence, long-term weight-loss" (805).

Their article once again notes that initial weight-loss of a clinically significant amount was itself rare and that maintenance of weight-loss at follow up was not much improved from other kinds of weight-loss treatments. Many other studies from the 1970s demonstrated a lack of maintenance of weight-loss beyond a 1-year follow up (Hanson et al, 1976; Hall, Bass & Monroe, 1978; Öst & Götestam, 1976; Coates and Thoresen, 1978). This included studies of obese children (Cosates and Thoresen, 1978). In 1980 Wilson and Brownell also published a review article that largely concurred with the conclusions that Stunkard and Penick made regarding long term maintenance of weight-loss:

> "In sum, clients do not reach their goal weight. Although an average weight-loss of approximately 11 lbs. that is maintained for a year should not be dismissed as inconsequential, more substantial weight-loss that is maintained for a longer period of time remains to be demonstrated" (73).

As the 1970s drew to a close arguments began to be made that the standards of successful weight-loss might need to be changed.

Although studies showing maintenance of "clinically significant" weight-loss were rare, studies showing maintenance of less than "clinically significant" weight-loss were more plentiful. These studies still had trouble demonstrating weight-loss maintenance

beyond 2 years but their 12-18 month maintenance rates were better. Kazdin and Wilson (1978) recommended looking beyond average outcome figures to the *effects of treatment* on individuals. These included: fat loss, improved cardiovascular health and psychological well-being (75). Further studies looked at the effects upon lipid levels, blood pressure, and glucose tolerance. Alternatively, reporting of weight-loss in terms of percentage of clients who lost a specified amount of weight (hiding the clinical significance of the weight loss) was also recommended as a potential new standard. Those who favored short-term follow up studies argued that the problem lay not with the intervention itself but with compliance problems from patients. This is a method of invalidating the debate by redirecting focus away from the science and onto the patient. There wasn't a need to evaluate and resolve this crisis within the weight-science field because the crisis was not scientific. At best, it was a "psychological" problem and best addressed within a different disciplinary arena. And so, the bar for successful weight-loss was lowered and most data about failure of weight-maintenance was reframed as a patient-compliance issue.

In 1979 Susan C. Wooley, Orlando W. Wooley, and Susan R. Dyrenforth addressed the efficacy of behavioral treatments of obesity in their article, "Theoretical, Practical, and Social Issues in Behavioral Treatments of Obesity" this article also addressed the question of why long-term maintenance of weight-loss failed?

> "Although showing superior maintenance, behavioral treatments of obesity typically produce small weight-losses at a decelerating rate. Rather than reflecting poor compliance with treatment, these findings are consistent with known compensatory metabolic changes that operate to slow weight-loss and promote regain" (Wooley, Wooley, and Dyrenforth, 1979:3).

Wooley, Wooley, and Dyrenforth thus rejected the reframing of diet failure and failure of weight-loss maintenance as a patient-compliance issue. They reasserted the need for a

biomedical intervention into the problem by proposing a new hypothesis about the source of the failure: compensatory metabolic changes in the obese patient's body. Faced with the disappointing results of a behavioral therapy approach to obesity treatment, Wooley, Wooley and Dyrenforth chose to analyze the *assumptions* about obesity that had been built into therapeutic approaches to treatment. They noted that underlying the treatment strategy is the presumption that obesity is the result of excess food consumption, resulting from faulty habits: the obese overeat and have a different eating style and pattern than those who are not obese (4). Wooley, Wooley and Dyrenforth pointed out that this is not an assumption that was supported by the research literature. Contemporaneous data on eating styles had failed to find substantive differences between the obese and non-obese patients. Further complicating the matter, studies showed that obese people were not eating more than leaner subjects (Garrow, 1974; Thomson, Billewicz, and Passmore, 1961; Hejda and Fabry, 1964; Hampton, Huenemann, Shapiro, and Mitchell, 1967; Hanley, 1969; Kissileff, Jordan, and Levitz, 1978; S. C. Wooley, Tennenbaum, and Wooley, 1979; Coll, Meyer, and Stunkard, 1979). The presumption that obese patients overeat is integral to the obesity theory-methods package (see Chapter 1 for more discussion).

Wooley, Wooley, & Dyrenforth noted that there were two ways to conceptualize "overeating": eating in excess of the caloric amount that might sustain thinness or eating an abnormally large amount of food. This is the "eating in excess" and "eating to excess" divide. They note that although the former (eating in excess) might technically be true for all obese individuals, what is commonly believed and communicated is the latter (eating to excess) and this presumption is not supported by observational studies. What does appear to be different between obese subjects and leaner subjects, according to Wooley, Wooley, and

Dyrenforth, is energy expenditure. Again, contrary to expected findings this was not primarily due to differences in exercise. They noted that variability within individual expenditure of calories to maintain weight was wide, as much as 400-500 calories per person for similarly sized individuals. They further argued that metabolic rate (resting and basal) had a great deal to do with this variation, and further that this rate was affected by a number of exogenous and endogenous factors.

By the 1990s the divide within the weight science arena is easy to see in the research literature where reviews about the failure of dieting and weight-loss maintenance were published alongside articles advocating for a new dietary strategy with short-term follow up. In 1991 Susan Wooley and David Garner published a 52 page paper in *Clinical Psychology Review* entitled "Confronting the Failure of Dietary and Behavioral Treatments for Obesity." Wooley and Garner reviewed the available data on weight-loss strategies and admonished their fellow scientists:

> "There are two indisputable facts regarding dietary treatment of obesity. The first is that virtually all programs appear to be able to demonstrate moderate success in promoting at least some short-term weight-loss. The second is that there is virtually no evidence that clinically significant weight-loss can be maintained over the long-term by the vast majority of people. Since health professionals and professional societies recommend weight-loss as the treatment of choice for the 23 million or so Americans judged to be overweight, the apparent inconsistency between the short- and long-term treatment findings needs to be illuminated. ..despite overwhelming evidence from controlled studies that weight-loss programs are ineffective in producing lasting weight change. One can point to behavioral programs for weight control recommended in the same publications which document physiological resistances to weight change, seemingly without recognition of the contradictions or problems involved in trying to override the body's biological regulatory mechanisms. Our failure to fully confront these issues has meant that, despite new knowledge, there has been no fundamental change in our practices" (730).

Wooley and Garner not only railed against the tendency to ignore the available data regarding weight-loss they recommended that the evidence at this point was so overwhelming as to warrant a shift in the aims of obesity treatment and the kinds of research conducted. They argued that further "expository reviews" are unnecessary, essentially arguing that the science on the efficacy of weight-loss was settled: it doesn't work. This was a bid for closure by virtue of sound argument as described by Engelhardt and Caplan (1987). Instead Wooley and Garner aimed to explain why these diets failed, the risks associated with obesity, and the genetic determinants of obesity. At close, they said,

> "[P]rofessionals should, under most circumstances, be advised against the delivery of dietary or behavioral treatments for mild or moderate obesity rather than proposing more aggressive dietary approaches. When weight reduction is offered, consumers should be given complete information about risks and probable outcome. Rather than expending further resources on traditional treatments of obesity, health professionals should be encouraged to further develop alternative approaches that more adequately address the physical, psychological, and social hazards associated with obesity without requiring dieting or weight-loss." (731).

The final five lines of the above quote was, in essence, the Health at Every Size approach to adiposity and health.

A year later, in 1992, in order to evaluate methods of voluntary weight-loss and control, the National Institutes of Health (NIH) Nutrition Coordinating Committee (NCC) and the Office of Medical Applications of Research (OMAR) held a technology assessment conference. Comprised of a multidisciplinary group of scientists, this panel attempted to form a consensus on the existing literature and make evidence-based recommendations on standards of care for overweight and obese Americans. The panel considered dietary, exercise, behavioral and pharmacological interventions to produce intentional weight-loss and weight control. Evidence was gathered and evaluated from published sources as well as

from industry and open public comment. Their evaluation of the available data once again concluded that

> "Weight-loss at the end of relatively short-term programs can exceed 10% of initial body weight; however, there is a strong tendency to regain weight, with as much as two thirds of the weight lost regained within 1 year of completing the program and almost all by 5 years" (766).

The panel advised that further research into the development of efficacious, long-term weight-loss strategies was needed, that consumers needed to have access to efficacy statistics with regard to weight-loss plans, and that further research would be needed with respect to the consequences of weight-loss including weight cycling. This is worth noting as it demonstrates the growing schism in how researchers are interpreting the data around weight-maintenance. Some researchers, like Wooley and Garner interpreted the findings around failure of weight-maintenance as disrupting the viability of the contemporaneous theory/methods package. They advocated for a reassessment, new strategies of treatment and new investigative research questions: in other words a reconceptualization of the weight-dependent toolkit. Other researchers, like those at the NIH, examined the same data, and came to the conclusion that diets are failing and weight-maintenance is not viable but instead of advocating for a revision to current research practices they interpreted this as a "doable" problem for the weight dependent approach. This commitment to the existing theory/methods package was born-out in the decision to lower BMI thresholds and engage with the "obesity epidemic" bandwagon. Interestingly, the panel also advised that, "Population studies are needed to determine better the range of healthy weights by age, gender, and ethnicity" (770). This last recommendation anticipated the controversy that

would arise when BMI cut-points were lowered in 1996 and 1998, and later when obesity paradox data indicated that the lowest risk of mortality sits at a BMI of 27.

On January 1, 1998 Jerome P. Kassirer M.D. and Marcia Angell M.D. published an editorial in *The New England Journal of Medicine* entitled "Losing Weight – An Ill-Fated New Year's Resolution":

> "Given the enormous social pressure to lose weight, one might suppose there is clear and overwhelming evidence of the risks of obesity and the benefits of weight-loss. Unfortunately, the data linking overweight and death, as well as the data showing the beneficial effects of weight-loss, are limited, fragmentary, and often ambiguous. Most of the evidence is either indirect or derived from observational epidemiologic studies, many of which have serious methodologic flaws. Many studies fail to consider confounding variables, which are extremely difficult to assess and control for in this type of study" (53).

This editorial, published in a highly respected journal, contradicted the assessment of available evidence put forth by the NIH just one year prior and the ongoing trend toward lower BMI thresholds. This editorial also marked the beginning of a call from researchers who saw a need to change the theory/methods package for better control of confounding variables, an issue that will come up again later in this chapter, chapter 3 and again in chapter four. The crisis of evidence around dieting and weight-loss has not been satisfactorily resolved; instead it produced two competing approaches to adiposity with competing toolkits and theory/methods packages.

Responding to the Crisis in Evidence About Weight-Maintenance

By the year 2000 a stark divide appeared in the literature between approaches to obesity that emphasized the risk of excess adipose tissue coupled with the need for

individual practices to reduce weight and a weight-neutral approach dubbed "Health at Every Size" (discussed in further detail in chapter 4). As the obesity epidemic wore on and reductions in population rates of obesity did not decline alternative explanations for the "obesity epidemic" arose and with them solutions to adiposity that occur at a societal, rather than individual level. Studies of long-term weight-loss maintenance continued to show poor results into the 21st century. Numerous studies, reviews, and meta-analyses report that maintenance of even modest weight-loss was rare, most studies reporting failure rates of 80-95% when patients were followed for 3-5 years. These included: Wilson & Brownell, 1980; Wadden, Stunkard, & Brownell, 1983; Polivy & Herman, 1988; Hirschman & Munter, 1988; Wadden, Stunkard & Liebschutz, 1988; Wadden, Sternberg, Letizia, Stunkard & Foster, 1989 ; Ciliska, 1990; Garner & Wooley, 1991; Goodrick & Foreyt, 1991; Lustig, 1991; Pace, Bolten & Reeves, 1991; NIH, 1993; Fletcher et al, 1993; Dyer, 1994; Brownell & Rodin, 1994; Sarlio-Lähteenkorva, S., Rissanen, A. and Kaprio, J., 2000; Mann, Tomiyama, Westling, Lew, Samuels & Chatman, 2007; Loveman et al, 2011; Bosomworth, 2012; MacLean et al, 2015. The proposed solutions to obesity at an individual level grew ever-more technoscientific, relying on pharmaceutical interventions (with their own attendant dangers and failures) and bariatric surgery.

Lowering the Threshold of Weight-Loss Success

Stunkard and McLauren-Hume used a threshold for "success" of losing and maintaining at least 20 pounds for the overweight and 40 pounds for the obese. Over time the threshold has been lowered and standards of success have been altered. Rather than a set

number of pounds lost, one proposal has been to make success a matter of percent-of-original body weight:

> "We propose defining successful long-term weight loss maintenance as intentionally losing at least 10% of initial body weight and keeping it off for at least 1 year. According to this definition, the picture is much more optimistic, with perhaps greater than 20% of overweight/obese persons able to achieve success" (Wing & Hill, 2001, 323).

A 10% weight-loss as the clinical recommendation was standardized in the 1998 NIH *Clinical Guidelines on The Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.* "Available evidence indicates that an average weight loss of 8 percent can be achieved in 6 months; however, since the observed average 8 percent includes people who do not lose weight, an individual goal of 10 percent is reasonable. This degree of weight loss can be achieved and is realistic, and moderate weight loss can be maintained over time" (NIH, p. 71). The report justified this recommendation based upon its assessment that "even moderate weight loss, i.e., 10 percent of initial body weight, can significantly decrease the severity of obesity-associated risk factors" (p. 71). Even with this lowered threshold of weight-loss, long-term maintenance studies that went beyond 1-2 years did not have high success rates for dietary and exercise interventions alone. Lower thresholds, such as 5%, or a lack of weight-gain over time were also proposed.

The move to prioritize health Improvement.

As definitions of success around dieting shifted, there was a proliferation of research that assessed health improvements at 5% - 10% of initial body weight weight-loss (here after, 5-10% weight-loss), particularly for those with additional risk factors or known health conditions. From this data researchers asserted that a lower threshold of successful weight-

loss was reasonable due to its ability to mitigate other risk-factors for disease and a generalized recommendation of "10% of initial body weight" as the standard for success was made. For most of the researchers within the weight-science arena this recommendation and the evidence supporting its success, were sufficient to end the crisis around weight-loss maintenance. They acknowledged the need to find viable ways to adjust weights more than 10%, but evidence of this definition of success was sufficient to transform the crisis back into "normal science."

For other researchers the "10% weight loss" solution only deepened the crisis and pointed to the need for further research and debate about the weight-dependent model. This small subworld of the weight science arena (here-after HAES advocates) engaged in multiple tactics to keep the debate going and resist closure on the weight-maintenance issue including questioning the validity of the "10% weight loss" success standard. In 1998 the NIH assessed the viability of low- and moderate-levels of weight-loss for reduction in morbidity. They reviewed 15 randomized control trials (RCT) that each utilized dietary intervention alone (weight loss average 5-13%), dietary intervention plus exercise and/or exercise alone (average weight loss not calculated) both approaches improved lipid numbers and blood pressure levels (p. 30, 33-36). Interestingly, the report notes that all measures of health (blood pressure, cardiovascular fitness, lipid levels, and glucose tolerance) improved with lifestyle changes, *even in those who lost very little or no weight*. This is a finding that would come up whenever lifestyle intervention was controlled for independent of weight loss. The HAES advocates noted this trend and argued that it invalidated their fellow researchers claim to have demonstrated the success of low-level weight loss because the health outcomes in question could not be attributed to weight loss per se and not to the

lifestyle intervention. In turn weight-dependent approach researchers were unwilling to recognize the effects of lifestyle intervention independent of weight loss in retrospective studies. The above mentioned 1998 NIH report notes that these studies were not designed to evaluate the results of lifestyle interventions independent of weight-loss, and so they are reluctant to assign a high evidence rating to the assertion that lifestyle interventions independent of weight-loss can improve morbidity (p. 41). This reluctance is then branded by the HAES advocates as double standard or cherry picking of the available evidence. Those who are proponents of the HAES paradigm assert:

> "[T]he diet studies, the exercise studies, they're doing things in the intervention and yet the assumption is always that it was the weight-loss that caused the outcome variable. When that's never proven, right? We don't have any pure weight-loss studies without interventions" (HAES practitioner 003).

For this researcher and practitioner it was important to isolate weight and/or fat loss as a source of gains from the lifestyle changes that were being tested if the goal was to assert the viability and efficacy of dieting. They go on to say that it is important to establish the effects of weight-loss independent of other factors, just as it is important to establish the effects of lifestyle intervention independent of weight-loss. To do otherwise is to make assumptions about the mechanism that conveys health and the meaning of adiposity. If adiposity as a variable is not adequately isolated then it isn't possible to know what exactly one is measuring when one measures the impact of BMI classification. They go on to engage hypothetically with the idea of liposuction studies as a comparison case to illustrate the point of how difficult it is to know what mechanism is being tested:

> "Liposuction is really the only example of something where you're removing fat tissue, where they were sure that people weren't doing other things. I only found two small liposuction studies, where they controlled for behaviors, so

> people didn't change their behaviors in any way. They found out that yes, after liposuction they had lost fat, but there were no improvement in health there. I'm not going to say that I think that research is so important, I don't think it proves anything, but what is certainly clear is we don't have evidence that weight loss [alone] is valuable" (HAES practitioner 003).

HAES advocates emphasized the need to separate out lifestyle intervention from the weight-loss it (sometimes) produced. For these researchers the point of further studies about weight and health was not to continue to pursue weight loss as a doable problem or to isolate the risk and impact of obesity (as the weight-dependent approach moved on to do), but to isolate the impact of lifestyle changes *independent of weight changes* and to seek out new ways of producing health gains. If we know that increased activity and balanced diet improve health for normal weight people without weight loss, why would we presume that those same efforts would not, or could not, produce similar outcomes for higher weight individuals with or without weight loss? The HAES advocates wondered[18]:

> "I remember at least one study that found those in the intervention group showed improved health - but when you looked closer, it didn't matter whether the subject lost 2 pounds or 20 pounds. They all showed the health improvement. Which certainly suggests it wasn't the weight loss that did it?" (HAES discussion board)

> "The [Diabetes Prevention Program (DPP) as part of the Look AHEAD study] is the study that concluded that 'weight loss can prevent diabetes 58% of the time'. The very modest weight loss that was achieved in the DPP was done through healthy behavior. They DID NOT separate the benefit of healthy behavior and the benefit of weight loss. But you get benefit of healthy behavior with or without weight loss. AND you DO NOT get benefit with weight loss if the weight loss was not a result of healthy behavior (i.e. surgical removal of fat, weight loss due to illness, liposuction). ... So it is very important to separate the benefit of healthy behavior and benefit of

[18] This question recalls us to the varying definitions of "inappropriate diet" (eating in excess and eating to excess) for the HAES model the "eating to excess" won out as the logical standard for improper diet. This debate suggests that for the weight-dependent model the "eating in excess" model won out.

> weight loss BEFORE you claim it was the weight loss that benefited health. Again the DPP DID NOT separate the two, so in my opinion drew a conclusion that was not substantiated" (Weight and health discussion board, emphasis in the original comment).

The above quotes exemplify criticism of the methodological practices of weight science researchers who were continuing to publish studies about weight-loss as a "doable" problem. This research which assigned cause for health improvements to body-weight change without controlling for differences in behavior baffled and frustrated the HAES community because it appeared to just ignore the ongoing controversy. Where the weight-dependent researchers had closed the book on the weight-maintenance controversy, other researchers found the evidence so compelling they began to wonder whether or not weight-loss was necessary at all to benefit health. They speculated that individuals might be more likely to maintain lifestyle interventions if they didn't believe that the plateau and regain of their body weight was an indication of failure. These researchers and activists wanted to see lifestyle uncoupled from weight categories:

> "For so long we have had an association that high weight means bad health. I would like to disentangle [weight and health]. Clearly, for some people, their weight effects their health, but that being in those categories called 'overweight' and 'obese' doesn't necessarily mean that people are going to be in poor health or that their level of adiposity is dangerous to them. … I also think it is very very important to acknowledge that even when there are connections between weight and health, that attacking weight as a problem in order to improve health is never beneficial. For every concern in which weight plays a role we have much more effective ways of helping with that concern than identifying weight as a problem" (Respondent 011).

Epidemiological research is informed by the dominant paradigm, and so it did not ask questions about activity level, and instead used BMI as a stand-in for lifestyle information, or if it did ask about lifestyle it did nothing to disentangle the weight-health question. The

emerging paradigm in obesity research, that eventually became HAES, started to assert that use of BMI as a substitute for lifestyle was damaging to people all along the BMI spectrum.

One of the largest studies to try to demonstrate success at lower-levels of weight-loss, as compared to a control group that maintained a stable weight, was The Action for Health in Diabetes (here-after Look AHEAD) study[19]. This study demonstrated improvements to a variety of health measures at 1-year follow up compared to a control group. Averaged across 4 years the intervention group had significant improvements in all measures except LDL-cholesterol in comparison to the control group. However, when you look at the year-by-year comparison, at 2, 3, and 4 years of follow up blood pressure control was not at a statistically significant different level between the groups. Statistical significance in difference for HbA1c also stopped at the 4 year follow-up, unless adjusted for medication use (Look AHEAD Research Study Group, 2010, supplemental material).

One epidemiologist that I interviewed was very critical of the Look AHEAD study. This epidemiologist was not a HAES proponent, but they were sympathetic to the HAES viewpoint. They represented a middle-ground within the controversy and debate.

> "[S]o years ago, and CDC wanted to actually do an experimental test, a hypothesis that losing weight would have beneficial results. Intentional weight loss would have beneficial results in terms of hard clinical endpoints. And this is a huge deal and it was all these workshops and all this money and they developed it to the Look AHEAD Trial … the Look AHEAD Trial failed. I mean it didn't work. It just did not accomplish, it didn't reach its endpoint" (Interview, Epidemiologist 2).

The Look AHEAD study was halted early because the intervention had failed to demonstrate the endpoints it had been designed to study. My respondent went on to say, "the reason they chose people with diabetes [was] because they had a reasonable chance of having some hard clinical endpoint...their probability of a hard clinical endpoint is fairly high." The idea was to choose a population with a high likelihood of success. This study was designed to prove that weight-loss interventions worked and was designed to optimize that success, now it is often excluded from meta-analyses because it was conducted on a "sick" rather than a "well" population.

Harm from weight-cycling?

Further complicating these considerations was the question of how harmful or helpful "weight cycling" (or intermittent use of treatment) might be? Prescription of intentional weight-loss often resulted in weight cycling. There are two ways that weight-cycling was theorized to be harmful to people: 1) In the long-run it pushed weight up, and 2) weight-loss itself was correlated with early death and increased morbidity. Again, this divide came down to isolation of variables, whether it be isolating weight-cycling from the variables that predisposed a person to weight gain, or isolating weight-loss that is intentional form weight loss that is "unintentional" (specifically weight-loss that is the result of poor health).

The 1998 NIH report cited early stated that,

> "A number of studies of "generic weight-loss" (cause of weight-loss unknown), "weight cycling" (cycles of weight-loss followed by weight regain), and mortality have been published. In most, but not all, of these studies, generic weight-loss and weight cycling are associated with increases in mortality" (26).

Most weight-loss studies, especially self-report population studies or epidemiological all-cause mortality studies, did not differentiate between intentional and unintentional weight loss. A more contemporary meta-analysis by Harrington, Gibson, & Cottrell (2009) found:

> "Intentional weight loss per se had a neutral effect on all-cause mortality (relative risk (RR) 1·01; P = 0·89), while weight loss which was unintentional or ill-defined was associated with excess risk of 22 to 39 %. Intentional weight loss had a small benefit for individuals classified as unhealthy (with obesity-related risk factors) (RR 0·87 (95 % CI 0·77, 0·99); P = 0·028), especially unhealthy obese (RR 0·84 (95 % CI 0·73, 0·97); P = 0·018), but appeared to be associated with slightly increased mortality for healthy individuals (RR 1·11 (95 % CI 1·00, 1·22); P = 0·05), and for those who were overweight but not obese (RR 1·09 (95 % CI 1·02, 1·17); P = 0·008). There was no evidence for weight loss conferring either benefit or risk among healthy obese" (published online, abstract).

Overall, weight-loss was associated with increased mortality, the exception was intentional weight-loss in unhealthy individuals, particularly those who were "unhealthy obese." The HAES and weight-neutral researchers I interviewed would want to see the RR comparing the obese groups to obese who had not lost weight rather than to a "normal" BMI population, but would still point out that no benefit seems to be conveyed to healthy obese individuals and that what protective factors there are could be attributed to lifestyle changes. As time progressed and the divide in ideology between the two reactions to the evidence crisis around weight loss progressed, the positions of these sides became increasingly incommensurable. They interpreted the same research in dramatically different ways, making it harder and harder to produce dialogue between the two sides.

A 2012 study by Pietiläinen et al attempted to address this issue through a twin study. The study was designed: "[t]o investigate whether the paradoxical weight gain associated with dieting is better related to genetic propensity to weight gain than to the

weight loss episodes themselves." If dieting induced a tendency toward weight gain, then under the weight-dependent model of health, dieting could be seen as causing harm. Whether or not the risk of harm from a failed diet attempt would still outweigh the potential gain of losing weight cannot be settled with this kind of study and is dependent upon one's interpretation of the data about long-term maintenance of weight-loss. This study found that, "frequent [Intentional Weight Loss attempts (IWL)] reflect susceptibility to weight gain, rendering dieters prone to future weight gain. The results from the MZ pairs discordant for IWLs suggest that dieting itself may induce a small subsequent weight gain, independent of genetic factors" (p. 456). The evidence that weight-cycling caused weight gain was not sufficient to end the debate around intentional weight loss, and this was because weight-dependent paradigm researchers argued that weight-cycling might just be part of the process necessary to find the diet that worked.

Maybe Diets Do Work?

As questions around the viability of life-style based interventions mounted there was a push-back against the methodology that comprised the data on weight-maintenance. This response attempted to close the controversy through a combination of discrediting the problematic data around weight-maintenance, shifting the problem with those studies onto the patients (and again asserting that as not-a-scientific problem), and proposing new evidence which allowed closure through sound argument. Studies continued to be published that showed the success of dieting in the short-term and so it was apparent that weight-loss in the short term was possible. The question became: why the long-term failure rates? As discussed elsewhere, some explained the failure as the result of biological mechanisms that

prevented fat-loss, others pointed to social and environmental considerations that worked against the individual. Still others argued that perhaps the problem was in the study design. Maybe people willing to participate in organized efforts for weight-loss and weight-loss research were a special kind of overweight or obese person with a particularly stubborn kind of fat? Usually, in evidence-based evaluations, randomized control trial (RCT) research was the "king" of evidence, but under this argument the specifications for an RCT would work against production of accurate population level knowledge. Survey data was collected to try to determine success rates within the general population. This is an interesting move because it seemed to prioritize research with the desired outcome over research at a higher evidence rank. This suggested that there may be differential standards of proof and evidence hierarchies for data which upheld the hegemonic approach to obesity and those which challenged it.

Self-reported survey studies (on the phone or in person) found higher incidence of sustained weight-loss in the general population[20]. A 1984 study by Jeffrey et al looked at self-reported history of weight to determine success rates:

> "Participants in the 1980-81 survey reported by interview their present, highest, and lowest adult weights, and whether they ever had dieted to lose weight or participated in weight-loss programs … Measuring success as having once been overweight but not currently being overweight, more than

[20] In the pantheon of data an RCT is supposed to outweigh a survey or self-report based set of data, but the small number of self-report surveys that indicate lasting weight-loss is more common are highly cited. RCT's do have limitations and the traditional weight paradigm researchers note that the difference in data might indicate that diets don't work for the *kinds of people who participate in weight-loss studies* but might be more successful in the general population. Specifically, people who participate in weight-loss studies tend to be higher in weight and chronic dieters.

> one-third have successfully lost weight. Success rates for those reporting dieting are slightly lower, but nevertheless substantial" (p.349, 351).

Thirty percent success is a much more promising outcome than the 5% that previous studies had indicated. Jeffry et al noted that in comparison to a 1982 study by Schacter, the Jeffrey et al rate was still conservative. The 1982 study conducted in-person interviews with "everyone listed under Psychology in the university catalogue and everyone listed in the department's own directory" and "[a] substantial portion of the entrepreneurial and working population of Amagansett, a small town in eastern Long Island, New York"(Schachter, p. 437) a vacation spot that the author had frequented for the last 20 years. Respondents were asked about their highest lifetime weight and their current weight, those who had lost 10% or more from their highest self-reported weight and were not currently in the "obese" category were categorized as "cured fat" as a percentage of all respondents who reported ever being obese this represented 62.5%, this is a substantial deviation from three decades of RCT data. The author published similar data on smoking cessation rates.

The author explained this discrepancy not as a result of reporting bias but instead theorized that the low success rates of RCT's reflected something wrong with the population that was studied "Certainly the most obvious explanation must be in terms of self-selection—Only the most difficult cases seek help; people who cure themselves do not go to therapists" (p. 443). Similarly, RCT's were criticized in this format for capturing only one attempt at weight-loss, then decrying the practice of weight-loss in its entirety:

> "The inferences that have been drawn from studies of, therapeutic effectiveness are curiously misleading. They correctly describe the results of a single attempt to quit smoking or lose weight or what have you, but from such results nothing can or should be inferred about the probable success of a lifetime of effort to quit smoking or lose weight. Yet these are precisely the

> inferences that have been drawn again and again. Because literally hundreds of studies of single attempts to cure some addictive disorder Or other have repeatedly reported pathetic rates of success, we have concluded that the addictive behaviors are unyielding, almost hopeless disorders" (Schachter, 1982, p.443).

Or, as more succinctly stated by Yoni Freedhoff, a well-known Canadian Bariatric physician with a large on-line presence, "No diet works for everyone and every diet works for someone" (Weighty Matters, 9/8/2016). This explanation neatly set aside the weight-loss maintenance controversy by asserting that it isn't a controversy.

In 1999, Bartleit et al reviewed eight studies that examined the prevalence of successful weight-loss in community samples specifically with the goal of testing Schachter's provocative results. They were unable to come to a satisfactory conclusion. In part, this was due to inconsistent definitions of success in the surveyed studies. They also noted that many studies failed to use nationally representative samples, assessed weight-loss not weight -loss maintenance, or failed to begin with a clear testable hypothesis. In the reviewed studies the "self-cure" rate was between 9% - 43%, demonstrating significant variation which prohibited such studies from ending the debate around the viability of weight loss and closure of the controversy.

To the weight-dependent approach researchers these surveys indicated that there is a pool of "successful" dieters out there who could be studied in order to find a key to weight loss maintenance. Researchers proposed creating a data-base of these dieters. The National Weight Control Registry (NWCR), founded in 1994, did just that. The NWCR was the source of almost all claims about successful weight-loss maintenance and weight-loss maintenance strategies. To be eligible for the NWCR, individuals must have maintained at

least a 30-lb. weight loss for at least 1 year, method of weight loss was not specified and based upon published findings could include bariatric surgery. Study subjects were sent questionnaires regarding weight-loss and weight maintenance behaviors, weight history, quality of life, and demographic information. They were then asked to complete additional follow-up questionnaires on an annual basis. 90% of participants reported previous, failed attempts at dieting. As of 2002,

> "On average, participants lost 32.4 ± 18.0 kg (31.9 ± 16.9 kg in women, 34.5 ± 21.8 kg in men, $p = 0.006$). [R]egistry members on average maintained the minimum weight loss (13.6 kg) for 6 years. Registry members had a maximum BMI of 36.2 ± 8.6 kg/m^2 before their successful weight loss attempt and a BMI of 24.8 ± 4.6 kg/m^2 after their weight loss" (Wyatt et al, 2002).

The NWCR was the source of a great deal of public health advice about weight-loss and weight control. The data from participants was monitored and evaluated for trends in behavior and these trends were reported as weight-loss promoting. Advice such as eating breakfast, daily monitoring of weight, reducing levels of television viewing, and low-calorie and low-fat diets all came from evaluation of the registry. The NWCR, for some researchers, provided definitive proof that long term weight-loss maintenance is possible and that therefore failures at maintenance were due to personal error, and the evidence crisis around weight-maintenance could be put aside.

Other researchers retorted that if RCT data represented the most resistant to weight-loss (as critics contend), then it seemed equally reasonable to assert that the NWCR represented the most amenable to weight-loss success. The people in NWCR were a collective of the "5%" success rate.

Further, these researchers asserted both groups may have been inappropriate for generalization to the population as a whole. The NWCR was made up of mostly female, white, married women, and very few, if any of them, were in the obesity class 3 category prior to losing weight. Average caloric consumption for women in the registry was 1,306 kcal/day and for men, 1,685 kcal (Shick et al, 1998) and mean resting metabolic rate for NWCR subjects was significantly lower than weight matched control subjects. Participants also report (Wyatt et al, 1999). A critique of the NWCR authored by Ikeda et al (2005) pointed out that publications from the registry indicated that at 2 years of follow-up 72% of NWCR members above their baseline weight. The NWCR also appeared to have a sizable attrition rate with many participants lost to follow up. The successes reported regarding years of weight maintenance included years of weight maintenance prior to enrolling in the study. They also pointed out that the published data from NWCR tends to be 1 - 2 year follow-up data, not 5+ years and that the NWCR represented a very small fraction of the overall dieting population. They questioned the notion that this registry gave reason to doubt the 5% success rate of dieters.

Explaining the Diet Failure Rate

As mentioned previously one way to explain the failure rate of long-term weight-loss maintenance was to interpret it as lack of compliance by the patient; patients ended lifestyle interventions, they went off their medication, they reverted to the behaviors that got them fat in the first place. From this perspective patient non-compliance was not an indicator that the *treatment* had failed, even if patient non-compliance was *near universal*. This is an assertion that many in the HAES community found to be unethical. Other researchers (both

HAES and WDP) proposed other explanations, including changes to metabolic rate, the presence of an obesogenic environment, a smattering of fascinating explanations for obesity that were outside of either dominant approach, and an ethical argument that if most patients reject a treatment as being unsustainable the profession has an obligation to find more efficacious and acceptable treatments. These alternative explanations created a new toolkit for researching and interpreting adiposity.

Changes in Metabolic Rate (Set-point Theory)

A 1984 study by Liebel and Hirsch entitled "Diminished Energy Requirements in Reduced-Obese Patients" found that reduced obese patients required 28% fewer calories to maintain their new weight than was required to maintain their old weight and 24% fewer calories than their never obese peers.

> "The mean individual energy requirement of the reduced-obese subjects (2171 kcal/d) was less than that for the control subjects (2260 kcal/d) despite the fact that they still weighed 60% more than the controls. In order to maintain a reduced weight, some reduced-obese or even partially reduced patients must restrict their food intake to approximately 25% less than that anticipated on the basis of metabolic body size" (p. 164).

In 1988 Weigle et al had also found an 18% decrease in the mean daily energy requirement of "reduced-obese" subjects compared to those with similar body weight who had never dieted (p. 935). This phenomenon was later dubbed "adaptive thermogenesis[21]" and it is a finding that has been consistently upheld over time. Camps et al (2013) found that adaptive thermogenesis begins during weight-loss and is sustained up to 44 weeks (the extent of their follow up) when body weight is maintained below the pre-diet weight (p. 992). A 2016

[21] For origination of this term see: Catenacci VA, Hill JO, Wyatt HR, 2009; Kraschnewski JL, Boan J, Esposito J, Sherwood NE, Lehman EB, Kephart DK, Sciamanna CN, 2010;Wing RR, Phelan S.,2005).

study of *The Biggest Loser* television show contestants was one of the most popularly disseminated studies of adaptive thermogenesis. This study by Fothergill et al followed up on 14 of 16 contestants that participated in the television show. In evaluating these participants, the study found that all but one contestant had regained weight, despite maintenance of healthy habits. They also found that these contestants showed metabolic adaptation of "-499 ± 207 kcal/day ($P < 0.0001$)" (p. 1).

A 2015 meta-analysis by Dhurandhar et al calculated the real-world consequences of this biological adaptation. They found that in overfeeding studies biological compensation resulted in 96% less weight-gain than expected. In dietary restriction and exercise studies biological compensation accounted for up to 12-44% and 55-64% less weight-loss than expected (p. 2). This means that adaptive thermogenesis makes both initial weight-loss and maintenance of weight-loss difficult.

One response to this research was to argue that adaptive thermogenesis was a wide-spread and fixed phenomenon that more accurately explained variation in body size and failure of diets than did a mass lack of will-power. This was later taken up by the Health At Every Size paradigm as an important part of their theory/methods orientation and was referred to as "set point theory" or "settling point theory." Under the HAES model the conception of adaptive thermogenesis is expanded (with the use of other similar research) to a bodily mechanism akin to other regulatory systems that maintain breathing or blood sugar. Your body has a "set point"(a preferred amount of adipose tissue), and if that amount was disrupted the body would work to correct that change. A 1982 book by Dr. William Bennett

and Joel Gurin, *The Dieters Dilemma*, proposed the idea of "set point theory" and was a precursor to the HAES paradigm,

> "Set-point theory holds that fatness is not an accident. Each body 'wants' a characteristic quantity of fat and proceeds to balance food intake, physical activity, and metabolic efficiency in order to maintain that amount" (Bennett & Gurin, 1982: 62).

Set-point theory proposed that bodies responded to external stimuli like reduced caloric intake or increased expenditure by first incentivizing an increase in caloric consumption (hunger, increased reward response for eating). Then, if unsuccessful, the body would alter energy use[22] in an attempt to compensate for the lower availability of fuel (fatigue, lowered body temperature, adjustment of metabolic rate). Bodies cannot differentiate between

[22] While the official interpretation of set point theory used in HAES moves from actions to biological responses to those actions (from dieting to the body defending a weight, from over-feeding to an increased settling point) many of those who practice HAES, particularly lay-people, will often interpret the idea as a form of genetic determinism. As demonstrated by this quote from a public HAES discussion forum: "My hunch is that the reason fat people would (on average - there are going to be some outliers) eat more than thinner people (on average - there are going to be some outliers) is because something in our biology directs us to eat enough to maintain a higher weight and larger body overall. Whatever that something is, my suspicion is that it is a mix (like almost every trait) of genetic potential interacting with environment. I didn't sit down one day and choose to eat enough food to weigh what I currently weigh. What happened was, I felt hungry, and I felt attracted to certain foods and not others, and I felt urges to move my body in certain ways and not others, and by responding to those signals I developed and maintain the body I have today." (Michelle, HAES Discussion Board, May 2015). We will note that Michelle first assumes that fat people eat more than thin – a claim that is often rejected by those within the HAES community – but then she locates the impetus to do so within the body, not the will of the individual. This reverses the direction the environment-body relationship that Bacon and Aphramor propose and instead hybridizes HAES with a more mainstream understanding of weight gain that still has the result of absolving the individual of "blame" for their condition. The absolution comes from the higher food consumption and weight being the result of "natural" processes that are outside the individual's ability to control (genes/setpoint) and from the higher body weight still being within a "natural design" for the body in question.

famine and diets, so they reacted to preserve life at the expense of other systems. Accordingly, when bodies recovered weight the set-point range would be altered upward, in anticipation of another famine. This is referred to as a "settling point" which represents a new equilibrium for the body. Health at Every Size argued that in this way dieting actually contributed to obesity. Set point theory bridged environment and embodiment. The HAES approach expanded set-point theory and the failure of dieting to argue that body size was not easily manipulated, which they parlayed into an argument for naturalized bodily diversity, or "naturalized fatness" a topic I will explore in more detail in chapter 4.

The weight-neutral or Health At Every Size approach to weight science emerged because one set of scientists looked at the evidence around long-term weight maintenance and decided that they needed to shift their approach to obesity. As I will discuss in chapter 4 this shift was influenced by lay-researchers and lay-practitioners from within the nascent fat acceptance movement; however at a fundamental level, the shift toward a weight-neutral paradigm emerged out of this schism in the medical field between those who saw the crisis of weight-maintenance as unresolved and those who saw it as not in need of resolution but instead as a doable problem within the hegemonic theory/methods package.

The HAES inclined researchers had difficulty engaging their weight-dependent colleagues in debate around their ideas which challenged the definition and meaning of obesity. This was in part because to move on to questions about how effective life-style measures might be in the absence of weight loss, or how much age, race, stigma, stress, poverty, and inequality are the factors impacting health outcomes you need a reason to abandon obesity as technology. Factors like lifestyle, social determinants of health,

genetics, and environmental factors got neatly packaged into obesity through focus upon BMI and BMI risk groupings. They made potentially messy data tidy. Without a belief that diets fail (dieting being the presumed means of transitioning between BMI categories) there wasn't an incentive to have that conversation. Especially if researchers believed that lifestyle interventions and weight-loss would improve the confounding factors that were being brought up. If the treatment was the same, what need was there to differentiate the etiology?

CHAPTER 3: THE OBESITY PARADOX

The Obesity Paradox is a key-term that began to appear in medical research literature in 2002. The term was coined by Dr. Luis Gruberg and his colleagues at the Cardiac Catheterization Laboratory in the Cardiovascular Research Institute at Stony Brook University. The group had a surprising finding: obese patients had roughly half the risk of dying within a year of undergoing percutaneous coronary intervention compared to the normal BMI group. (Gruberg, 2002) They had hypothesized that as overweight and obesity were associated with higher risk of coronary heart disease and heart attack that they would have a lower survival rate than their normal weight peers. This supposition was in-line with the dominant theory about weight and health. Gruberg took inspiration from an article by Bob Ash about the "smoker's paradox" and decided to call his results an "obesity paradox.

Gruberg's data was not the first to demonstrate this anomalous relationship between obesity, morbidity and mortality. Such findings for cardiac survival had been found as early as 1999, and a "J" or "U" shaped mortality curve with respect to BMI was a known phenomenon, hypothesized to be the result of Cachexia[23] (Aihaud and Reach, 2001;Vierhapper, Nardi, and Grösser, 2000). However, this new data about survival increasing in-step with BMI was surprising because mortality decreased with increased weight at the higher end of the BMI spectrum, rather than increasing as it would in a U-shaped curve.

[23] Cachexia is weakness and weight loss that occurs within chronically ill patients as a result of a wasting state. This weight loss results from the atrophy of muscle mass and other lean muscle, as well as the loss of fat tissue.

Other researchers with similar data to the Gruberg et al finding also had a hard time getting such data published. Carl Lavie's lab had found an inverse relationship between BMI and mortality in patients with heart failure. Lavie has reported that his lab tried for a year to get their data published, but their paper was rejected because the findings didn't seem plausible. Lavie heard about Gruberg's use of the "obesity paradox" key term and altered the title of their paper to include it. Their paper was then accepted and published in 2003.

The "obesity paradox" key term provided a way to fit this unexpected data into the existing theories around obesity and health: it was a puzzle for normal science to solve. The initial expectation of the researchers was that this anomalous data would either not be persistent or that a simple confounder explanation would be discovered. As more studies found the same association, the search for explanations for the data became the focus, and the possibility of an association or a causational relationship was proposed. Lavie and Milani (2003) discussed the potential explanations of the obesity paradox, they were clear that obesity increases cardiovascular risk, is an independent risk factor for many diseases, raises overall mortality and morbidity risk, and is a serious health risk that needs to be controlled. They emphasized that the relationship was likely an association and not causal:

> "We urge caution that a 'risk marker' not be confused with a risk factor. Although obesity may clearly be a risk factor for developing [coronary artery disease] and [heart failure], obesity by itself may not necessarily expose patients with these diseases to excess short-term risk, particularly with coronary revascularization. These facts, however, do not discount the need for more vigorous efforts at obesity prevention and intervention, which may go a long way to prevent these diseases and prevent the morbid complications recognized centuries ago by Hippocrates"(678-9).

Over the next 5 years evidence of the obesity paradox continued to accumulate. The phenomenon was found to be durable, persistent, and present in more than just heart failure

patients. By 2008 "obesity paradox" was a well-known and accepted phenomenon, though the explanation for the data had yet to be found. When the "obesity paradox" term was first used it stirred up some controversy from skeptical researchers and reviewers, but otherwise was treated as an interesting anomaly. However, as the results endured and explanations for the data increasingly pointed toward a causal relationship, the "obesity paradox" became more and more controversial and the research around it more and more contentious.

A Paradox of Paradoxes

Initial research into the obesity paradox sought to find out if it was "real" in the sense of being replicable and enduring data. Once this was established, researchers tried to explain it within the confines of the dominant theoretical model. A similar phenomenon had been established in other "wasting" type diseases, specifically within chronic kidney disease (CKD). It was well known that a constellation of cardiac risk factors (higher blood pressure, higher lipid levels, and now obesity) were associated with better survival on dialysis. This was termed "reverse epidemiology" within that discipline. The "reverse epidemiology" terminology is also controversial because it suggests a "reversal" of classical epidemiology and a causational relationship between these factors and survival. This would be a reversal of the "Framingham paradigm."

From 2003 – 2013 the number of kinds of diseases that an "obesity paradox" was found within increased substantially. Not only was it seen in percutaneous coronary intervention, CKD, and heart failure, an obesity paradox was observed within most cardiac related diseases including stroke. Additionally, an obesity paradox was observed in aging, in AIDS/HIV, community acquired pneumonia, liver failure, and general surgery. As scientists

tried to solve the puzzle of the obesity epidemic, they began to do research into obesity that had not been done before. The "obesity paradox" itself became a bandwagon term that allowed new research questions to be intelligible to funding agencies and journals (Fujimura, 1988). As Joan Fujimura explains "A scientific bandwagon exists when large numbers of people, laboratories, and organizations commit their resources to one approach to a problem"(ibid:261). The obesity epidemic had already provided weight science with one bandwagon: solving the obesity crisis. This funneled resources toward scientific endeavors that assessed the risk of high adiposity and sought ways to mitigate that risk. The obesity paradox created an avenue for research funding that looked at adiposity as a potential protective factor rather than as a risk factor. Prospective studies were proposed and funded; on the presumption that a study designed to interrogate the obesity paradox would be more accurate in controlling for confounders, collider effects, and selection bias than the retrospective studies that had produced the initial data.

Some researchers pushed to view this data as potentially causational, making fatness a protective factor for these wasting diseases, a stance that would threaten the dominant theoretical approach to obesity. Such a relationship could potentially overturn conventional practices and recommendations about weight loss. As Kalanter-Zadeh et al (2005) stated, "We believe that this could have very important implications for public advice on health matters because conventional recommendations pertaining to the management of cardiovascular risk factors such as weight reduction or aggressive treatment of hypercholesterolemia may not be appropriate"(1797). In an editorial letter that accompanied one of the first studies showing improved mortality outcomes for higher BMI heart failure

patients, Carl Lavie, Mehra, and Milani (2004) cautioned that "[i]mportantly, only limited information is available on whether this relationship is causal or merely an association" (6) and "[f]urther studies are needed to elucidate the mechanism for this relationship between obesity and improved [heart failure] prognosis further. In addition, studies on modalities to improve nutritional/metabolic reserve and purposeful weight reduction, especially in obesity, on [heart failure] prognosis are urgently needed" (7). The implications of a protective causal effect for increased adiposity were significant.

Funding was procured and large cohort prospective studies were set up to confirm the veracity of the obesity paradox data. Meanwhile use of the key-term multiplied as researchers attempted to explain the data, investigating methodological problems, biophysiological pathways, and alternative hypotheses about the potential mechanisms for this effect. Methodological concerns have been brought up, addressed, and revisited over the last 16 years of research. Cachexia is the most common presumed cause of the obesity paradox if methodological error is presumed as the culprit as weight loss due to wasting might push sicker obese patients down into the normal weight category through weight loss. Further, the weight loss itself might be conveying risk, rather than increased weight being protective. The proposed solution is to record weight loss leading up to a study or to exclude deaths in the first few years of a study that might be related to wasting just before initial BMI measurement. Cachexia has long been correlated with increased mortality so sorting out its detrimental effect from a protective weight effect is important. Many studies have been conducted that control for cachexia in a number of different ways and they have failed to completely account for the obesity paradox (Kydd and Pugh, 2009; Khalid et al, 2014; Blatt and Elbaz-Greener, 2015).

Another commonly pointed to methodological concern is control for a variety of specified forms of bias. For instance, "selection bias" may influence the outcome of the association between mortality and higher BMI as obese patients are younger and at an earlier stage of sickness, potentially prone to misdiagnosis/premature diagnosis, or "selection bias by death"[24] meaning the weakest and sickest of the higher BMI population have already died and only the strongest are left. Another potential statistical error is control for smoking status. A history of smoking is associated with higher mortality rates, a history of smoking is also associated with lower weight. These histories potentially collide in their causal relationship to mortality making it appear the higher BMI is protective, this is referred to as a collider effect. Again, researchers have attempted to control for or correct for these potential errors and the obesity paradox has persisted. All of these methodological concerns have been addressed in the literature, but not to the satisfaction of obesity paradox skeptics.

Among the hypothesized mechanisms, some related to a special condition of larger or fatter bodies: vein size, absorption of medicines/dosing issues related to body weight, particulars of surgery for larger bodies, and distribution of fat/lean tissue in bodies. Ohers focused upon the particulars of lean bodies, theorizing that rather than representing a *protective* effect from adiposity what was being seen was risk from low-weight patients. The cachexia explanation has been one of the more enduring and persistent counter-explanations of the "obesity paradox." These researchers argue that before we can call the

[24] This is the hypothesis which posits that as obese patients have higher mortality during surgery, the "weaker' obese patients have already died and so their post-operative mortality statistics are better.

effects of the obesity paradox a "protective effect" studies must be conducted which control for stability of weight leading up to surgery, or even over the life-course, overall health levels of these groups, severity of disease in these patients, and age. This is remarkable as it represents a dismantling of the package of theory, methods, and technology that obesity represents as these are practices that were not and are not demanded of studies upholding the hegemonic relationship between obesity and health.

Starting early on in the obesity paradox research, alternative explanations for the obesity paradox were floated including: nutritional status, fitness level, sleep apnea, body composition and/or fat distribution. These explanations potentially correct the paradox by explaining these results without assigning a protective effect to obesity, even if it means reconsidering how obesity is defined. This research also spawned new, interesting, and potentially more revolutionary findings. Carl Lavie and his lab invested a great deal of time in sorting out fitness level from fatness, a practice that the weight-neutral proponents of Health At Every Size had been advocating for but had been unable to procure funding to investigate since the late 1980s. The Lavie Lab research spawned two new versions of the "obesity paradox": the "fat-but-fit" obesity paradox and the "metabolically healthy obese" paradox. These paradoxes challenged the theory-methods package that makes up obesity as a technology.

In 2005, and then again in 2013, Katherine Flegal, a CDC researcher, published data that appeared to include an "obesity paradox" in all-cause mortality. The "J" or "U" shaped curve of all-cause-mortality was well known, but the nadir of the curve had always been found to be within the "normal" BMI range. Flegal's results put the nadir of the curve in the "overweight" BMI range, showed grade 1 obesity to have the same risk as normal BMI, and

grade 2 obesity to be the same as underweight. These results amplified calls (that had started with previous obesity paradox data) to reconsider the way that "obesity" is measured and conceptualized. The popular press presented this data as contradicting the dangers of "overweight" and mild obesity.

This data caused a firestorm of controversy. Walter Willet, head of the Harvard Public Health department called a press conference and publicly criticized the data. He was quoted by NPR as stating that "This study is really a *pile* of *rubbish*, and *no one should waste* their time *reading* it" (NPR, 1/2/2013). He and his colleagues held a symposium to criticize the findings, the second such symposium in reaction to Flegal's work. Many in the public health community felt that this publication, and that all of the obesity paradox data, was undermining their public health efforts and costing the scientific community credibility on the topic of obesity. The 2013 results were published on January 2. The year 2013 had twice as many publications addressing the obesity paradox than 2012 and the years since has sustained this level of publication. The tone of the exchanges within peer reviewed journals has become much more contentious since 2013. Many of the obesity researchers that I interviewed who object to obesity paradox research state that the obesity paradox is not real, "I think the first question is whether it exists at all" (Bariatric Surgeon). As one public health expert explained it, the obesity paradox ought to be settled science:

> "Basically if you take into account reverse causation and confounding, there's really not an obesity paradox in the sense that what was meant to imply that it's desirable to be overweight or moderately obese. That's not the area of minimal mortality" (Public health researcher/epidemiologist).

While some researchers felt the matter was settled science, this is far from the consensus of the medical community and research on the obesity paradox persists, a fact that infuriates

other researchers, particularly those that see the obesity paradox as threatening to the integrity of science in the view of the public. At issue is not just how to settle the science, but what is meant by "real" in these conversations. Paradoxes are common in medical literature, and while they are often explained, the explanation is not often asserted as making the paradox "not real."

This question of what is meant by "real" is at the heart of the controversy about the obesity paradox. As an epidemiologist I interviewed remarked,

> "The phenomenon is clearly real. There is no question about this. There is no question whatsoever. There is so much literature that shows that, for example if you're obese, and you undergo PCI, percutaneous coronary intervention, that survival is better than if you weren't obese. So what does that mean about the paradox being real? It is real, the fact is actually visible. The only question is; what explains it? ... You can babble on as much as you want about selection bias but that doesn't change that fact. This is perfectly well established. What does it mean to say it's not real? What does real mean? What are they trying to say really? … Of course it happens. It's durable. Just because you think you can explain it some way doesn't mean that it didn't happen. It does happen" (Epidemiologist 2).

What makes the "obesity paradox" so controversial is not the data itself, but what it is perceived to mean about obesity and potential treatment recommendations. I argue here that what many researchers mean by "real" is causation. The controversy at hand is whether or not higher weight could cause better health outcomes. If obesity is protective, or even just not harmful, it could significantly impact the dominant theoretical paradigm around obesity and public health.

One potential impact is the reconfiguration of how we define obesity. As Habbu, Lakkis, and Dokainish (2006) discuss in their letter in the American Journal of Cardiology, entitled "Obesity Paradox: Fact or Fiction?";

> Thus, the potential clinical impact of the obesity paradox is that obese patients with established [heart failure] may be advised not to lose weight, which may have detrimental health effects. Thus, it is vital to either conclusively establish or refute the obesity paradox. Does the paradox really exist?" (944).

In this statement we can clearly see that what the authors mean by "real" is not the durability of the data, but implications of the data. Real, in this context, is causation. However, as early as 2007 some researchers do present the effects as protective and begin to suggest a reinterpretation of the medical understanding of obesity. Italian researchers, Carlon and Zanchetta (2007), asked "Is obesity still a coronary risk factor?" In the English translation of their abstract they state,

> "in the August 19 issue of *The Lancet* on 250,152 patients with documented coronary artery disease, suggests that after grouping 40 cohort studies with adjusted risks, overweight patients were consistently associated with a better survival and lower cardiovascular events than patients with a low body mass index, whereas obesity was associated with a higher total mortality only in patients with history of coronary artery bypass graft, and severe obesity was associated with a significantly higher cardiovascular mortality but not with an increased risk for total mortality. Far from proving that obesity is harmless, these findings suggest that *alternative methods might be required to better characterize individuals who truly have excess body fat* and that additional studies with different methods are needed. Moreover, still unknown is the unique contribution of higher muscle-to-fat ratio, which may be merely a surrogate of increased physical fitness. Future research is needed to assess the link between high muscle mass, high body fat and clinical outcomes" (emphasis added).

While this paper does seem to conclude that obesity should still be considered a risk factor it also proposes that new research needs to be done to certify that causal relationship and that a redefinition of obesity may be necessary.

Categorizing the paradoxes.

McAuley and Blair (2011) identify four "obesity paradoxes" in relation to mortality risk, as follows: classic obesity paradox (obesity is protective in chronic disease states), pre-

obesity (overweight is protective in normal populations), fat-but-fit (obesity is not a risk factor for mortality in fit individuals), and healthy obesity (a sizeable proportion of obese adults have normal cardiometabolic risk profiles). This approach is typical of the analysis within the literature which considered these paradoxes as separate. However, the various paradoxes have emerged out of attempts to explain the original heart failure related paradox. They represent an opening up of the black boxed technology of obesity, so I am hesitant to classify them as separate paradoxes. However, classification can be useful, particularly as not all researchers are reading the literature on all of the paradoxes. I offer then a different classification system: mortality paradoxes, health paradoxes, and nutrition paradoxes. In this theoretical framing I classify the paradoxes by the logics of obesity which they challenge: that obesity is always a risk factor that increases mortality, that obesity can be easily and reliably utilized as a heuristic for activity level and health, and that obesity is a reliable indicator of lifestyle factors like diet. I wish to highlight that what is at stake in the obesity paradox debate is the central understanding of what "obesity" is, not just what it means, but what it is that researchers believe they are testing when they use "obesity" as a variable.

Obesity Mortality Paradoxes

Obesity is defined by BMI, but what it is supposed to be is an indicator of excess adipose tissue. To be more precise, adipose tissue that exceeds the level required for optimal maintenance of the human body, to the point that impairment of function is noticed. Two ways we can see impairment in function is through increased morbidity (incidence of disease) and increased mortality (incidence of death within a set time-frame). Concerns

about early death have helped to fuel and legitimate the public health response to the obesity epidemic.

The Mokdad, Marks, Stroup, and Gerberding "actual causes of death" 2004 paper.

In 2004 Ali Mokdad, James Marks, Donna Stroup, and Julie Gerberding, all CDC researchers, published a special communication in JAMA titled, *"Actual Causes of Death in the United States, 2000."* This paper was a meta-analysis of works that addressed "modifiable risk factors" which cause deaths. The authors utilized a variety of studies that linked risk behaviors and mortality and used these studies to estimate national death rates associated with "actual causes of death." They determined that the most common actual causes of death in the United States in 2000 were: tobacco, poor diet and physical inactivity, and alcohol consumption. Other "actual causes of death" that they identified were: microbial agents, toxic agents, motor vehicle crashes, firearms, sexual behaviors, and illicit use of drugs. This study indicated that "poor diet and physical inactivity" was likely to have caused 400,000 deaths in 2000, nearly as many as tobacco (435,000 deaths). Interestingly, this number is not based upon measures of physical activity or diet quality, but upon the prevalence of obesity.

To determine attribution of death these researchers first began with a chart of categorized deaths in the United States in 2000. These causes of death included: heart disease, malignant neoplasm, cerebrovascular disease, chronic low respiratory tract disease, unintentional injuries, diabetes mellitus, influenza and pneumonia, Alzheimer disease, nephritis, septicemia, and other. In total there were 2,403,351 deaths in 2000, 1,159,000 of which Mokdad et al determined to have been preventable.

Mokdad et al utilized relative risk mortality estimates to determine which percentage of the reported deaths could be attributed to certain risk factors, which in practice is often assumed to be certain risk groups. This means that they utilized epidemiological data that tracked mortality for certain categories of people over a set period and then created "relative risk" measures for those groups to a set reference group, compiled them into a cause-attributable fraction of deaths and multiplied that by mortality data (1238). Mokdad et al explain that "To assess the impact of poor diet and physical inactivity on mortality, we computed annual deaths due to overweight" (1239). They go on to state that "overweight would account for the major impact of poor diet and physical inactivity on mortality. Diet may have a minor additional effect on mortality, mainly from lack of certain essential nutrients" (1240). This reasoning demonstrates the underlying logic of obesity as a technology. Overweight and obesity, in this understanding, represents a positive energy deficit resulting from poor diet and inadequate expenditure of energy (physical inactivity) due to lifestyle choices. The model above presumes that all overweight and obese individuals share this lifestyle and further that those in the normal and underweight categories do not with the exception of those who may be starving ("lack of certain essential nutrients"). Mokdad et al chose to assign the 15000 deaths to undernutrition, a number they do not provide an explanation for, but that nicely rounds up their finding of 385000 deaths attributable to overweight and obesity. Thus, in 2004 the press and public were informed that in the year 2000 "400000 people died from obesity." The reference to poor diet and physical inactivity is dropped and attribution is designated entirely to the risk group (the overweight and obese) to not the risk factor (poor diet and/or physical inactivity). This is additionally remarkable because it lumps the 15000 deaths presumably due to poor diet or

physical inactivity among non-overweight or obese people in with the deaths attributable to obesity.

The "400000" deaths a year from obesity statistic is still utilized to emphasize the urgency and seriousness of the threat from obesity. The Mokdad et al article was cited in 1278 articles in the PubMed database. Mokdad et al was forced to write a correction when it was discovered that they had overestimated the number of deaths from obesity by 35000 the new estimated number of deaths attributable to poor diet and physical inactivity was 365000. However, the 400000 statistic is still widely used by the popular press and research articles.

The 2005 Flegal, Graufard, Williamson, and Gail CDC "excess deaths" paper.

The following year Katherine Flegal (CDC), Barry Graubard (NCI), David Williamson (CDC), and Mitchell Gail (NCI), who were affiliated with the Centers for Disease Control (CDC) and The National Cancer Institute (NCI), published their own report on the number of deaths attributable to overweight and obesity. This study addressed what had become perceived as weaknesses in the 2004 study. The 2004 study had followed protocol from a 1999 study conducted by Allison et al. These studies had utilized a different protocol in estimating tobacco deaths from the one utilized to estimate deaths due to overweight and obesity. For tobacco deaths the relative risk and hazard ratios are stratified by age, for the overweight and obesity deaths the relative risk and hazard ratios for young people were utilized on the entire population. This inflated the number of deaths attributed to overweight and obesity as there are important changes related to mortality, body composition, and cause of death as people age.

Further, the Allison et al and Mokdad studies used 23≤25 BMI range as the reference range, while the Flegal et al study chose to use the standardized 18.5-25 normal BMI range as the reference range. This had two effects: first, the Allison et al/Mokdad studies moved the 18.5≤23BMI population out of the normal weight category[25] into the "underweight category." This transfer likely lessened the relative risk of the underweight category. Second, it utilized a range closest to the known nadir of all-cause mortality curves, likely amplifying the relative risk for the compared ranges. A final difference between the Mokdad et al and the Flegal et al studies was that Flegal et al utilized the more recent NHANES data set. The result was a drastically different estimation of deaths attributable to obesity. The Flegal study found that 112,000 deaths were attributable to obesity in the year 2000. If the narrower BMI reference range was used, Flegal reported that the number would rise to 165,000 deaths. Note that this is the number of deaths attributable to obesity, not overweight and obesity. The Flegal study further found a reduced relative risk for individuals in the overweight range such that they had a "-86,094 deaths" (meaning 86,094 fewer deaths) attributable to the risk from their BMI range. If you were to combine the overweight and obese range, as Mokdad et al had, you would get a net number of deaths attributable to "overweight and obesity" of 25,906. Additionally, Flegal et al found that the underweight category had 33,746 excess deaths. Flegal notes that this is consistent with previous data indicating a "J" or "U" shaped mortality curve.

[25] The standardized range for normal weight is 18.5-25, the standardized range for underweight is under 18.5.

Reactions.

Epidemiologists and public health officials widely criticized the 2004 Mokdad et al study and the 1999 Allison et al as well as the methods it used. Anti-tobacco activist and heart disease expert Stanton Glantz was one such out-spoken critic of the method used and in particular of their claim that obesity would soon overtake smoking as the leading cause of preventable death in the United States. Glantz was also vocal in his criticism of the CDC for putting out numbers that would need to be corrected, leading to public confusion and lowered credibility. The 2005 Flegal et al study was designed to correct those mistakes, but it was also met with criticism on two fronts: first that it seemed to further muddy the waters and confuse the public, and second that it seemed to send the "wrong" message about risks associated with overweight and obesity. As Jay Olshansky is quoted as saying in a 2005 issue of Science Magazine, "it's being portrayed [as if] it's OK to be obese because we can treat it better" (Couzin, 2005:771). This was in reference to the conclusion from Flegal et al that the reduction in deaths attributable to obesity from previous years estimates might be due, in part, to "The impact of obesity on mortality … [having] decreased over time, perhaps because of improvements in public health and medical care. These findings are consistent with the increases in life expectancy in the United States and the declining mortality rates from ischemic heart disease" (Flegal 2005, pp.1861).

The Flegal et al study came out amidst a proliferation of voices that questioned the veracity, tone, and urgency of the "obesity epidemic." From 2004 – 2007 a flurry of scholarly books, including *The Obesity Myth*, by Paul F. Campos (2004); *The Obesity Epidemic: Science, Morality and Ideology*, by Michael Gard and Jan Wright (2005);

Obesity: The Making of an American Epidemic, by J. Eric Oliver (2005); and *Fat Politics: The Real Story Behind America's Obesity Epidemic,* by J. Eric Oliver (2005). These books were reported upon in the popular press contributing to a presentation by the media of controversy and disagreement about the scientific understanding of fat and health.

Discussion of the science of weight as being in a state of controversy or even "at war" also extended into the academic press. *Scientific American* published an article on May 23, 2005 entitled "Obesity: An Overblown Epidemic?" which stated that a "growing number of dissenting researchers accuse government and medical authorities--as well as the media--of misleading the public about the health consequences of rising body weights."

While Katherine Flegal and her co-authors did not identify themselves as part of the weight-neutral or Health At Every Size groups, their work was perceived as being in accord with those arguments. Some perceived bias in the CDC findings. Flegal was quick to point out in interviews that the 2005 paper underwent an extensive internal review process (as do all CDC publications) and the peer review process of JAMA prior to publication. Health At Every Size paradigm proponents and sympathetic analysts were getting published more and more within scientific journals. Paul Campos, Abigail Saguy, Paul Ernsberger, Eric Oliver, and Glenn Gaesser were able to publish a paper in the *International Journal of Epidemiology* entitled "The Epidemiology of Overweight and Obesity: Public Health Crisis or Moral Panic?" calling attention to the crisis of evidence in diet studies and the growing group of researchers who were questioning the theoretical foundations of the war on obesity, as well as methodology related to determining the threat from obesity. These authors suggested that the concern about obesity was not based on science:

> "Given the limited scientific evidence for any of these claims, we suggest that the current rhetoric about an obesity-driven health crisis is being driven more by cultural and political factors than by any threat increasing body weight may pose to public health."

The authors argued that use of the term epidemic was inappropriate[26]. High body mass (except at "true statistical extremes") is a very weak predictor of mortality: the BMI categories most Americans have shifted into (overweight or grade 1 obesity) may convey a protective effect or no increased risk of mortality. These authors cited Flegal et al (2005) for this point. The paper went on to offer a number of alternative hypotheses that could explain the differential relative risk rates for BMI categories in regard to both mortality and morbidity that need to be tested, including: weight fluctuation (weight cycling), fitness levels independent of fatness, nutritional status, reverse causation (diabetes may cause obesity), or a history of using diet pills. The authors argue, "If only one in 13 obese persons were exposed to over the counter diet pills containing phenylpropanolamine, then all of the excess risk of obesity could be accounted for by increased diet pills use"(Ibid). The authors outlined the evidence crisis around intentional weight loss. Last, the authors point to a host of non-scientific, social reasons that there might be such a high level of concern about obesity, including: economic interests, anti-fat attitudes, which might be correlated with racist attitudes, and concerns over shifting gender roles.

This kind of analysis, similar to what was found in the various books mentioned previously, questioned the legitimacy of obesity science on multiple grounds. Not only are

[26] The majority of overweight or obese Americans were in the "overweight" or "obesity, grade 1" category, representing an average generational shift of ~3-5kg (6-11lb). The number of individuals with very high BMI had gone up as well, but this represents a very small fraction of the US public.

there technical objections and controversies, the authors engage in tactics that qualify obesity science as pseudoscience. They question the motives of obesity researchers, noting the massive amount funding that has been directed toward solving the obesity epidemic and the very lucrative diet industry including pharmaceutical interventions into obesity, with which many obesity researchers have financial ties with. In response, a comment on the article utilizes similar tactics to question both the scientific merit of the Campos et al paper and the veracity of its authors:

> "It is unusual to find academics concerned chiefly with legal, social, political, and educational issues seeking to challenge the whole arena of the epidemiology, clinical, and public health aspects of the obesity problem. To start from scratch to deal with all their spurious statements in this response is hardly appropriate. The suggestion that there is growing 'concern' about the validity of the serious health issues associated with obesity is really quite bizarre, as there has been the most remarkable and growing consensus among an extensive range of governments, academics, health economists, and policy makers relating to the impact of excess weight gain" (Rigby, 2005:79).

The suggestion here seems to be that as the authors are writing about a topic outside of their area of specialty, their observations are not to be taken seriously. The author further denies the presence of any kind of internal schism or controversy. Rigby responds to the Campos et al article largely by emphasizing consensus, wielding expertise as a tool (and casting doubt on Campos et al's qualifications), and citing studies with different conclusions than those that Campos cited. The author remarks that,

> "Quoting single articles in an attempt to refute the importance of weight gain as a predictor of morbidity and premature mortality suggests a somewhat distorted view or a lack of understanding of how conclusions in this field are developed on the basis of many studies that are carefully scrutinized for their validity. The field of medical and scientific research has never been more unified in expressing its concern about the medical and personal disadvantages associated with excess weight gain as evidenced in a succession of WHO reports and other scientific statements, particularly those

> issued in the US, with broader acknowledgement of the pathways leading from obesity towards its manifold co-morbidities" (79).

This suggests that differences in individual studies are irrelevant because they have been taken out of context and that if considered in the scheme of available data, as an expert in the field would, they do not represent significant deviation from the consensus conclusion. Rigby further criticizes Campos et al for having a "what if" argument, a valid consideration. However, Campos et al would likely counter that the "consensus" on obesity that Rigby points to is, itself, based upon unquestioned "what if" thinking. It is into this environment that the Flegal et al (2005) mortality paper is published. The study was designed to settle a controversy, but it ended up fueling controversy instead.

Adding to the backlash against the Flegal et al study, the Center for Consumer Freedom, a Washington, D.C. based non-profit lauded the report and utilized it in a $600,000 ad campaign declaring concerns over obesity to be "hype." The Center for Consumer Freedom is supported by the food industry and restaurants. Concern and anger grew within the public health community that the results of the CDC's mortality publications would undermine the ongoing "war on obesity" efforts. Other critics pointed out that the problem was not "just" with the Flegal et al numbers but with claims making statements to the media and in scientific literature that turn out to be exaggerated or hasty, adding to the sense that there is a lack of consensus within the medical community. In addition to the contradiction between the Flegal et al numbers and the Mokdad numbers there was an editorial from Olshansky, Passaro, Hershow et al which suggested that "[u]nless effective population-level interventions to reduce obesity are developed, the steady rise in life expectancy observed in the modern era may soon come to an end and the youth of

today may, on average, live less healthy and possibly even shorter lives than their parents" (1143). The authors suggest that they will live 2-5 years shorter lives than their parents' generation, which would represent a reversal of a decades long trend in increasing lifespans, a significant claim. However, this claim was not based upon any kind of intervention but upon the "collective judgement" of the authors, a judgement that they later walked back when contacted by *Scientific American* to comment upon the Flegal et al article stating, "These are just back-of-the-envelope, plausible scenarios …We never meant for them to be portrayed as precise" (Gibbs, June 1, 2005 online). However, despite this caveat the 2-5 year conclusion was widely cited within media coverage of obesity and in scientific literature as fact, having been cited in over 100 PubMed central articles.

The Harvard 2005 Symposium.

On May 25, 2005 the Harvard School of Public Health (HSPH) hosted a symposium to discuss the Flegal et al findings titled, "WEIGHING THE EVIDENCE: Symposium on Overweight, Obesity and Mortality." The HSPH had been highly critical of the 2005 Flegal findings. Flegal was invited to attend, but not to speak. The Symposium program included remarks from Meir Stampfer (HSPH), Walter Willett (HSPH), JoAnn Manson (HSPH), Frank Hu (HSPH), Michael Thun (American Cancer Society), Donna Stroup (CDC), Scott Grundy (University of Texas Southwestern Medical Center), and Graham Colditz (HSPH). Willett, Stampfer, Manson and Colditz had been lead authors on a 1995 study produced by HSPH about bodyweight and mortality in women using the "nurses' health study" data which had been designed to consider the impact of birth control use upon the health of women. This study had observed a J shaped curve of mortality, but showed increased risk

for the “overweight” category and all grades of obesity. Hu, Manson, Stampfer, Colditz and Willett had also collaborated on the “Diet, Lifestyle, and the Risk of Type 2 Diabetes Mellitus in Women” (2001) also pulled from Nurses’ Health Study data. Michael Thun authored a study of body weight and mortality risk from cancer. Donna Stroup was a co-author on the 2004 Mokdad et al study. Scott Grundy worked on metabolic syndrome and cholesterol as markers of mortality and morbidity.

I was unable to access recordings of the original event: however others have quoted from the event and utilizing the “wayback machine internet archive.” I was able to access some reporting on the symposium from the Harvard School of Public Health website. The picture it produces is incomplete, but it is clear the symposium was contentious and largely unproductive. As one of my respondents who had been present at the symposium stated,

> “So [Flegal] wrote this article back in the dark ages in 2005, [previously] CDC had published this article by Mokdad saying that obesity was about to ‘overtake smoking as a cause of death’ and stuff like that, when other studies have actually already shown much lower estimates. So when that [new Flegal study] came out [contradicting that], it caused a huge furor. So the Harvard group had a symposium that year, in 2005, consisting of themselves standing up and kind a saying, "Well, my research shows …" well, okay, so what? That's your research, [this other] research shows this, that's it. They didn't have any real criticism or anything like that” (epidemiologist 2 interview).

Dialogue between the two sides was not facilitated through this symposium. However, Flegal and her colleagues did take note of the criticisms that the Harvard group presented at the Symposium and through communications to JAMA, and tried to address these concerns in the 2013 meta-analysis.

The HSPH website commentary on the Flegal (2005) study publically labeled the CDC/Flegal et al study “flawed,” and referred to the work of the CDC as “government

researchers," declining to refer to Flegal by name or use her honorific. The HSPH website criticized the study for utilizing BMI in their study,

> "Here's what the federal researchers did: They classified U.S adults from three separate surveys based on their body-mass index-a ratio of weight to height that is used as an indirect indicator of healthy (or unhealthy) weight. The researchers grouped people into standard BMI categories corresponding to underweight (BMI below 18.5), normal-weight (BMI of 18.5 to 24.9), overweight (BMI of 25.0 to 29.9), and obese (BMI higher). And then they tracked them to determine which group was most likely to die. Sounds simple enough, but determining the precise range of BMI associated with lowest mortality can be difficult, because the approach that researchers use to conduct their analyses can bias their findings" (HSPH website, captured November 20, 2005).

The website goes on to clarify that such practices can result in "reverse causation: Low body weight often *results* from chronic disease, rather than being a cause of chronic disease. The weight loss may have been unintentional as a result of the underlying disease process; or the weight loss may have been intentional, because patients with serious conditions often become motivated for the first time to lose weight" (ibid). They further criticized the study for not controlling for smoking (although it did), not excluding individuals that had chronic diseases, not starting with a "healthy sample" and not combining the exclusion of smokers and those who had lost weight. The website refers to these choices as "bias" and they conclude that,

> "If researchers fail to account for both reverse causation and the adverse effects of smoking, they will find artificially inflated mortality rates among lean people, thus diminishing the harmful impact of overweight and obesity" (ibid).

Last, they criticized the Flegal et al decision to stratify deaths by age, as most deaths in the study occurred in people over the age of 70, "Weight loss due to chronic disease and loss of muscle mass is common in the elderly, making it problematic to estimate excess

mortality due to overweight and obesity" (ibid). However, the Mokdad et al study had been criticized for not stratifying by age and utilizing hazard ratios derived only from young people. The issue of age grouping in these mortality studies is a perennial one, as is the quest to control for cachexia in any obesity paradox literature. The nadir of the curve for mortality changes as people age, with higher BMI being favored in older adults. The meaning of a higher BMI also changes with age, as we age we lose muscle mass. If all deaths are lumped together and compared to a baseline group of young, healthy people it will shift relative risk of higher BMI up. However, in stratifying the data some critics felt that Flegal et al overcorrected. The Atherosclerosis Risk in Communities Study (ARIC) funded by the NIH attempted to settle this question in heart failure patients by examining data from 1987 – 2004 and looking back at heart failure patients who had been overweight or obese prior to their diagnosis with heart failure and following their mortality over 10 years after diagnosis with heart failure. The obesity paradox data persisted (Khalid, Bavishi, Ather, and Deswal, 2014). However, this study was still not perceived as definitive.

The Harvard group's sentiment regarding the 2005 Flegal study was clear: it was flawed, potentially misleading, and a distraction from what really mattered. The public health efforts against obesity should not be altered and the BMI categories need not be altered. Even if the study were to be correct, the Harvard group felt that it wouldn't matter anyway:

> "Even if one accepts the study's estimates of obesity-related mortality, people cannot afford to become complacent about the obesity epidemic. The health impact of excess body weight is enormous and extends far beyond higher mortality. Currently, 2 in 3 U.S. adults and 1 in 6 children are overweight or obese. Obesity and overweight is a major risk factor for many chronic health

> conditions, including hypertension, diabetes, heart disease, stroke, and even certain types of cancer. Obesity also leads to disability, impairs quality of life, and contributes to skyrocketing healthcare costs. Americans have not yet witnessed the full consequences of the current obesity epidemic, especially of obesity starting in childhood or adolescence. Public health initiatives to promote healthy nutrition, regular physical activity, and healthy weight in childhood and throughout adulthood remain critical" (HSPH website).

This concluding paragraph makes clear that in the Harvard group's estimation the obesity paradox is not of consequence. It isn't real data in need of explanation and it merely distracts from important work. This is because it doesn't *really* counter the underlying theory that propels obesity as a technology and the obesity epidemic. Even if obesity happened to convey a few extra years of life, they wouldn't be good years of life anyway as obesity is so closely tied to morbidity. Thus, even if it didn't cut life short it would still threaten the financial welfare of the country, burden the healthcare system, and cause immense damage that could be avoided through lifestyle changes.

The Flegal 2013 meta-analysis.

In 2013 Katherine Flegal (CDC) and co-authors Brian Kit (CDC), Heather Orpana (University of Ottawa), and Barry Graubard (National Cancer Institute) published a meta-analysis of studies reporting the relationship between body weight and mortality. This study was titled "Association of All-Cause Mortality With Overweight and Obesity Using Standard Body Mass Index Categories: A Systematic Review and Meta-analysis" and utilized data from 97 studies with a combined sample size of more than 2.88 million individuals and more than 270,000 deaths. Conscious of the criticisms from the 2005 analysis Flegal and her team designed the study to try to settle this debate choosing only studies that used standard BMI categories, had smoking data, and included sex and age data.

They excluded studies which used adolescents, were only in institutional settings, only had participants with specific medical conditions, or undergoing specific medical procedures. They further stratified their data by self-report or measured height and weight. The Harvard group was most critical of the need to control for smoking and weight leading up to a study. For this analysis Flegal reported that,

> "In studies that only presented results stratified by smoking or health condition, we selected results for nonsmokers or never smokers or for those without the health condition. We selected the most complex model available for the full sample and used a variety of sensitivity analyses to address issues of possible over adjustment or under adjustment" (72).

This study found that the hazard risk of mortality for overweight individuals (.92) was considerably lower than it was for normal weight individuals. Hazard ratio for obesity category 1 was higher than for normal weight (1.18) and higher still for obesity grades 2 and 3 (1.29). Flegal et al directly linked the explanation of their results with the rest of the obesity paradox data:

> "Our findings are consistent with observations of lower mortality among overweight and moderately obese patients. Possible explanations have included earlier presentation of heavier patients, greater likelihood of receiving optimal medical treatment, cardioprotective metabolic effects of increased body fat, and benefits of higher metabolic reserves. The results presented herein provide little support for the suggestion that smoking and preexisting illness are important causes of bias. Most studies that addressed the issue found that adjustments or exclusions for these factors had little or no effect. However, over adjustment for factors in the causal pathway appears to decrease HRs for obesity but not for overweight" (77)

The question of "over adjustment" and "under adjustment" is at the heart of the methodological debate around the obesity paradox and mortality. As you control for potentially confounding factors, you cut down on the data that you are analyzing. You narrow the focus of the analysis and this reduces the generalizability of your data. The more

confounding factors you leave in, the more generalizable the data becomes. It is a balancing act that is usually dictated by what kind of question you are trying to answer. One of the questions in this debate has become, "does under adjustment or over adjustment represent 'bad' or 'biased' science?"

Responses from the scientific community.

The 2013 Flegal et al article generated 13 response articles published in four different journals (*JAMA*, *Nature*, *Obesity*, and *Endocrine Practice*). Responses to this article from the general scientific community were consistent with responses to other obesity paradox findings: the focus was upon the possibility and consequences of this relationship being causational. Most of the responses attempted to explain the findings through problematization of conventions that contributed to the finding rather than faulting Flegal et al's methodology, which was largely regarded as rigorous. One common target was the use of BMI as a means of categorizing overweight and obesity. Researchers were quick to point out the inadequacy of BMI for studying the impacts of excess adipose tissue: it has only an approximate relationship to actual body composition, it is confounded by race and sex, and it is an imperfect predictor of metabolic risk. Some letter responses were more directly critical of Flegal than others Vina, Borras, and Gomex-Cabrera (2013) chastised the choice to use standardized BMI measures,

> "Flegal et al found an association between all-cause mortality and overweight and obesity by using an inaccurate method—BMI—for their classification. Villareal et al proposed a definition of obesity as 'an unhealthy excess of body fat, which increases the risk of medical illness and premature mortality.' Direct estimates of total fat mass should provide a more accurate body assessment. It has been shown that, for the general population, in addition to

> BMI, waist circumference and waist-to-hip ratio are of importance for assessing mortality risk" (309).

While Heymsfeild and Cefalu (2013) were critical of BMI generally, they were not of Flegal et al's use of the measure. These authors offered the inadequacy of BMI as an explanation for the Flegal findings. Similarly, they suggested that increased monitoring of overweight and obese individuals that might lead to earlier diagnosis and better healthcare[27] and that advances in healthcare might be masking the mortality effects of overweight and obesity.

The use of standard BMI categories is a criticism that is common in response to the obesity paradox data, but not in response to other overweight and obesity data, except in critiques coming out of the HAES or Fat Acceptance movement. While some researchers do contend that the BMI is an incomplete measure, they would not normally term it "inaccurate," nor fault a fellow researcher for using the dominant method of measuring and classifying obesity. However, when this dominant method produces counter-hegemonic results it generates criticisms about its use. In response to these criticisms Flegal et al (2013b) responded that they were neither endorsing nor criticizing the BMI system, but chose to use the standard measurement because this is what the available data utilized (1681). In fact, one argument for standardizing use of BMI and BMI categories was to allow for these kinds of analyses.

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[27] An assertion that many in the HAES and Fat Acceptance communities, as well as researchers who conduct studies on stigma might disagree with, see the second part of this dissertation for further discussion.

While the study has its detractors, most vocally from the group at Harvard (see below) the Flegal et al (2013) article also received a lot of support. Some researchers wrote in to point out that these findings were not unusual. Abhyankar and McDonald (2013) wrote to *JAMA* to point out that the association of overweight with increased survival in older adults has been known about since mortality studies have been conducted:

> "The first use of BMI to define overweight in the United States set a threshold of 27.8 for men and 27.3 for women and was based on the 85th percentile of BMI distribution among 20- to 29-year-olds, not on mortality data. The threshold for defining overweight was reduced to a BMI of 25 in 1998 and became concordant with World Health Organization thresholds. The linkage to mortality occurred through the Metropolitan Life Insurance actuarial reports. But these reports ignored the fact that their data showed that adults older than 40 years with BMIs 10% to 20% above the ideal (the BMI range of 25-30) had better survival than those at ideal body weight. So it is not clear whether the assumption that being overweight or mildly obese was ever a mortality risk[sic], and it is possible that the so-called obesity paradox was never paradoxical"(1680).

Nature was particularly supportive of the Flegal et al (2013) article. A well respected journal it ran both an editorial and a full news article outlining the controversy surrounding obesity and mortality generally and Flegal's work more specifically. In the editorial, the editor outline the objection to Flegal's work:

> "Critics of Flegal and of others who have reported similar findings take issue not just with the data used to make the claims, but the damage they feel that the claims will inflict on public-health efforts. It is much easier to gain weight than to lose it, and nobody disputes that to gain too much weight — to be obese — is bad for health. To discuss publicly results that threaten to undermine the simple message that 'fat is bad' will confuse doctors and the public, the critics say" (410).

While *Nature's* editors were unwilling to come down on a side of the debate, declaring the matter not settled, they were clear that attempting to suppress data such as Flegal's because it might "confuse the public" is an inappropriate activity for scientists to engage in. The

editorial is strongly worded and addresses the tone of the criticism coming out of the Harvard group as much as the criticisms themselves:

> "The political mantra on public-health advice is clear: don't send mixed messages. … When Willett dismissed the Flegal study as a "pile of rubbish" there were no shades of grey evident.
>
> The problem with simple messages and black-and-white statements is that they tend to be absolutes and so the easiest to falsify. The line that the science of global warming is 'settled' must have seemed like a good idea at the time, and when taken to refer to the narrowest of scientific questions it is correct, but it was (fairly) interpreted as insistence that no queries remained. Even legitimate debates on outstanding issues — climate sensitivity, say — can now be painted as unsettling not just to the scientific position, but also to the policy response it demands.
>
> It is easy to see why those who spend their lives trying to promote the health of others gnash their teeth when they see complex findings whittled down to a sharp point and used to puncture their message. It is more difficult, from a scientific perspective, to agree that these findings should not be published and discussed openly, warts and all, purely because they blend uncertainty into a simple mantra. Make things as simple as possible, Einstein said, but no simpler. And simple, black-and-white messages can cause confusion of their own. All things in moderation — and that should include the language we use" (410).

From this editorial we can see that some in the scientific and medical communities noted the aggressiveness of the criticism that the Harvard group directed at Flegal herself, and her work. When Walter Willett called the study a "pile of rubbish that no one should read" he not only exited the bounds of decorum he also attempted to assert that an ongoing debate was closed, that further debate was unnecessary and potentially damaging, and that consensus had been reached. The two *Nature* articles point out that this is far from the truth. The debate around the obesity paradox in general, and in all-cause mortality specifically was not a closed matter. This editorial marks the debate as important and worthy of being continued. It also reminds the scientists in question to settle their debates within the confines

and auspices of the scientific community, because as frustrating as contradictory data might be, open hostility or inappropriate declarations of closure to scientific controversy does more damage than public awareness of controversy.

Many researchers objected to the idea of attempting to suppress data or artificially close the controversy. As quoted in *Nature,* Washington University physician Samuel Klein states, "One study may not necessarily tell you the truth, but a bulk of studies saying the same thing and being consistent, that really is reinforcing, we need to follow the data just like the yellow brick road, to the truth" (428). Others saw this as all part of the nature of debate in a part of science that is not yet settled,

> "Walter Willett for example, he hates the dialogues because he says that you guys are a bunch of corrupted people, or not necessarily corrupted, you guys are disguised as scientists, and you have no idea what you are saying. You are dangerous to society. So Dr. Walter Willett from Harvard always comes to our meetings, and if he's around, criticizes us. But I think that's the beauty of scientific freedom and that leads to actually moving the skills forwards: having different opinions and ongoing debate. There is no settled status in this debate" (epidemiologist who works on Obesity Paradox).

Interestingly, this researcher, like the editors of *Nature* recognized the fear of corrupt science and the desire to counteract "science denial" in the heat that infuses these debates. Doubt has become a highly problematic aspect of science and some researchers see doubt, even justified doubt as a threat to the public credibility of science.

The Harvard 2013 Response

Upon publication of the 2013 Flegal Meta-analysis Walter Willett of the HCPH made extensive contact with the press. His comments were extensively quoted in coverage

of the study. The HCPH were openly critical of the study, seeking to discredit it and preserve their public health efforts. The often quoted statement from Willett to NPR is only one of a series of statements from multiple members of the HCPH that were dismissive of both the impact and veracity of the study. Willett is quoted as calling the study "absurd" in an interview with the *Boston Globe*. Other HCPH interviewees called the study "flawed" and "misleading."

The HCPH put out a press release addressing the publication and summarizing the symposium that HCPH once again organized to respond to the CDC study. The release was entitled "Does Being Overweight Really Reduce Mortality?" an interesting choice as the study in question makes no claims to causation, only association between overweight and reduced hazard ratio. The statement emphasizes how the CDC study is "confusing" to the public. The statement included a summary of the symposium results, emphasizing the "clear and compelling" arguments of the Harvard group, the absence of Dr. Flegal at the symposium, and the reasons for not trusting the validity of this "flawed" study. For example, the statement says,

> "Dr. Frank Hu summed up the two main reasons for the reported inverse association between overweight and mortality. As Dr. Hu explained, this perceived inverse relationship was in large part because the analysis combined smokers, as well as sick and elderly people, without separate data for younger individuals (<65 years old)" (HCPH website, retrieved September 13, 2013).

Dr. Hu also complained that the Flegal et al (2013) article excluded "many high-quality studies (including approximately 6 million people) because they did not use standard BMI categories in the analysis. Because of this flawed methodological approach, Dr. Hu explained, the *JAMA* article lacks validity and these study findings cannot be generalized to

anyone" (ibid). This is of particular note since, as I will discuss later in this chapter, Dr. Hu himself proposes eliminating many more people from the studies to reduce bias and argues that validity of results is more important than generalizability. Finally, this statement notes that "in his closing remarks, Dean Frenk reminded us that we live in an era where access to information is ubiquitous, and that science data is now part of the general culture. In creating a social environment that fosters knowledge, he said *we also need to implement "necessary safeguards" to promote credible science and minimize confusion*"(ibid, emphasis added). This appears to question whether or not the Flegal et al (2013) study, a CDC meta-analysis published in *JAMA*, is credible science.

The Harvard group continued their campaign against the Flegal et al article by writing an editorial response to *JAMA* and an editorial response that was published in *Obesity.* Both editorials outlined the same set of objections that were presented at the symposium:

> "We believe their study is flawed. Their comparison group (BMI of 18.5-<25) contains persons who are lean and active, heavy smokers, frail and elderly, and seriously ill with weight loss due to their disease, as well as Asian populations historically undernourished and burdened by infectious diseases"(Willett, Hu, and Thun, 2013:1681).

The HCPH group felt that in order to get the appropriate result the meta-analysis should eliminate all threats of confounding variables including all people who had smoked at any time, various efforts to control for cachexia and existing disease states, and used some measure other than BMI. Last the authors indicate that although there is no evidence to believe that even modest or mild amounts of excess weight could be protective in respect to mortality it wouldn't matter even if it did because "the literature provides clear evidence that

even modest excess adiposity has many adverse health and social consequences, including lower quality of life, higher health care costs, and elevated mortality" (ibid). Flegal and her collaborators responded to these criticisms by pointing out that many of the issues that were being brought up had been addressed in the study at hand, or had been addressed in other studies and had been shown to have little or no effect. They also point out that their results are consistent with many other studies and that the finding of modest survival benefit for people in the overweight category is consistent and in-line with other data coming from mortality studies.

It is worth noting that while the Harvard group provides many theories about what might be causing the "bias" they perceive in the results, these are all theories about what might be the cause of the observed effect. But these "what ifs" also need to be tested and proved. Paradoxes often have explanations, but these explanations do not render the paradox useless:

> "Take the Smoker's Paradox as an example: Okay, well it turns out there's a reason for that. What is the reason? There are several reasons but one of the reasons is that the drug that you treat people with, works better in smokers it has to do with their enzymes. So there's an actual reason. Like having the obesity paradox critiques logic. You would never arrive at an explanation. You just say, "Oh that's selection bias so I'm done now and it's just all wrong and we can just forget about this now." But, you know, there's explanations for these observations. I don't know what they are, but there are explanations ... just because you observe something and you have an explanation for it doesn't mean the phenomenon itself goes away. You want to know, 'Well, is this patient going to do better or worse than the other patient?' That's one thing you want to have some information about. It's not, "I don't want to know about that because it could be caused by selection bias,' so what? There's an underlying assumption, I think you can see it in literature pretty clearly: if you could do all these [methodological] things, that would make [the obesity paradox] go away. They're kind of assuming you just have this latent assumption that this is not real. This is not a real phenomenon, but

> maybe it is a real phenomenon. Maybe it's happening for reasons we don't even know what they are. It'd be worth finding out not just saying, 'Well, could be selection bias so now I'm done.' You don't have to explain anything anymore, because they're kind of assuming that it is some kind of explanation like [selection bias] but maybe it's not. It's something that you could actually find out with exact science and help improve treatment and stuff like that. You can't really just throw it away. That's very short sighted in my opinion." (epidemiologist 003).

There are two issues here: if you can methodologically make a phenomenon disappear, does that mean it isn't real? And, if in order to do this you must limit your data so much that the population being tested is no longer generalizable to the a broader population is that useful data? Tobias and Hu (2013) suggest that the answer to this is that it is more important to have methodological exactitude than to have generalizability. They state,

> "Clearly, validity is the overriding objective of epidemiologic studies, because non-valid results cannot be generalized to any populations, including its own participants. From a public health perspective, our ultimate goal is to identify the optimal BMI to reduce risk of chronic disease and premature mortality, rather than pure statistical prediction" (paragraph 6).

Or, as Hu stated more plainly in public remarks after an invited debate with Abigail Saguy and Paul Campos at BU School of Public Health Department of International Health, "I think the main issue is validity v. generalizability. You want the data to be valid first, right? If the data is not valid how can you generalize to the general population?" He goes on to state that the "I think the obesity paradox discussion is really a distraction for public health." However, if in order to get the results you see as "valid" you have to eliminate more people from a study than you keep does this present methodological problems? This was the criticism leveled against the studies that Harvard designed to end the overweight-mortality debate.

Further Studies

A 2016 meta-analysis was published in *The Lancet* which showed increased mortality risk with rising weight. This study was designed to "settle" the science around mortality overweight paradox. The study was authored by "The Global BMI Mortality Collaboration" (GBMC) an extensive list of authors that represented a collaboration primarily between the Harvard TH Chan School of Public Health (HSPH) and Cambridge University along with authors from various other studies and locations worldwide. The study was designed to address the perceived confounders that the Harvard group had been concerned about with regard to Flegal's 2005 and 2013 studies,

> "To help assess their relevance to mortality in different populations we conducted individual-participant data meta-analyses of prospective studies of body-mass index (BMI), limiting confounding and reverse causality by restricting analyses to never-smokers and excluding pre-existing disease and the first 5 years of follow-up" (GBMC 2016).

The study was further designed with intent to settle the science and force closure in the obesity paradox debate. The study was conceptualized and designed just after the publication of the Flegal et al (2013) data and addresses the concerns that were vocally and vociferously declared by the Harvard group:

> "In 2013, over 500 investigators from over 300 institutions in 32 countries agreed an analysis plan for combining individual-participant data from contributing studies. This pre-specified analysis plan is provided in the appendix (pp 51–53). The goal was to produce reliable estimates of potentially causal associations of overweight and obesity with mortality using data from studies in several regions. The pre-specified analysis methods were designed to maximize the internal validity by reducing the scope for bias. This Article follows PRISMA for Individual Patient Data reporting guidelines" (Ibid).

The studies chosen for the investigation included many that had been excluded from the Flegal et al (2013) meta-analysis for use of non-standard BMI measures. They also chose to include only large studies (100,000 or more participants). The exclusion criteria utilized in this study reduced the number of deaths to be analyzed substantially in order to attempt to isolate the effects of BMI categories on mortality in healthy individuals. This, the study authors felt would be the most valid way to test the effects of excess adiposity upon mortality. The authors clearly believe that their findings go a long way toward settling the debate around the obesity paradox and nullify the Flegal et al (2013) study;

> "Our primary analyses challenge previous suggestions that overweight (25–<30 kg/m^2) and grade 1 obesity (30–<35 kg/m^2) are not associated with higher mortality, bypassing speculation about hypothetical protective metabolic effects of increased body fat in apparently healthy individuals. In particular, the findings here contrast with those of a 2013 review that claimed that, relative to normal weight, grade 1 obesity was not associated with excess all-cause mortality and that overweight was associated with lower all-cause mortality. That review could not, however, control for the biases controlled for in our analysis. Indeed, the results of the current analysis show how the limited ability of that literature-based review to control for bias could have accounted for its misleading findings. Our study was able to reproduce such findings when conducting crude analyses with inadequate control of reverse causality, but not when we conducted appropriately strict analyses" (Ibid).

The implication here is that the 2013 findings (the Flegal et al study) was the result of inappropriate statistical analysis. The GBMC authors emphasize that this verified the importance of combating overweight and obesity at all levels and that global increases in prevalence of overweight and obesity represent a significant and ongoing public health threat. They also emphasize the number of premature deaths that are attributable to overweight and obese status *if these findings reflect causal effects*,

> "These findings suggest that if the overweight and obese population had WHO-defined normal levels of BMI, the proportion of premature deaths that could be avoided would be about one in five in North America, one in six in Australia and New Zealand, one in seven in Europe, and one in 20 in east Asia, assuming that the associations of overweight and obesity with mortality in our primary analyses largely reflect causal effects"(Ibid).

Epidemiological studies of this variety cannot tell us whether or not deaths that are associated with a particular BMI category result from effects of that BMI category, nor if that effects based upon the level of adipose tissue. However, concern over the potential interpretation of these effects as causational has been integral in the Harvard groups concern over the all-cause mortality data. The counter-hegemonic findings of the Flegal et al (2005) and Flegal et al (2013) as well as the rest of the obesity paradox data has the potential to challenge the idea that excess adiposity *causes* premature death. The public health concern over morbidity and mortality in the overweight and obese stems from the potential of these categories to cause early death and disease, causing suffering and increasing healthcare costs and burdens, the easy reversal of such burdens through weight-loss is foundational to public health approaches to adiposity in general and the obesity epidemic specifically.

In an editorial response to the study Katherine Flegal and John Ioannidis (2017) published a paper entitled "A meta-analysis but not a systematic review: an evaluation of the Global BMI Mortality Collaboration" in the Journal of Clinical Epidemiology. John Ioannidis has made a career out of exposing what he sees as the bad research of colleagues. He is outspoken about the failure to adhere to evidence based medicine in current epidemiological practices. He has been particularly outspoken about problems with reproducibility and use of "p-values" to determine significance with the rise of p-hacking. Their response to the study states that the study was not a systemic review and accuses the

authors of allowing bias to shape the outcome of their study to meet "foregone conclusions." Flegal and Ioannidis argue that when a group of researchers already has "deep knowledge of the literature in the field" they must use extra caution in their selection process when conducting a meta-analysis of individual participants (MIPD) in order to avoid biasing their results. They go on to outline their concerns about the selection process and further methodology of the GBMC study.

Flegal and Ioannidis outline a number of potentially confounding and problematic decisions made in the GBMC criteria for inclusion: study selection and exclusion criteria appears to be based upon standards other than what was published, selection criteria eliminates massive amounts of the available data in order to come to the preferred conclusion, and the authors of the paper are not adhering to standards of research that dictate the sharing of data to double-check results. Flegal and Ioannidis point out that one selection criterion was only stated in the supplemental appendix and not included in the body of the paper: "Prospective observational studies were included if they had reported on the association of BMI and all-cause mortality" (Ibid). They further point out that the GBMC authors failed to provide a complete list of included studies upon request.

The number of deletions from the meta-analysis in order to meet the GBMC studies criterion for validity is substantial, "The final sample used for the primary pre-specified analysis consisted of 189 studies with a sample size before any deletions of 10,097,300. After applying the restrictions specified for the primary analysis, the final sample size was 3,951,455" (Ibid). The authors point out that some studies which were listed had been eliminated for lack of follow up (NHIS and the UK Biobank) had in-fact had a follow-up of

9 years and question why they were excluded. The authors go on to imply that at least one senior author of the GBMC paper had a preconceived idea of which studies to use and an agenda regarding the outcome of the study. This essentially accuses the study of cherry-picking data and data manipulation. This is a remarkable occurrence so I excerpt the paragraph in full:

> "In February 2013, the Harvard School of Public Health convened a symposium to criticize the Flegal et al. study. Hu, the senior author of the GMBC paper, gave a presentation in which he asserted that by limiting the review to studies that used standard BMI categories. Flegal et al. had excluded many studies that would have shown different results. The studies listed by Hu included [Korean Cancer Prevention Study], [Asia Cohort Consortium], [Prospective Studies Collaboration], [European Prospective Investigation into Cancer], and the [National Cancer Institute Cohort Consortium], thus covering 5 of the 10 data sets in the GBMC article (3 consortia and 2 individual studies). Hu followed this up with a published critique that named the same five data sets and argued that 'In the excluded studies (>6 million individuals), the lowest mortality was frequently observed among those with BMI 22.5–25, especially among healthy nonsmokers. These studies provide convincing evidence that optimal BMI for longevity is below a BMI of 25.' The GBMC study adds the [Emerging Risk Factors Collaboration], [Asia-Pacific Cohort Studies Collaboration], Million Women study, 45 and Up Study, China Prospective Study, and [National Health Interview Study] to the studies previously identified by Hu. Hu is a member of [Emerging Risk Factors Collaboration] and coauthored a 2012 commentary on the China Prospective Study, a 2014 article that used the NHIS data, a 2011 article that cited the [Asia-Pacific Cohort Studies Collaboration], and a 2015 article that cited the UK Biobank. Thus, the senior author of the GMBC study was previously aware of all five consortia and four of the individual studies, in total accounting for 238 of the 239 studies used in the MIPD"(23).

The implication of the above paragraph is that Hu knew the results of the studies that he chose for inclusion and chose them to prove an already determined point. They go on to say that replication of the search manner in which studies were identified failed to replicate the search pattern as described and the authors question whether or not any studies were added to the GMBC analysis beyond those of which the study authors were aware and this

awareness is reinforced by the study authors listing those very studies in their introduction. "Thus, to a large extent, the studies described in the introduction as already supporting the conclusion of the paper are the same studies that are used in the analysis to arrive at the conclusion. This may be considered as a type of 'resubstituting error' where a hypothesis is tested against the same data used to generate it."(24). Flegal and Ioannidis go on to point out that some studies which appear to be eligible for inclusion in the meta-analysis were excluded without explanation, and some that were included do not meet the specified criteria. The authors conclude by stating,

> "Our dissection of the GMBC MIPD is not aiming to prove that its conclusions are wrong. Conversely, we want to highlight how some of the best investigators in the world (as those involved in this MIPD) who use what is supposedly a study design that is the highest in the hierarchy of evidence can be entangled in a potentially highly biased analysis"(27).

In an interview with the *Atlantic* Flegal stated of the study design, "It seems like they took studies they already knew about and that gave the answers that they preferred" (Khazan, 2017). The GMBC authors responded by reiterating their inclusion criteria and logic for excluding studies maintaining that it was necessary to delete the number of studies that they did in order to maintain validity of their meta-analysis. They further criticized the Flegal et al (2013) choice not to use only never-smokers and not to control as strictly for illness. They disagreed with the Flegal and Ioannidis interpretation of their selection criteria.

The 2016 GMBC study did not successfully close debate on either the obesity paradox or the overweight-mortality paradox. In 2017 Flegal et al published a paper addressing the methodological practice of massive deletions in order to "correct for bias and reverse causation" that were utilized in the GMBC study and have become popular as a

standard for "validity" in overweight-mortality studies. Flegal points out that these studies end up deleting between 60 - 80% of deaths, sometimes approaching 90% of deaths from a study. She argues that at this level of restriction the analysis becomes a subgroup analysis with all the attendant restrictions in generalizability and potential exaggeration of collider-stratification bias that come with a subgroup analysis(2017: paragraph 7). Flegal then utilizes two, new, large sets of data to illustrate how small changes in methodological approaches can produce large differences in hazard ratios and mortality claims.

How to settle the debate?

While some researchers would like to force closure on the overweight-mortality and obesity-mortality paradoxes, others see these investigative avenues as fruitful and worthy of pursuing. The camps of thought represented by Flegal and the Harvard group are just two voices in an ongoing debate. Of primary concern to all involved is determining what it is that the "obesity paradox" means in terms of causality. This is the source of anxiety around the topic and the desire to either discover meaning or close the debate. Beyond battles over confounding effects other studies that have been suggested and conducted look at the impact of weight loss upon the obesity paradox. For instance, if people with heart failure lose weight does their mortality increase? The answer to this question appears to be no, it does not, but nor does their mortality necessarily improve. Their quality of life often goes up. This raises the question of whether or not the improvements from weight loss are due to changes in weight or changes in cardiovascular health resulting from improved lifestyle. One researcher I interviewed suggested that the true test of the obesity paradox would be to

randomly assign some patients with heart failure or kidney failure to gain weight, and then to see if those patients lived longer. This practice is unlikely to be approved by an IRB.

Obesity paradox itself has become a bandwagon term that allows access to funding opportunities for research questions that couldn't get addressed prior the creation of the term. As I will discuss in a later chapter (see the HAES chapter), one such research question is about the difference between fatness and fitness. Similarly, investigations into the potential pathophysiology of the obesity paradox have raised questions about the potential of different phenotypes of obesity, including what is sometimes referred to as a "healthy obese" phenotype or a "metabolically normal fat person." Conversely, there is now evidence of the existence of "metabolically obese, normal weight" people, which opens up an interesting discussion about what the meaning of the term obese is, if one can be normal weight but also obese?

Another research question that has been opened up by the obesity paradox controversy is a revisitation of how we define and classify obesity as well as the technology that is used to measure obesity. With the mounting data of a durable obesity paradox within heart failure patient survival, as well as the ongoing controversy regarding all-cause mortality some researchers are taking the opportunity to advocate for alternative forms of measuring obesity alongside BMI, anthropometric parameters such as percentage of body fat, waist circumference and waist/hip ratio (Egom, Pharithi, Shiwani et al, 2018). Other researchers have suggested that the very definition of obesity as being only about carrying "too much" adipose tissue might be too general. Erin Kershaw and Jeffrey Flier (2004) have suggested that adipose tissue ought to be considered as an endocrine organ. Adipose is an

interactive tissue that responds to and sends out signals to the body, adipose tissue can impact inflammation in the body (both up and down). One set of new information that has come out of the obesity paradox is a greater understanding of the potential biophysiological effects that adipose tissue may have upon healing and defense of the body from illness. Static measurement of the quantity of adipose tissue as an indicator of health may not be adequate. Jeffrey Mechanick in a 2013 commentary suggests that what the obesity paradox has to teach us is that BMI is part of a complex system that we have yet to fully understand and may be characterized by:

> "Increased adiposity and other body composition changes that are associated with increased medical risks, translating downstream into increased morbidity and mortality and decreased quality of life
>
> • plus
>
> - An inflammatory and hormonal state, both causative and resultant,
> - A behavioral component, both causative and resultant,
> - A socio-economic environment, both causative and resultant, and
> - A cultural framework within which all interpretations must reside" (167).

One interesting outcome of the obesity paradox key-term is that the evaluation standard for obesity research is changing. The kinds of criticisms that are being directed at epidemiological studies about the obesity paradox could be leveled at a great deal of obesity research that upholds the hegemonic standard, and this has been the set of criticisms that have been offered from weight-neutral researchers who argue for a HAES paradigm for the last 15 years. Taken together this body of criticism might evolve into a shift in our understanding of what adipose tissue does and what categories like "overweight" and "obese" are actually measuring and what they mean. In short the obesity paradox as a key-

term, bandwagon, and theory is instigating the opening up of the black boxed technology that is the current understanding of obesity.

We shouldn't study this at all

Other researchers see the entire debate about the obesity paradox as a waste of time, resources, and funding. It is a dangerous distraction from what matters, which is the reduction of levels of adiposity within the general population. As the obesity paradox data has increased and the key-term has persisted, opening up more and more new kinds of research and investigations and gaining more and more media coverage and public notoriety this group of researchers has become more forceful in their attempts to force closure on the matter.

The most recent strategy to force closure to the obesity paradox debate has been to attack the veracity and motives of those who would publish under this key term at all. This is another attempt to suppress obesity paradox data, similar to the push that occurred from the Harvard group after the release of the Flegal et al (2013) data. In a 2017 editorial published in *The International Journal of Obesity*, H.R. Barrack and A. Stokes both epidemiologists working in public health, suggest that the obesity paradox is not real at all and that researchers ought to hesitate to publish under the key term at all. The authors open with a hypothetical situation in which a researcher comes across a statistical pattern that could be published under the key-term obesity paradox. They suggest that,

> "At this point you are faced with two options: (A) you think to yourself, 'oh no, I must have done something wrong along the way to cause this unexpected finding or there must be some bias I have overlooked, I'd better go look seriously at what could be causing this unexpected and contradictory

> result' or option (B) label the result a 'paradox' and write up the manuscript for publication in an academic journal" (1162).

The authors then go on to list a long list of potential confounders, explanations, and "what ifs" that ought to be satisfied before the hypothetical author even considers publishing his or her findings. The implication is that those who publish under the heading "obesity paradox" are engaging in sloppy or lazy science, seeking publications at the expense of the greater good. Others might respond that to sit on such data or suppress it if you can find a statistical method to make the data "go away" would potentially mask important information that could be utilized for the good of a particular patient group. H.R. Barrack and A. Stokes go on to make it clear what they see as the stakes in the obesity paradox debate:

> "Fortunately, to the best of our knowledge, there has been no call to change clinical guidelines based on findings of an obesity paradox. We want to emphasize, however, that this is the implicit message contained in studies supporting the existence of an obesity paradox. Authors must understand that this is what they are arguing for when claiming to have uncovered evidence of a true obesity paradox. Our concluding message is simple: paradoxes should be met with skepticism; counterintuitive results should be discussed with colleagues and collaborators with different areas of expertise. The only 'paradox' we can see here is why researchers continue to claim to have evidence of a paradox without careful consideration of potential methodological explanations" (1163).

As discussed above one method that has been utilized to try to force closure has been to discredit the scientists that produce obesity paradox data as well as the science they produce through critique of methodological choices and labeling of their data as "flawed," "misleading," and "dangerous." Another method has been to subtly demarcate these scientists as less prestigious and less reliable; one such example is the way that the Harvard School of Public Health chose to emphasis Katherine Flegal's status as a "government" researcher rather than as a leading epidemiologist in her field. Attempts have been made to

question the motives of obesity paradox researchers implying that these researchers are in the pocket of food companies, the restaurant lobby, or the Center for Consumer Freedom.

In turn, other researchers have questioned the conflicts of interest that those who oppose obesity paradox research pointing to affiliations with pharmaceutical companies and the diet industry, all of whom might lose out if low-levels of excess weight were no longer considered to be an urgent matter of public health. Further, those who oppose the continued investigation of the obesity paradox might be responding to a perceived threat to the dominant paradigm. As data accumulated on the protective effects of obesity for heart failure patients an increasing push to reconsider the Farmingham criteria for heart failure in obese patients has arisen. Further, the validity of BMI categories, especially for the elderly and those with chronic conditions and the recommendation of weight loss to these groups has arisen:

> "One question in the ongoing discussion of the 'obesity paradox' may refer to the term itself: why do we address it as a 'paradox'? The data from a considerable spectrum of diseases and conditions and in various study populations repeatedly verified the association. It might be that this observation is truly a reflection of the interaction between host metabolism and disease, and should not be regarded as an unexpected and surprising paradox. This label, in fact, reveals much more about our expectations that have become irrevocably ingrained by considering primary prevention and epidemiological data. The perception that obesity is a plague of modern society, injurious to health, has become translated into an omnipresent appeal to achieve leanness regardless of potential co-existing conditions such as chronic disease or advanced age. We should recognize that in patients with some diseases, both acute and chronic, being overweight and even obese may be protective rather than harmful." (Doehner, Clark, and Anker, 2010: 148)

Obesity and overweight are "big problems" because they are widespread, not because the effects of the condition are drastic. The hazard ratios and relative risks between BMI categories are actually quite small. As Flegal notes, "In general, relative risks in these

studies are small except at the extremes, generally below 1.5 and not infrequently as low as 1.05. Even a small relative risk may be of public health importance but small risks are more difficult to estimate precisely and can be affected by small biases. Non-linearity poses analytic challenges as well" (ibid: paragraph 2). Close reading of the all-cause mortality studies shows that what is at issue is the movement of the nadir of the curve back and forth across the threshold for "overweight." The shape of curve remains stable and the consensus around very high BMI and very low BMI causes increased mortality also remains stable throughout these debates. As studies come out and various methodological practices are applied, a "push-me-pull-you" effect ensues sending the nadir across the boundary set in 1996 when the categories were reconfigures and overweight was shifted from starting at a BMI of 27.8 to a BMI of 25. Had the BMI category not been adjusted it is likely that the "obesity paradox" in all-cause mortality would never have existed, or at least never have been labeled as anomalous.

At issue is the validity of the current cut-off point for the "normal weight" BMI category. If all-cause mortality studies show that a little extra weight about the current cutoff point is not only not harmful, potentially protective, perhaps shifting the category was unnecessary. Further, as the majority of the "obesity epidemic" occurs within the lower-range of overweight the stakes are very high in terms of impact on population health as well as upon public health funding. These researchers are arguing over the impact of carrying around an additional 10 – 20 pounds. For a 5'4" person the difference in cutoff is from 145 pounds to 160 pounds, for a 6'0" person the change is from 183 pounds to 205 pounds. This seems like a very small amount to be spending so many resources on resolving; however a

shift of 10-20 lbs. per person is also the average difference in weight from the 1970s to the 1990s that produced the obesity epidemic. The stakes therefore are very high: the validity of the obesity epidemic as a public health focus and a theory/methods package. While there would still remain an increase in obesity among the highest BMI category that could still warrant public health attention, the scope of the epidemic would be much smaller. Funding for such a public health effort would be a lower priority.

CHAPTER 4: HEALTHY OBESITY AND HEALTH AT EVERY SIZE

As discussed in the previous two chapters, the arena of weight science is riddled with controversies that question some of the most basic components of the obesity theory/methods package. The science of obesity is not settled. In this chapter I will pick up the thread of analysis concerning the rise of the Health at Every Size (HAES) paradigm. In this chapter I will go into more detail about HAES as an emergent intellectual and social movement. HAES is invested in prolonging the controversy around weight-maintenance. The leaders of this movement have been explicit in their desire to provoke a paradigm shift which is a very specific kind of closure to a scientific controversy. Thus, HAES has continued to agitate for ongoing debate around issues like the success of dieting, the need to control for selection bias, confounding variables, and to appropriately chose comparison cases when evaluating the relative risk of excess adipose tissue. The HAES movement has low cultural capital within the scientific world. The disciplines that it is most closely aligned with (nutrition and psychology) are currently experiencing validity crises of their own[28] and cannot offer support. In fact, leadership within the Academy of Nutrition and Dietatics (AND), The British Dietetic Association (BDA), and International Confederation of Dietetics Associations have at times been hostile to the HAES approach censuring

[28] Nutrition has been faced with declining public credibility and has faces a series of public credibility crises (Penders et al 2017;) including multiple retracted articles from a prolific nutrition lab at Cornell University, *The Food and Brand Lab* run by Brian Wansick (McCook, 2017) and a hoax committed by reporter Dr. John Bohannon, a reporter, who ran a purposefully poorly constructed randomized trial designed to "demonstrate" that eating chocolate promoted weight loss which he and colleagues published and then manipulated the media into promoting to prove a point (Bohannon, 2015). The replication crisis in Psychology has also been well publicized (Stevens, 2017; Open Science Collaboration, 2015).

dieticians and nutritionists who are outspoken about the HAES paradigm or refusing to allow subsections that promote HAES to be established[29]. The Dietetics Association of Australia and Dietitions of Canada is more supportive of its HAES oriented members.

HAES is an organized, grassroots, intellectual movement that is explicitly building a new approach to the definition, management, and treatment of body size variation (obesity). As a grass roots movements they gain credibility from sources outside of the scientific field. Central to this movement is a re-orienting of the location of risk and the definition of health. The movement presents a definition of weight-related health that reorients "healthy weight' to mean "the weight a body is at when a healthful lifestyle[30] is maintained" rather than "the weight associated with the lowest category of risk in population studies." This transitions risk from the category of obesity (and the identity of fat) to the category of lifestyle and the metric of behaviors. This transition results in a controversial claim: it is possible to be healthy and fat. A potential ally has emerged out of the second scientific controversy that I have described in this dissertation. Two of the "obesity paradoxes" investigate ideas that

[29] I had three respondents report threats of censure of expulsion from these dietetic associations for promotion of their HAES educational materials. However, the BDA Scottish leadership does mention HAES as an innovation in one of their handouts, so the sentiment appears to be varied. The Academy of Nutrition and Dietetics does not mention HAES on their website but has hosted some lectures and debates on the merits of the approach.

[30] The definition of a "healthful" lifestyle varies from practitioner to practitioner and individual to individual. While HAES emphasizes health access to health over health behavior obligation, they do agree that certain activities and practices are health promoting for most people. These include: engagement in intuitive eating that honors hunger and satiety signals, encourages variety in the food consumed, and pays attention to how foods satisfy the bodily, emotional and social needs of the individual, participation in bodily movement that honors the bodies limitations and needs, sufficient sleep and stress management. Health is discussed as personal a variable, this can be a source of conflict within the movement.

HAES has promoted for almost two decades: some fat people can be healthy and fitness may be more important than fatness for health.

The claim that a fat person can be healthy contravenes the very definition of obesity that is foundational to the weight dependent paradigm on which the obesity epidemic theory/methods package is founded. In the previous chapter I discussed the ongoing battle between a subgroup of epidemiologists clustered around work coming out of the CDC, and public health experts centered on the Harvard School of Public Health, regarding the relationship between risk of mortality and BMI categories. One reason that the Flegal CDC findings are so controversial is because of the way they potentially destabilize the hegemonic approach to weight science. If the Flegal findings are accurate and durable, then they problematize the very risk categorization that the obesity epidemic is built upon: either people can be "healthy" at higher weights or the technology of BMI is flawed.

Emerging out of these concerns, two other categories of "obesity paradox" data have been developing: metabolically healthy obesity and the fat-but-fit paradox. These concepts are being proposed by epidemiologists who have taken a different approach to "solving" the obesity paradox. Rather than focusing upon cachexia and smoking as the likely culprits of the obesity paradox, this group began to investigate the heterogeneity of the "overweight" and "obese" populations. The fat-but-fit subworld looked first at cardiorespiratory fitness and then at "fitness" levels in general to stratify and reconsider the data that makes up the obesity paradox. They have come to a counter-hegemonic conclusion, that it is "better to be fat and fit than lean and lazy" (Pandey, Berry and Lavie, 2015). Similarly, the "healthy obesity" subworld looked specifically at metabolic risk factors and found that there is a

subpopulation of obese people who are metabolically normal. Similarly, there is a subpopulation of lean people who are metabolically unhealthy, or as is sometimes termed in the literature "metabolically obese."

The healthy obesity paradox subworlds and the Health at Every Size intellectual movement engage with many of the same theoretical concepts. They make similar critical inquiries about current weight science research and propose concepts that potentially destabilize the hegemonic theory/methods package. Yet, their research is evaluated differently by their fellow researchers. Institutional forces that regulate researchers, control funding, and publish data view the obesity paradox as much more credible than they do Health at Every Size. The validity of the science from all three subworlds is challenged within the weight-science arena, particularly within the fields of public health and nutrition, yet the "obesity paradox" research and researchers are able to more successfully engage with these questions, access funding, and publish their data than their Health at Every Size counterparts. In this chapter I will outline the history of the HAES intellectual movement and touch upon its relationship to fat acceptance and fat feminism. I will then outline the HAES approach, including the HAES theory/methods package. I also include a brief description of the "healthy obesity" paradoxes. The remainder of the chapter compares these subworlds and discusses potential impacts from the research of these subgroups. Examining the claims of these groups also allows for symmetrical analysis of these controversies without necessarily favoring the "underdog" category.

Emergence of Health at Every Size

The Health at Every Size movement emerged in response to the evidence crisis in dieting. HAES proponents are explicit in their desire to affect a paradigm shift within weight science (Bacon and Aphramor, 2011:9). The aim of the movement is to shift from a weight dependent paradigm (WDP) to a weight inclusive model.

> "From the perspective of efficacy as well as ethics, body weight is a poor target for public health intervention. There is sufficient evidence to recommend a paradigm shift from conventional weight management to Health at Every Size. More research that considers the unintended consequences of a weight focus can help to clarify the associated costs and will better allow practitioners to challenge the current paradigm" (Bacon & Aphramor, 2011: 9).

The HAES model evolved from researchers responding to the evidence around dieting and coming to the conclusion that there is a high likelihood that body weight is not malleable. Early on in the diet maintenance crisis, researchers began to suggest that the rational response to the evidence around dieting would be to shift focus away from trying to change body weight and toward primary prevention of obesity and an approach to treatment of "obesity" by focusing upon enhancing their health without trying to force weight loss. In 1991, Wooley and Garner pointed out that despite the mounting evidence that long-term weight loss maintenance was not likely, there "has been no fundamental change in our practices"(730). Wooley and Garner go on to recommend that

> "[r]ather than expending further resources on traditional treatments of obesity, health professionals should be encouraged to further develop alternative approaches that more adequately address the physical, psychological, and social hazards associated with obesity without requiring dieting or weight loss." (731).

The hegemonic approach to weight science continued with the weight-dependent approach to obesity and sought out increasingly technoscientific solutions to obesity, including pharmacology and surgical procedures. Other researchers agreed with what emerged from Wooley and Garner's approach, HAES was the result. While HAES does not claim that all fat people *are* healthy, they do claim that healthy bodies come in all sizes and that health can be *accessed* and should be *accessible* irrespective of one's current body size or bodily limitations.

The Health at Every Size paradigm is an alternative to the "thin ideal," weight-dependent approach to obesity that prioritizes categories of risk. The HAES ideological approach to weight and wellness began to emerge as a theory/methods package in the late 1990s. By the mid-1990's the rhetoric around the "obesity epidemic" had emerged and the "war on obesity" had been declared. There was an increasingly technical presentation to the theory and methodology of obesity (see Chapter 1). This approach to obesity, overweight, and weight management identified even small amounts of excess weight as threatening to health. Public health efforts based upon this paradigm utilized alarmist rhetoric to try to persuade the public that even a few extra pounds of excess weight was a serious health concern. Bolstering this approach the WHO adjusted the BMI cut-off ranges for "overweight" status to an even lower threshold. This had the result of making millions of people overweight, overnight. This group of people had the best chance of dietary "success," as losing a very small amount of body weight (within a range that had been shown to be more manageable) could potentially remove them from the "overweight

category" and move them into a lower BMI risk group. The public health push to achieve this goal increased diet behaviors in an already diet-focused culture.

Many psychologists, nutritionists, and other health providers began to worry that the public health approach might end up doing more harm than good. The public health approach could end up producing more disordered eating and more ill-health in a quest to curb the "obesity epidemic." The rise in highly stigmatizing, hyperbolic and moral panic language (Campos, Saguy and Ernsberger, 2005) increased at the same historic moment that concerns about anorexia, bulimia, and bodily self-esteem were also reaching new heights in public concern. Researchers who had rejected dieting as a viable and compassionate means of weight management found their interests and concerns aligned with researchers, practitioners and feminist lay-experts (Epstein, 1995) who were worried about the potential of these public health messages to produce eating disorders. The groups soon began to collaborate and a new approach to health and weight was born.

The weight-inclusive turn within diet research was fueled by two separate stimuli. First, the evidence crisis around weight loss within the medical literature, and second, rising fat feminism[31] was agitating for a change in weight-related healthcare[32]. Feminism and the women's health movement were vociferous in expressing their concerns regarding the rise in prevalence of eating disorders, dieting, and body image issues among young women. High profile celebrity admissions of eating disorders, including Princess Diana, propelled

[31] For further discussion of this history of Fat Activism see Charlotte Cooper's books "Fat Activism: A Radical Social Movement" (2016) and Abigail Saguy's "What's Wrong With Fat?" (2014).

[32] As I will assert later, this places HAES firmly within the feminist health tradition.

eating disorders into the public consciousness and may have inadvertently contributed to their spread. Books like *Fat is a Feminist Issue*" had earmarked such concerns as being squarely within the domain on feminism and the women's health movement. Further publications in both the academic and popular press had whipped up concern, books like *Reviving Ophelia*(1994) by Mary Pipher, *Am I thin Enough Yet?(*1996) by Sharlene Hesse-Biber; and *Unbearable Weight* (1993) by Susan Bordo. Eating disorder diagnostic criteria involved (and still does) low body weight, leaving fat individuals with eating disordered behavior out of the diagnostic fold and outside the feminist lens. Further, many of the dieting practices recommended and tested in the 1990s included practices that were indistinguishable from the diagnostic criteria for anorexia. Health at Every Size recognized the need to address the suffering and disordered eating of people irrespective of their body size.

History of the 'Health at Every Size' movement.

There is no authoritative history of the HAES movement[33]. The most complete summary history has been produced by Barbara Altman Bruno in both blog form (Altman-Bruno, 2013a-e) and as an article for the Fat Studies Journal (Altman-Bruno, 2017), however this work is one oral history of a large and diverse movement. Charlotte Cooper's book "Fat Activism" also includes snippets of history about HAES revealed by her oral history respondents(Cooper, 2017). Many of my respondents shared their own recollections about the foundation of the movement. There have also been online discussions about the

[33] Two archive projects have been proposed at the PCA Fat Studies National Meetings but were not ready to share findings or publish data (Spinetta,)

history of the movement on Facebook and in email listservs that I observed and tool field notes on. This section is an amalgam of these oral histories combined with an analysis of the newsletters, blog posts, and an analysis of the archives of the "Healthy Weight Journal[34]." What follows is not intended to be an exhaustive history but an outline of the emergence of the HAES concept and the social worlds involved in its emergence.

In the 1960s, fat acceptance was a nascent movement emerging alongside other identity based "new social movements" (Pichardo, 1997). Fat acceptance has developed primarily from three social worlds: fat feminism, fat admirers, and a "queered" fatness. "Fat admirer" is a term for men, often thin straight men, who prefer to develop romantic liaisons with fat women. The National Association to Advance Fat Acceptance (NAAFA) was founded by two fat admirers[35]. "Fat feminism" was a subworld of feminism. In contemporary parlance we would see fat feminism as an intersectional identity that was pushed to the margins of both feminism and the feminist health movement. Fat women's concerns were largely excluded from mainstream feminism[36]. Queered fatness developed

[34] See page 159 and 162 for further discussion of this journal.

[35] For further discussion see chapter 6.

[36] The 1978 feminist critique of diet culture became popularized with the publication of Susie Orbach's *Fat is a Feminist Issue*. The book quickly became a best-seller and is widely regarded as a classic feminist text. *Fat is a Feminist Issue* was foundational for applying a feminist lens to the issues of dieting, emotional and disordered eating, and body image. Along with Naomi Wolf's *The Beauty Myth*, it has laid the groundwork for "body positivity" and feminist activism around eating disorders, self-esteem, and self-love. However, these books still pathologize fatness; their criticism of diet culture is still reserved for relatively thin women. Normative standards of body size remain and the health-weight dyad is still in place. Fat women in this context are constructed as victims of the dominant culture, but still in need of weight loss intervention. This treatment of the fat body alienated many fat feminists and motived them to agitate for a broader understanding of weight oppression. There is still resistance to inclusion of the issues that fat women face as part of the feminist

similarly to fat feminism. The result of the multiple loci of activism was that a counter-narrative about weight and health was being developed all around the English-speaking world[37]. These were small enclaves of resistance that can be classified as "thought collectives" in the tradition of Ludwick Fleck[38] which utilized feminist consciousness-raising techniques to spread the word and gain new members. These pockets of fat activism benefitted from substantial social movements spillover as the leadership involved had established histories with the feminist movement, the gay rights movement, and often also participated in the student peace movement and/or the civil rights movement. Feminist consciousness raising and health activist techniques were the most noticeable spillover. These fat activist collectives engaged in group therapy, salon style meetings where they read and discussed medical literature about fatness (Cooper, 2011 (16-19); Cooper, 2017). Some of the fat feminists involved had a background in science and they aided others by reading and summarizing research articles eventually this practice turned in 'zines, and newsletters[39]. At least one such newsletter eventually evolved into an academic journal. These groups grew in size and developed programs, services, and newsletters all designed to change ideas about fatness. They published books advocating for fat acceptance. They also

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agenda. Fat feminists utilized the connections and social movement methods from their feminist activism to form fat activist groups.

[37] For a more detailed history of the emergence of fat feminism and fat activism, see Charlotte Cooper's book, *Fat Activism.*

[38] "Thought collective" was Ludwick Fleck's term for communities which act collectively in the production of knowledge (thought styles)…

[39] This practice was reported to me by three participants. The practice of reading through obesity related articles and discussing them can be seen in *Healthy Weight Journal* newsletters which include numerous summaries of obesity journal articles written for a lay-audience.

published books and programs designed to aid fat people in caring for their fat bodies. These included non-diet books, exercise books and videos, and exercise classes. Later, these networks developed into listservs and journals.

According to older generation of fat acceptance activists and HAES practitioners with which I spoke , there was significant contact and exchange between fat feminist thought collectives and many of the researchers who were questioning the efficacy of dieting who would later go on to develop HAES. At the same time that fat-feminist, anti-diet thought collectives were popping up around the nation, a revolution of sorts was occurring within the medical community. Fat feminists found and advocated for the work of researchers who were questioning the validity of diets and diet culture.

Certain fat feminists with healthcare credentials or who had developed lay-expertise became well-known go-betweens for the emerging HAES paradigm and fat activism. One such activist was Lynn McCafee of *The Fat Underground*[40]. Fat activist circles like *The Fat Underground*, *The Los Angeles Radical Therapy Collective*, *The San Francisco Bay Area Think Tank* (*The Think Tank*), *The Boston Area Fat Feminist Liberation* and *Fat Activists Together* (F.A.T.) which produced *Shadow On A Tightrope,* generated conversations and literature about the health of fat women. Healthcare workers and researchers were a part of some of these groups and would go on to publish and speak specifically about the health of fat people and contribute to the construction of the HAES paradigm. *The San Francisco Bay Area Think Tank* membership overlaps with the

[40] This was related to me by an interview participant and is backed up by the history of HAES produced by Altman-Bruno.

contemporary professional organization that owns the trademark for HAES[41]; this is the Association For Size Diversity And Health (ASDAH).

HAES and fat acceptance both have roots in fat feminism. They developed concordantly and through alliances with groups outside of feminism. Fat acceptance results from a merger between fat feminism, queered fatness, and fat admirers it has also been influenced by the body positivity of mainstream liberal feminism. Health at Every Size developed out of fat feminist ideas that could not find a place within the feminist health movement. HAES represents a collaboration between an emerging re-imagination of fatness on the part of counter-hegemonic healthcare practitioners, fat feminism, eating disorder

[41] HAES was registered as a trademark by ASDAH in 2010 following discussion at the 2010 ASDAH national conference. The decision to trademark HAES was contested in an article by Gingras and Cooper (2013). In interviews and my own participant observation I came to understand that concerns about the cooption of the HAES message by the diet industry drove ASDAH leadership to feel that protection of the HAES concept was necessary. The ASDAH website indicates that registering HAES as a trademark ensures that "all Health At Every Size® and HAES® services/materials adhere to the basic principles" And, "It helps protect Health At Every Size® and HAES® distinctiveness" (ASDAH, Trademark Guide). There are a further seven rules for the use of the HAES trademark which can be seen in Appendix B. The fear that Health At Every Size could be co-opted may not have been unfounded, both *Weight Watchers* and *Special K* cereal have launched advertising campaigns that utilize body-positive language and concepts. *Special K*'s "More than A Number" 2012 campaign that included weighing individuals on a scale where encouraging words rather than weights appeared is remarkably similar to one of the long-standing Fat Activist practices utilized by Marilyn Wann, the "Yay! Scale®." Although Wann has trademarked the name "Yay! Scale" she informed her Facebook followers that there is no way to make the idea of words appearing on a scale intellectual property. The substitution of positive evaluative statements for numerical measures of "fitness" is a mainstay of body positivity and Fat Activism. Amanda Levitt, another fat activist had a "body positive measuring tape" prior to the *Special K* campaign's positive-affirmation sizing system for jeans. Similarly, *Weight Watchers* has been co-opting body positive language in its advertising campaigns since 2014 with its "Beyond the Scale," "Weight Watchers Black," and "Freestyle" campaigns. *The Think Tank* warned that it was necessary to register HAES as IP or risk losing control of its meaning

specialists, and later the radical influence of queered fatness. Fat acceptance and Health at Every Size sprang from the same source and have been concordant social movements with a symbiotic relationship ever since.

Principles of the Health at Every Size Movement.

In 1986 Francis M. Berg founded a newsletter named *International Obesity Newsletter* which evolved into a non-peer reviewed journal in 1992 called *Obesity and Health*. In 1994 it changed names to *The Healthy Weight Journal.* Finally, from 2003 to 2007 the journal was called *Health at Every Size*. Published within this newsletter cum journal was commentary from the previously mentioned thought collectives alongside the research questioning the validity of dieting and the dominant obesity paradigm. Throughout its existence the journal had a clear mission:

> "1) To provide readers with current obesity research, commentary and information in a concise, objective and easy-to-read style; 2) To search for truth and expose deception and fraud in the field; and 3)To reduce size prejudice and promote respect and understanding for persons of size" (http://www.healthyweight.net/journal.htm).

The evolution of the Health at Every Size idea can be seen within the archive of this journal. Over time the focus moves from advocating for prevention of obesity to more alignment with the Fat Acceptance movement and a body acceptance approach. Another site of discourse which developed HAES was the *Show Me the Data* listserv, owned by Deb Burgard. Internet technology allowed real-time communication about emerging obesity research from a critical perspective. Listservs continue to be an important source of discussion for the HAES community, even with the advent of other platforms like Reddit and Facebook, list-serves provide an important site of connection for HAES practitioners

and activists. The early conception of HAES was different than what has been popularized since 2008[42] and 2013[43].

The initial emphasis was upon psychological intervention and behavior modifications. HAES in many ways emerged out of a sense of compassion for fat patients and their struggles with the expectations of the medical world. The early version of HAES offered few new methods beyond behavior modification without the expectation of weight loss. This incorporated efforts to "normalize" eating through non-diet (non-restrictive) methods. The underlying presumption of pathological eating on the part of the obese remained. There was an emphasis upon physical activity as well. The early model also critiqued diet based methods as having dangers ranging from psychological impacts like low self-esteem, disordered eating, and internalization of stigma, to physiological dangers such as weight gain and adverse effects of weight cycling.

The second incarnation of the HAES principles can be seen in *Obesity Reviews* (2001) written by W.C. Miller and A.V. Jacob (referred to as "H@AS" or "Health at Any Size")[44].

> "H@AS-based treatment was designed to enhance the following: (1) mind skills, such as identifying feelings and needs, developing reasonable goals and expectations and learning how to develop positive cognitions; (2) body

[42] This is the publication of Linda Bacon's book *Health At Every Size: The Surprising Truth About Your Weight* which codified the HAES approach for many in the movement.

[43] This is when a "social justice approach" to HAES was codified by ASDAH.

[44] There were several names for this alternative approach that were debated including "Health at Every Size," "Health at Any Size," and "Health for All Sizes" the name was decided upon by AHELP (The Association for the Health Enrichment of Large People) which was a forerunner of ASDAH

> skills, such as discontinuing negative cognitions concerning weight, recognizing resistance to losing weight, and learning how to honor and accept one's body and attending to self-care and health-care and (3) lifestyle skills such as learning how to eat regularly in response to hunger and satiety without restraint, while also participating in daily physical activity for both fulfilment and self restoration" (p. 38).

Here we see the delineation of three methods for treatment of obesity and an outline of how to study health in fatness without measuring weight loss. The emphasis upon body acceptance and self-love (a mind skill in the above conception) can be seen in this description of the "*Vitality"* program of *Health Canada* which emphasized self-acceptance, respect and diet-free eating. It recommended that individuals "Live actively, eat well and feel good about yourself and others"(as reported by Francie M. Berg, 2004/2008).

One method that was part of the HAES package early on, and has since been de-emphasized, is "prevention of obesity;" the prevention track included a call for public health policy to consider the inefficacy of dieting as contributing to obesity rates. One motivation for rejecting intentional weight-loss and no longer prescribing diets was the fear that the practice of dieting was ultimately contributing to the spread of obesity. The archives of *Obesity and Heath Newsletter* and *The Healthy Weight Journal* include articles urging the American Medical Association (AMA) to take policy positions that look toward preventing both obesity and eating disorders. Suggested policies include taxing certain kinds of beverages, regulating the diet industry, and shifting the AMA stance away from recommending intentional dieting[45]. Some HAES practitioners believed the "obesity

[45] It is worth noting that this is the same moment in time when the AMA is voting to further restrict the "normal" or "ideal" BMI range and is intensifying its efforts to get the public to restrict their diets to change their weights. The divide between these two approaches is stark.

epidemic" to be a legacy of the societal drive toward thinness and dieting. As ties between HAES and Fat Acceptance increased, focus upon bodily inclusivity and resistance to pathologizing fat bodies became a bigger part of HAES. Obesity prevention was seen as stigmatizing of fatness and became less of a focus[46]. The dissemination of the second incarnation of the HAES approach was helped along considerably by Linda Bacon, whose book *Health At Every Size: The Surprising Truth About Your Weight* (2008), remains one of the most widely read and cited texts of the movement. Some, mistakenly, believe that the book started the movement.

At the same time that Linda Bacon's book was being published, there were substantial changes brewing within the HAES community. Focus and attention had moved from a purely behavioral focus to a societal level analysis of health in no small part thanks to interactions with fat activism, particularly with the more radical activism generated out of National Organization of Lesbians of Size Everywhere (NoLose) and other queer fat groups. A new generation of practitioners had become part of the HAES community and were advocating for greater inclusion of political concerns linked to social determinants of health. Interactions with the Fat Activist community and Fat Feminism led to discussions about fat oppression, healthism, and intersectional forms of oppression.[47] The resulting shift in HAES

[46] Prevention of obesity is sometimes referred to in a non-stigmatizing way. Instead of talking about the dangers of obesity, there is an evidence based approach which points out that dieting has the reverse effect to what the dominant weight paradigm desires, it tends to push weight up and increase set points. The shift away from prevention may have been motivated by sensitivity to the stigma of obesity but it is a position which is also supported by the literature as prevention of obesity also lacks evidence based protocols.

[47] These interactions also broadened the scope of HAES from a focus upon body size and weight to include other ways in which a person might feel "at war" with their own identity, including gender expression and identity. This shift is currently emergent and ongoing. It

principles, are demonstrated by the new standards put forth by ASDAH in 2013: 1) weight inclusivity, 2) health enhancement, 3) respectful care, 4) eating for well-being, and 5) life-enhancing movement.

Health at Every Size is an approach to weight science that offers a set of health enhancing practices (a non-diet approach, intuitive eating, and an emphasis upon health behaviors rather than body weight, shame and stigma reduction, radical self-acceptance, and social activism), a theoretical approach to body weight (weight-inclusive focus, set-point theory, size-diversity/adipose naturalism, fat distinct from fit focus, and a sociological turn) and a methodological package (isolation of variables associated with obesity, focus upon social determinants of health, extensive follow-up, and use of non-weight indicators of health improvement) in the place of the dominant paradigm. The compilation of the health-enhancing practices was influenced by fields that HAES practitioners are drawn from (predominately nutrition, psychology, kinesiology, and public health). The shift toward adopting a positive (wellness based) rather than a negative (absence of disease) definition of health that was influential in Public and Global health has influenced HAES. "Health promotion" models and a "salutogenic" theory are both reflected in HAES principles.

What distinguishes the Health at Every Size paradigm from the obesity theory/methods package? First, HAES rejects the prescription of intentional weight loss and dieting and substitutes "weight inclusivity." Second, HAES rejects the use of weight, BMI, or body fat measurements as an indicator of health and the use of changes in these measures

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will be interesting to watch and see how it develops. Shades of things to come can be seen in the application of the tag-line "the new peace movement" to the Health at Every Size approach. This signals not only an end to hostilities presented by the war on obesity but the application of HAES principles to "make peace with our bodies."

for research. Finally, HAES rejects obesity technology and calls upon the medical community to open up the black-boxed elements of obesity and evaluate the evidence base for the assumption built into the weight-dependent model. This is the first step in dismantling 'Obesity' as a technology and rejecting the package of technology, ideology, and tools associated with the "weight-loss bandwagon" which is one of the aims of HAES as an intellectual and social movement. As discussed previously, Obesity[48] packages together a number of health related variables and treats them as one homogenous unit. By separating health behaviors from weight, the "black boxing" of weight loss is no longer viable. For further discussion of HAES as an intellectual and social movement, see part 2.

Here I will *briefly* explain each principle. First, weight inclusivity is explained to mean, "accept and respect the inherent diversity of body shapes and sizes and reject the idealizing or pathologizing of specific weights" (ASDAH). HAES emphasizes the naturalism size diversity in the human population. They offer "set-point theory[49]" and the failure of dieting[50] as the evidence base for this theoretical approach. As diversity is natural, there is no need to try to force bodies to fit a particular shape or size, but instead the focus should be upon allowing individuals the opportunity to optimize their own personal health. This leads to the second principle of health enhancement which requires HAES practitioners to "support health policies that improve and equalize access to information and services, and personal practices that improve human well-being, including attention to

[48] I use "Obesity" with a capital when discussing it as a technology or as an ideological-technical package. I will use "obesity" when I am using it in accordance with the definition provided within the medical community.

[49] Set-point theory is discussed in Chapter 2, pages 97 - 99.

[50] For further discussion of diet-failure see chapter 2

individual physical, economic, social, spiritual, emotional, and other needs"(ASDAH). This principle reflects a social turn in the theoretical understanding of body weight, one that recognizes the role of social forces in shaping the environment in which individuals live and the way these forces shape individual bodies. The emphasis here is upon equity of access not obligation toward health or health practices.

Next, Respectful Care asks that practitioners "acknowledge our biases, and work to end weight discrimination, weight stigma, and weight bias. Provide information and services from an understanding that socio-economic status, race, gender, sexual orientation, age, and other identities impact weight stigma and support environments that address these inequities" (ASDAH). This principle asks that practitioners recognize the highly stigmatizing atmosphere that has been produced by the obesity epidemic rhetoric (see Chapter 5) and its impact upon the lives of people of all sizes. Fat patients face discrimination, refusal of care, and lack of recognition for their disordered eating. Thin patients, and particularly thin eating disordered patients, face an increasingly fat-phobic society with an ever-narrowing standard of acceptable body weight, this stigma puts pressure upon all body-esteem for all individuals and gets in the way of optimal care. Last, this principle recognizes the interwoven nature of discrimination and oppression which restrict access to quality care. Once again, access to health is prioritized over obligation to health.

The final two principles are "eating for well-being" and "life-enhancing movement" and represent a significant change from the kinds of dietary and exercise advice that are offered from the hegemonic nutrition and anti-obesity campaigns. Eating for well-being

means “promot[ing] flexible, individualized eating based on hunger, satiety, nutritional needs, and pleasure, rather than any externally regulated eating plan focused on weight control” (ASDAH). The HAES approach to eating is heavily influenced by eating disorder recovery advice. The presumption here is that society has taught us all to distrust our bodies and bodily mechanism and that conventional nutrition advice, and dieting advice in particular, has led to wide-spread disordered eating and impaired relationships with food. What HAES seeks to achieve is a restoration of the bodies’ natural ability to regulate hunger and satiety. The nutritionist’s job thereafter is to aid clients in selecting a range of foods and learning to interpret how one’s body reacts to those foods in order to facilitate eating for personal well-being. The approach emphasizes that there is no such thing as “good foods” or “bad foods” and that all foods can have a place in a healthy diet; no food is forbidden. They approach also prioritizes more than bodily health in evaluating the suitability of food selection but mental health as well. This prevents demonization of “emotional eating” and instead reframes is as a practice that can be managed as part of intuitive eating. Similarly, life-enhancing movement, expresses a desire to get people moving more, but to reframe this movement away from a disordered relationship which views movement as punishment or price of overindulgence and instead frames movement as a kind of self-care and self-love that is sustainable because it is enjoyable, “support physical activities that allow people of all sizes, abilities, and interests to engage in enjoyable movement, to the degree that they choose” (ASDAH). Once again, the emphasis is upon removal of shame and increase in access to the ability to enhance health. HAES activists often focus upon the availability of safe spaces in which to move, access to exercise gear and clothing for the plus-sized population, and reduction in anti-fat propaganda as a means to propel people to exercise.

The influence of eating disorder research.

The influence of eating-disorder research can be easily seen within the HAES principles which focus upon removing moralism, stigma, and shame from the processes of eating and exercise and seek to restore a balanced approach to eating and exercise. HAES communities contain about equal parts representation of fat-focused providers and eating-disorder focused providers. At times this can put the HAES community at odds with the fat acceptance community which does not necessarily want to emphasize "health" or "healthful behavior" as a requirement for equality. Fat Acceptance activists sometimes accuse HAES activists (and the principles themselves) as being "healthists" because of their emphasis upon a restoration of "healthy" eating patterns. In this case "healthful" is being used in the sense of non-pathological, but this is still an evaluation that includes an expectation of health-enhancing behavior. This may be why the HAES principles have turned toward an emphasis upon *access* to health as a form of social justice, rather than *obligation* toward health.

Eating disordered behavior is of concern for the HAES movement because of the way that the hegemonic obesity paradigm renders eating disordered behavior in fat people invisible. Under current guidelines it is impossible to diagnose a fat patient with anorexia. A fat patient can be food obsessed, starving themselves and damaging their health but the idea of their having an "eating disorder" is unintelligible. As one poster in an online HAES space explained,

> "when seeking help (in the past) for anorexia, [I was] told by one [doctor] 'there is no such thing as a fat anorexic person, you'll have to do your

> attention seeking elsewhere.' My disordered food habits and I no longer go to doctors" (online post, HAES group).

My interview respondents emphasized the way that not only is disordered eating in fat patients not recognized, it is sometimes praised. Many medical interventions for obesity forced disordered eating upon fat people. Gastric surgery imposes anorexic and bulimic behaviors upon fat patients. Jaw wiring was prescribed in the 70s and 80s as a means of inducing starvation; this is in essence a surgically induced case of anorexia. Many weight-loss drugs have side-effects that mimic laxative abuse.

HAES has created a view of health that is behavior-based. While they certainly recognize the importance of using clinical judgement to discern special cases, they argue that for the most part health-enhancing behaviors are health-enhancing behaviors for everyone. All people (within certain common sense limits) can benefit from joyful, life-enhancing movement. All people can benefit from a balanced, healthful diet which is free from food-obsession, binging, purging, and restriction. While HAES seeks to disentangle lifestyle from BMI and BMI from health, they do not necessarily want to untangle *lifestyle* from health. HAES takes a behavior focus and couples it with a sociological turn, to create a version of health that emphasizes *health access* above all other goals.

HAES as a Competing Theory/Methods Package

As previously discussed, the evidence crisis around dieting produced a theoretical and ideological split within the medical community between those who believed that intentional weight reduction should be abandoned and those who continued to pursue success through increasingly technologically-driven interventions. Intentional weight-reduction is a key piece of the hegemonic theory/methods package, without it the approach

fails to function. As the Health at Every Size approach has explicitly rejected dieting, it has had to develop a new theory/methods package to replace the weight-dependent paradigm. The primary method that the HAES approach has used to reconstruct knowledge about obesity has been to intentionally open up and interrogate the categories "overweight" and "obesity."

HAES changes to the assessment of risk.

One primary difference between HAES and the weight-dependent paradigm is in the evaluation of risk and orientation toward risk assessment. The weight-dependent paradigm conducts risk assessment based on BMI measurements. Risk is assessed based upon grouping individuals into BMI categories and comparing their rates of mortality, morbidity, and specific disease incidence. Risk can then mitigated through public health measures that shift the population out of the higher risk categories (i.e. getting individuals to adjust their individual weight in order to adjust population rates of obesity) reducing morbidity, mortality and healthcare costs. The Health at Every Size paradigm proposes a change to these risk assessment practices in two ways. First, it proposes that the comparison group used for higher weight BMI individuals has been inappropriately selected. Second, they propose circumventing the BMI as the categorical driver of risk and substituting an emphasis upon mechanisms. Thus, they argue that use of BMI as a means to assess health is not useful and that it ought to be substituted by two practices: population assessment of behavioral practices and weight as a dependent variable indicator of other health risks.

As discussed in Chapter 3, risk from overweight and obesity is assessed through the construction of hazard ratios which represent the increase or decrease in risk from one

category to another. The standard comparison group (HR: 1.0) for most epidemiological studies of obesity is the "normal weight" category (however defined). They argue that a fat person who has lost weight is fundamentally different than a person who has been thin their whole lives. This may sound like a familiar criticism because it is very similar to the criticism used by the Harvard School of Public Health against the CDC/Flegal mortality studies and the obesity paradox in general. The HSPH argues that fluctuations in weight before the time of study can negatively impact the health of the individual. HSPH is conceptualizing this change as unintentional weight loss (cachexia) that reflects poor health. The HAES researchers argue instead that a higher weight person will always have been impacted by weight bias, possibly have genetic and other predispositions that have caused them to be overweight, and have experienced a lifetime of weight cycling[51] which might negatively impact their health. They therefore argue that to truly isolate the medical impacts of dieting the appropriate comparison case for newly thin people, is fat people who have always been fat or at least fat people who remained fat while others dieted. Additionally, there ought to be a third group of fat people who engage in a non-diet, health enhancing program (such as HAES) to compare to as well. This is how you appropriately isolate dieting and/or exercise as a variable and prove that weight loss itself reverses risk. They

[51] The issue of the impact of "weight cycling" and "weight loss" upon health is another contested issue. While all researchers appear to agree that *unintentional* weight loss is correlated to increased mortality risk and a sign of poor health, the impact of intentional weight loss upon health is much more contentious as is the effect of constant changes in weight (weight cycling). For further discussion of the issue see pages 90 – 92 of this dissertation. Most studies do not differentiate between intentional and unintentional weight loss when tracking mortality. Studies of diets do not follow their participants for long enough to study mortality outcomes. Weight stability and weight cycling are both undertheorized and under-researched areas of the weight sciences.

also point out that such a study would be very difficult to conduct because of the low success rates of dieting.

Isolation of weight loss as a variable that mitigates risk is very important for both HAES and the weight-dependent paradigm. This is because most obesity research studies are observational epidemiological studies. As Lucy Aphramor wrote in an open letter to Dietitians in Obesity Management, a specialist interest group of the British Dietetic Association:

> "In my training I explore the difference between causation and association citing evidence that the health risks attributed to fatness are exaggerated. As you will know, epidemiologic research is not capable of assigning cause and effect; when it indicates that certain long term conditions are more common in 'obese' populations, we next have to interrogate other data to examine what might contribute to that association. There are numerous confounders, not the least of which is the well-studied association between social determinants and both weight and health. I integrate data on how the social determinants of health, and many other confounders, influence metabolic fitness to come up with a more complete and nuanced understanding of the relationship between weight and health. This approach does challenge recommendations at national and international level and has advocates within the profession in the UK, Canada, USA, Australia and elsewhere who are questioning conventional beliefs" (Aphramor, open letter, posted March 2015).

Causation is derived from satisfaction of a series of steps. Association between higher BMI and adverse outcomes is observed, a plausible biophysiological pathway is proposed, it might or might not be observed and supported in animal studies and models, this creates an understood mechanism of pathology. If reversal of that mechanism results in abatement of symptoms under RCT conditions (ideally) then you have established a causal pathway. Abatement of comorbid symptoms after weight-loss is presented by the weight-dependent paradigm as proof that obesity and overweight cause medical conditions like high

blood pressure, cardiovascular disease, and diabetes. Put more simply by a bariatric surgeon that I interviewed, "from a clinical standpoint, for most of those conditions, when you treat the obesity, they ultimately get better… and you don't need a lot of weight loss for that. So, from my standpoint, that's sort of the proof that there's a causal effect" (bariatric surgeon interview, 001). As stated in Chapter 2, some HAES practitioners have cited liposuction studies which fail to show improved health as evidence that fat loss alone is insufficiently determined as the cause of health improvements. The study design proposed above would allow isolation of weight loss and the isolation of physical activity for the improvement of obesity related conditions. There have been some studies that have attempted to isolate physical activity as a factor in health, which I will discuss briefly at the end of this chapter.

Under the current public health approach to the obesity epidemic, risk groups are assessed in two ways. First by grouping the population into BMI categories which are treated simultaneously as risk groups and disease categories (BMI as risk group) and second by assessing the rate of obesity in designated demographic groups (BMI as risk factor). In the first practice (BMI as risk group) the risk category itself (BMI) conveys the risk: higher weight itself is treated simultaneously as the disease entity and a risk factor for disease. The HAES theoretical approach wants to end this practice. Instead, the weight category is recognized as being associated with risk, but is not seen as the mechanism of risk. Fat, per-se, is not what conveys the risk. HAES advocates argue that there is heterogeneity within BMI categories, a heterogeneity that is at least as, if not more, significant than the heterogeneity between BMI categories. They argue that you have to break apart what is being tested by these risk group assessments to truly understand the cause of ill health

associated with BMI categories. This is sometimes expressed by HAES practitioners as a criticism of epidemiological research as failing to properly control for "confounding" variables or a substitution of "correlation for causation." As one respondent put it;

> "[w]hen studies show some sort of different health outcome for higher weight people, and the study does not even mention or try to correct for weight stigma, racism, economic discrimination, weight cycling, weight discrimination, differing access to medical care, or the level of bias and discrimination of the medical care that was accessed, why do we interpret the difference as residing in the bodies of the higher weight people? Especially when we do have data that all of those things are associated with reduced health outcomes?" (Respondent 023).

This HAES practitioner exemplifies the responses that I received regarding the evidence around weight and health. "Yes," they told me, "higher weight is associated with higher risk but that doesn't mean higher weight causes higher risk." As discussed in Chapter 2, one commonly asked for set of controls is for "lifestyle" factors, what role does diet alone or exercise alone play in health outcome? This reflects the early, clinical basis for the Health at Every Size Approach.

This alternate theoretical approach also proposes alternative methodology: a re-orientation of risk assessment toward measuring *behaviors*. Rather than stratifying risk for cardiovascular disease by BMI, stratify by activity level, dietary practices, diet composition, or sleep habits. These are categories that are more easily defined and can give more easily generalized recommendations. These behaviors might (or might not) loosely map onto BMI but under the HAES theory/methods package it makes more sense to measure these behaviors directly rather than through the presumed proxy of BMI. As one HAES practitioner expressed it, the HAES approach isn't that different in its recommendations at the individual level, but the theoretical approach is inversed.

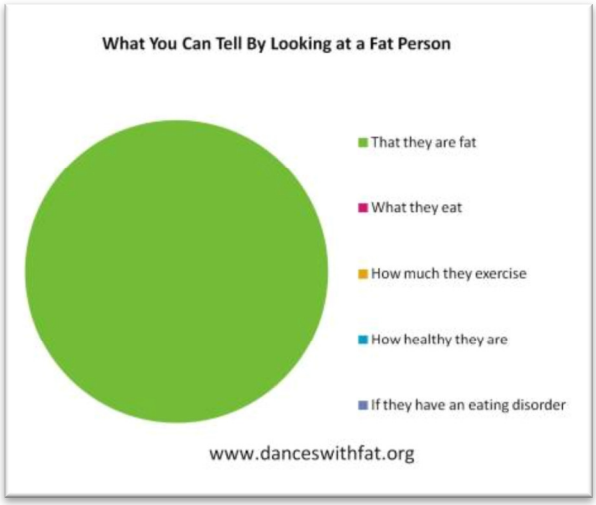

Figure 2: "What You Can Tell By Looking at a Fat Person" This popular meme posted by Ragen Chastain, AKA "Dances With Fat" is an example of the shared ideology between Fat Acceptance and HAES regarding the heterogeneity of fat people. BMI, or other measures of fatness, cannot adequately tell us about their lifestyle or health. All that can be determined by looking is size.

> "For some reason when [weight-dependent oriented physicians] hear about the HAES approach, they don't think that it helps decrease your risk and improve or treat chronic disease. I have to say I'm like, 'We're saying the same thing, we're just coming at it in a different way,' because actually, some of my clients do lose weight, some people stay the same, and some people gain weight. They all go to the weight that they are meant to be at, but all of them are focusing on *health behaviors.* Which, I know in a weight-centered approach, that's what you're talking about as well. Although you are talking about pounds loss [not in terms of behaviors changed]. [Whereas] I am talking about, 'do you take care of yourself every day by eating breakfast?' 'Do you give times to be in nature and go for walks and be active to amounts that you feel okay right now?' Or, whatever. I'm not focusing on that number [on the scale], I'm focusing on the behavior and validating the behavior. I'm always trying to get people to understand that I care about health just as much or more than maybe [weight-dependent physicians] do and I want people to have it in a long-term sustainable way. So, I don't want them to weight cycle and I don't want to have them 'diet mentality.' I want their body to settle at the weight that's right for them which might not be the weight you know that they want, it might not be the weight that's societally accepted, but they will be able to maintain it because that's what their body will prefer" (Respondent 005).

In this quote you can see the strong ties between reorienting the location of risk, rejection of diets, and set-point theory. The HAES approach unpacks the 'big two' lifestyle

components from obesity management (diet and exercise) and argues that they cannot be folded into BMI and presumed to be known. This is linked with the rejection of stereotypes, but it is also a methodological critique (for an example see figure 2). The HAES theory/methods package presumes immense heterogeneity within BMI groups and so argues that it is best practice to test for behaviors separately from testing BMI.

The second way that risk from BMI is assessed in the current weight-dependent approach to public health is to assess the prevalence of high BMI in particular identity groups, then seek out explanations for the higher rates of disease within that group. This most often means reducing the risk experienced by the group to individual practices and to the risk that is located within the body (not the risk from society). As stated by one HAES practitioner I interviewed:

> "There is a relationship between high weight and people being in other marginalized groups: lower socioeconomic status and race etc. I think that fat-phobia serves to justify racism and other –isms as well. It's like a foil for it, so if we address fat stigma we have to look at that whole big picture of social justice and we cannot isolate it" (Respondent 011).

For example as a group, African Americans have a higher incidence of overweight and obesity. They also have higher rates of most classes of disease, shorter life-spans, higher mortality, higher infant mortality, and lower health-related quality of life. This difference in prevalence among African Americans is explained by public health officials through three mechanisms: poverty/lower socio-economic status, cultural differences in food consumption patterns, and cultural differences in attitudes about fatness/beauty ideals. This narrative is exemplified in this excerpt from the ABC news article about obesity rates in the African American community.

> "Many black women seem to be unaffected by being generally heavier than other Americans. Calorie-rich, traditional soul food is a staple in the diets of many African-Americans, and curvy black women are embraced positively through slang praising them as 'thick' with a 'little meat on their bones,' or through songs like the Commodore's 'Brick House' or 'Bootylicious' by Destiny's Child. A study by the Kaiser Family Foundation and The Washington Post earlier this year found that 66 percent of overweight black women had high self-esteem, while 41 percent of average-sized or thin white women had high self-esteem"(ABC, 2012).

Or in this excerpt from the *ECI Interdisciplinary Journal for Legal and Social Policy*;

> "[t]raditionally, food consumption is deeply rooted within the African American culture. There are specific kinds of foods prepared with certain types of seasonings and ingredients which have been traditionally eaten by many African Americans. 'Soul Food,' or 'Comfort Food' (as it was initially called prior to the 1960s) can be traced as far back as the period before Africans came to the United States as slaves … One explanation [for lower physical activity] has to do with perception of body image among African American women. Research has suggested that African American women tend to be more satisfied with a larger body size than white women. One reason offered for this cultural facet is that larger and more defined body parts were believed to have greater appeal to the African American adult male. This may even be traced back to the tribal days of West Africa prior to slavery. Bigger women with fuller and thicker body frames were affectionately perceived as healthy. Healthy African women were considered to be more capable of bearing children. Children within the African tribe were believed to be a gift from God. The children were also seen as a perpetuation of the tribe as well as the greater African Community" (Geyen, 2012:7,9).

This practice reduces the increased risks of morbidity and mortality within the African American community to behavioral choices through the mechanism of BMI assessment, which acts as a stand-in for other kinds of data. This practice potentially masks other sources of risk that this community may be experiencing; risks which might either explain differences in behavioral practices or be ignored in favor of a behavioral explanation[52]. One such explanatory factor would be the impact of racism upon African American health.

[52] Elsewhere I have referred to this practice as "the fat veil."

Racism functions through a multiplicity of mechanisms, including reduced access to salutogenic environments, increases in stress (and allostatic load), and economic inequality. The emphasis upon BMI classification may unduly push focus onto individual practices rather than the social structure, it might also function to focus upon an outcome (obesity) as a cause. As one of my HAES respondents explained,

> "[w]hat we surely know is that people's status in the world, and their social support in the world, and their exposure to racism, and their exposure to weight stigma, and their weight cycling causes health problems. We need more differentiation from the weight cycling stuff, but we know there's bias, we know there's discrimination, we know that there's lack of access to care… There's a zillion things that are completely clear causality [to ill health] that we are just kind of, 'Oh yeah, whatever, it's over there someplace because it's not easy to figure out how to work with that, within the medical model.' So we don't. Because, I think the medical model, and this is something that is really part of white supremacy in my mind, the medical model locates risk in a body. The medical literature will talk about race as a risk factor. You think, 'Well…' (Indicates skepticism with hand gesture) …because race is not a thing. It's not a biological thing, like what are we really talking about there? We're talking about *racism* is a risk factor for damage to somebody, but we're not saying it's racism. We're locating it in a person's body (race). As if the person who's walking around vulnerable because of how we're treating them is the one whose body is somehow evoking this problem. To me, this is a really clear, like white supremacy thinking" (HAES respondent 006).

In addition to advocating for unpacking presumptions about individual practices from the BMI based risk assessment model, my HAES respondents pointed out the deep confounding effects that race/racism, sex/sexism, and socio-economic class present. Within the obesity paradox debate these would be termed "collider" effects or "selection bias" but the HAES respondents do not use this kind of technical epidemiological language in communicating their critique. As I discuss later, this is likely due to differences in disciplinary background and it may contribute to some of the validity issues that the movement has faced.

HAES practitioners view BMI as a phenotypic expression that has very little value as a health indicator. They argue that weight variation is noticeable and easy to measure, and therefore it has become what public health focuses upon, but they analogize the focus upon BMI as the source of risk to focusing upon yellow teeth as a risk category for lung cancer: the correlation is probably there, but it misses the point. There is significant frustration from within the movement with the insistent focus upon BMI as an indicator of health. One of my respondents noted that the way that physicians are trained contributes to the dominance of the weight-dependent approach;

> "I think that we know how to solve a lot of the health concerns that we blame on obesity, and the data is there, but the problem is an interpretation. I'm just appalled that we're not doing better at this, and that we're not critical thinkers in the field. We've just hit this point where everything is so strongly rooted in how we train people to look at data that it's considered good medical practice to do this misinterpretation and those of us who are trying to be critical thinkers aren't given access or power and able to get information out" (respondent 003).

The HAES practitioners that I interviewed had all engaged in a variety of strategies to try to persuade their field to accept the HAES paradigm. The HAES movement has significantly less institutional power than the weight-dependent paradigm. The weight-dependent paradigm is the entrenched hegemonic approach to the obesity epidemic and it is supported by multiple institutional methods. It is taught in medical schools, it is not met with skepticism when researchers seek out funding, and it is supported by physician and researcher professional organizations. HAES practitioners face significant resistance to sharing their ideas in order to spur debate within the field. They struggle for recognition of the validity of their dissent.

Naturalized bodily diversity.

The methodological changes listed above reflect a different theoretical orientation to adipose tissue. The HAES approach to adipose tissue and adiposity is not necessarily pathological. Adipose tissue is presumed to be a functioning and important organ in the human body. It has a purpose and it can become imbalanced (like any other organ) particularly if the system designed to regulate it is damaged or ignored. However, simple variation in size of the organ is not sufficient to demonstrate pathology. I refer to this theoretical conception of body size as "naturalized adiposity." Naturalized adiposity is facilitated by two theories: set-point theory and the nonmalleable body (both concepts are discussed in Chapter 2).

The debates regarding how healthful or harmful fat bodies can be are accompanied by the refrain, "but it doesn't matter anyway because we cannot make fat people thin." Thus, whether or not fat is the *cause* of illness is an important question for the HAES paradigm, but it is not *the* question, because we have no reliable way to transition people between risk groups. If you cannot reliably change people between risk groups, then it is more important to ascertain from where, precisely, the risk is emanating. My HAES participants were universally adamant that prescribing intentional weight loss was not an evidence-based practice, not an ethical practice, and not a viable practice[53],

> "there is no known way to turn fat people into thin people. Without a reliable way to lose weight – and I mean permanent weight loss not weight cycling and not losing small amounts that can be produced on demand - prescribing

[53] Many in the HAES community do not refer to the results of dieting as "weight loss" but instead call it "weight cycling" and "weight suppression" because of the high rate of weight-regain associated with dieting.

> weight loss is irresponsible, period. We don't have a way to make 'obese' people not 'obese' (Respondent 019).

This is a point of deep divide from the weight-dependent paradigm. The weight-dependent paradigm constructs fat bodies as inherently unnatural and out of balance. One public health researcher and epidemiologist that I interviewed remarked on how rare obesity ought to be in societies, "potentially only about two or three percent of the people at most should be obese in a healthy population. If we look at populations like Japan or Sweden the prevalence of obesity in women is around five percent and certainly not everyone there is eating perfectly and exercising regularly" (Epidemiologist 003). This reflects a hegemonic view that body size should not be that variable and that a thin phenotype is the norm. As explained in a HAES forum, the weight neutral paradigm takes issue with this approach. Instead, the HAES paradigm adopts a world view that naturalizes variation in body size. As Linda Bacon and Lucy Aphramor state in their book *Body Respect,*

> "[p]eople in any population will always come in a range of weights. In a group where everyone eats to appetite, we'd expect some people at the lower range of the BMI scale, more in the middle range, and others at the higher weight range, each at their own set-point" (p. 57).

"Naturalization" of this bodily variation is a useful strategy; it has epistemological power. It appeals to a current trend which privilege "naturalness" as "healthy" and desirable, particularly to the lay-public. This not only appeals to nature, it appeals to the contemporary embrace of "diversity" as a source of strength in society. If variation is not only normal and natural, but desirable, then why would we need change these bodies at all?

> "I just want to notice that the idea that fat people must be eating more than they expend is really a common misunderstanding that comes from the idea of a smaller body as the norm and the higher-weight body as needing to be 'explained' - rather than a starting assumption that bodies come in a range of

> weights, just as they come in a range of heights, and most of the time, those bodies are regulating in a similar way, just around diverse setpoints/setpoint ranges. A good example of how the sociocultural ideas (the thin body as the norm) affect the questions that get investigated (how are higher weight people eating differently?). When I pose the question to scientific audiences, 'do you think that if you took 100 babies and fed them exactly the same way they would all turn out to be the same size?' no one thinks they would; but they believe the converse, that you can look at someone's size and reason backwards about how they must be eating" (HAES Discussion Board, May 2015).

The notion of a setpoint gives scientific justification for the argument in favor of *variation as natural*. However, HAES doesn't argue that everybody is necessarily healthy at every (and any) size. This is an important distinction that is sometimes missed by critics and activists alike. What HAES does is make salutic practices primary in deciding what "health" looks like. They also acknowledge that the level of health that each individual can achieve may not be the same for all bodies. Some bodies are disabled, some have health challenges; these bodies deserve access to health and respect too. They should not be stigmatized because they cannot achieve the same status of health as others. Further, HAES emphasizes access to health over acquisition of health. All bodies, and all people, deserve equal access to health enhancing and life-enhancing opportunities, but they are not obligated to take them. If a person chooses not to engage in one area of health-enhancing practice (exercise for instance) this doesn't mean that they should be denied rights or not be supported in their access to other health-enhancing practices or resources: this is a stance that is designed to counter the practice of "healthism." Setpoint as a natural phenomenon does something else, it relieves the fat body of its moral burden. The obligation toward thinness is itself a moral obligation and is combined with the construction of health as a necessary condition of

biocitizenship. The fat body is not necessarily a body out of balance, a result of gluttony, or a sign of ill health.

Opening the "black box" and redefining obesity.

HAES emphasizes both a reduction to behavior (in its emphasis upon lifestyle) and a turn toward the social, through its emphasis upon social determinants of health. This may seem to be contradictory, but it is consistent when you consider that the aim is to unpack the BMI category (or obesity technology) and redirect the focus toward isolating out those individual mechanisms that are black boxed(Latour, 1987) by the use of BMI. Obesity as a technology has packaged together a series of risks, micro- and macro-risks, that are researched as one phenomenon under the current definition of "obesity." The HAES emphasis upon sorting out confounders (what their obesity paradox counterparts might call bias effects and collider effects) at the behavioral and social levels tries to sort out exactly which effects of obesity can be narrowed down to the individual, and ideally to the impacts of the "excess" fat itself. Similarly, as I will discuss below, the obesity paradox data has prompted an attempt to similarly open up the black box obesity technology, but in an effort to save theoretical orientation of the discipline. At present neither side has enough proof to definitively say what the effects of weight and weight alone are. Each looks at the available data and extrapolates out potential hypotheses about what is going on, and both are informed by a theoretical orientation. The HAES orientation is away from the use of weight as an indicator of health, the obesity paradox orientation is toward the use of weight (or more accurately adiposity) as an indicator of health. Each has their own challenges in proving

their position, challenges that have to do with the science and challenges that have to do with how science is done.

Strategies and Struggles for the HAES Movement

As Steven Shapin argues "all propositions have to win credibility, and credibility is the outcome of contingent social and cultural practices" (1995: 257). The debates that are ongoing within the weight-science arena are not likely to be settled on the merits of the science alone. All sides of these conflicts rely upon factors and forces outside of "pure" science to bolster their claims to truth and to gain credibility and power or to reduce the credibility, validity, and power of their opponents. Health at Every Size is a reform movement, an embodied social movement (Brown, Zavestoski, McCormick et al, 2004:52-53) they don't want to abolish weight-science and public health but they do want to significantly change how these fields define obesity and they do want to end the "war on obesity." This is why they sometimes refer to their movement as "the new peace movement." Credibility is the first step to being considered a player on the field of contention, particularly for intellectual movements working from an "underdog" position and the HAES paradigm has faced multiple challenges.

The counter-hegemonic status of the HAES claims-making creates a barrier to credibility. It is more difficult for HAES practitioners to function within the set institutional environment that takes a weight-dependent approach to health for granted. It is difficult to gain funding, to publish in highly read and cited journals, and to advance in their careers. The "gatekeepers" of such structural power are predisposed to be skeptical, or even hostile, toward the HAES approach. As one HAES researcher and clinician stated,

> "I think that we know how to solve a lot of the health concerns that we blame on obesity, and the data is there, but the problem is an interpretation. I'm just appalled that we're not doing better at this, and that we're not critical thinkers in the field. We've just hit this point where everything is so strongly rooted in how we train people to look at data that it's considered good medical practice to do this misinterpretation and those of us who are trying to be critical thinkers aren't given access or power and able to get information out" (HAES interview, 011).

The HAES movement is a reform movement, they want to change the scientific culture of weight-science. They express frustration that their fellow scientists cannot seem to see the validity of their truth claims. Many are explicit in their assertion that dogma, dominance, and financial interests are stifling true debate within the field. The debate about healthy obesity takes place in both contingent and constitutive forums (Collins and Pinch, 1979). HAES supported researchers publish articles, conduct trials, and amass evidence. They engage in uneasy alliances with obesity paradox researchers, where they lack consensus but have sympathetic aims. They wrestle with the institutional and political forces within the scientific realm as well, seeking out funding, appeasing (or not) unfriendly reviewers for journal articles, and arguing with professional organizations about the bounds and boundaries of ethical behavior. With few allies within the constitutive realm they also ally themselves with that implicated party in the obesity epidemic, fat people, by working with the fat acceptance community. As Steven Epstein has noted, credibility struggles represent "the constant attempt by different players to rephrase the definition of 'science' so that their particular 'capital' – their forms of credibility – have efficacy within the field" (Epstein, 1996: 19). The HAES researchers and practitioners are often locked out of traditional avenues to credibility and have to innovatively use existing claims to credibility, critique the credibility of their opponents, and seek credibility through the aid of outside forces.

Attacks on HAES credibility

Incompatibility between the hegemonic understanding of obesity and the HAES understanding creates a challenge to publication, funding, and credibility. At times the differences between weight-dependent researchers and the HAES approach verges upon incommensurable. HAES researchers view the weight-dependent research as dogmatic and under-determined, weight-dependent researchers sometimes see the HAES approach as a form of science denial. Physicians, epidemiologists, public health officials, and nutritionists are all taught to look for change in BMI/weight as a sign of success in any obesity-related intervention. Failure to attain loss of weight, *even if it was not a stated goal*, is read as failure. The methodological differences I have elaborated upon above lead to discord in how studies are interpreted. Just as HAES oriented researchers can see failure in the "successful" studies that are published by weight-dependent researchers, weight-dependent oriented reviewers will see failure in the HAES paradigm even when the proffered HAES-oriented hypothesis is confirmed. As an example, many HAES interventions do not want to use weight as a dependent variable, they would prefer to not to record weight at all. However, because their studies are not only being utilized to test the validity of their own approach but tacitly to knock down the dominant theory, they must include weight as a variable. This inclusion makes the study intelligible to a weight-dependent paradigm oriented reviewer, it also allows a comparison of the effects of a HAES intervention as compared to a weight-loss intervention. Still, reviewers will criticize HAES interventions for: 1) not achieving weight loss, even when other health gains were achieved, despite this being the stated goal, 2) not controlling for weight-loss as the cause of the health-gains that they are discussing, and 3) not explicitly using a traditional weight-loss approach as a

control group. Further, if the HAES intervention shows health-gains without weight loss the credibility of their research is often called into question. As one respondent told me,

> "I've had the experience of trying to publish some stuff in journals, where everything is very well referenced and well supported. The review comes back and says, 'but this can't be true, right?' When I've pressed and said, 'It seems like we've got an unethical review.' Because they weren't paying attention to data, they were just expressing prejudice. The response that I would get back was, 'Sometimes it doesn't matter whether or right, it matters whether people are willing to hear you.' That was a reason for not challenging the rejection" (HAES researcher 003).

Sometimes disbelief is the limit of the response that HAES researchers reported; other times their ethics and validity of their results and approach are more directly challenged.

One respondent told me that they had been threatened by their professional organization with censure or revocation of credentials if they did not stop sharing their HAES message. This respondent was told that they were "bringing disrepute to the profession" through their advocacy for HAES. Linda Bacon has publically shared her struggles with the NDA (National Dietetics Association) and with the Nutrition Department at her (then) home institution: City College of San Francisco. The Nutrition Department had been supportive of her work until other universities had threatened to stop taking transfer credits from the institution. Bacon had been teaching the introductory nutrition course, providing her with broad influence over the incoming nutrition students understanding of the topic of weight and health. As Bacon tells it, when her students transferred and questioned their new instructors (in the method described above), the instructors were alarmed. Bacon ended up changing departments in order to be able to continue to teach about the evidence

and field in a manner she saw as evidence based[54]. She, and other HAES researchers and academics, have also had to increasingly rely on entrepreneurial endeavors to spread the HAES message.

Many of the better-known HAES proponents have written books, write blogs, make media appearances, give (paid) talks, and hold training workshops. They also provide clinical services. While these practices are not very different from those undertaken by academically-based researchers, the context of these practices as outside the academe are sometimes used to question their objectivity and validity. Weight-dependent researchers who are critics of the HAES paradigm argue that the HAES practitioners have a monetary stake in the success of the paradigm. Many HAES researchers laughed when I pointed this out to them, stating that although they did have a stake, it was small and that the weight-dependent paradigm has far greater conflicts of interest than any they hold. They point out that the "diet-industrial-complex" is a multi-billion dollar a year industry and the public and private funding for the weight-dependent paradigm is enormous. They also point out that many obesity researchers and physicians are paid by the diet industry in one way or another. Some market and sell their own diet books and programs, others are on advisory boards for diet-companies, some receive research funding from the diet and pharmaceutical industry and have published papers for these industries. As one respondent remarked of the institutional power held by the weight-dependent paradigm,

> "we would sit in NIH Consensus conferences and see who were the ones making the decisions, and they were on the diet industry payroll. And they're

[54] This story was shared by Bacon during a HAES week long training even that took place in Seattle, WA from June 25th – 29th 2014.

> the ones that are making decisions and they're the ones that are redefining things. And they just get just streamlined through the NIH and the stamps of approval" (HAES activist, interview).

Conflicts of interest on the part of weight-dependent researchers is one of the criticisms that HAES researchers and activists utilize to question the validity of the obesity epidemic theory/methods package. When Steven Blair, an obesity paradox researcher with positions that are sympathetic to the HAES model was being criticized in the news for taking some funding from the Coca-Cola Corporation, reactions from within the HAES community were mixed. While most were critical of the move, noting that "I do believe sponsorships like this affect researchers, more than they'll admit usually" (forum discussion of S. Blair's funding), there was also a sense of frustration with the media for covering this small breach in conflicts of interest on the part of a counter-hegemonic researcher while ignoring copious ties to the pharmaceutical and weight-loss industry on the part of other researchers;

> "[o]f course they went on quite a bit about the issues with [conflicts of interest] when research is sponsored by corporations, but said nothing about the [conflicts of interest] vis a vis the bariatric & diet industries that infests all the 'calorie restriction helps lose weight' research" (HAES forum discussion).

HAES researchers are also accused of conflicts of interest due to their connection to the Fat Acceptance community. Not all HAES researchers are themselves fat, but their clients often are. Some weight-dependent researchers dismiss HAES as a fairytale or an exercise in wish fulfillment for the HAES fat client. In this view the HAES paradigm capitulates to all of the conceits of the fat person in denial: they are not to blame for their condition, they are able to keep their current lifestyle and be healthy, and that fatness is beautiful and valuable. Each side of the debate sees the other as heavily biased.

Some HAES practitioners react to these kinds of charges by emphasizing their adherence to best practices of evidence evaluation (see below). Others, take a cue from feminist ethics and do not make a claim to objectivity. They do not make a claim to specialized epistemological stance that provides them with better research focus (standpoint) or a greater claim to "Truth." Instead, they admit their own biases up front and critique obesity researchers for not doing the same;

> "[a]nd I say, 'make your values transparent' so everything I do is values based. I have very strong biases and I have very strong ideologies and I'm transparent about those, and I think that neutrality's not one of them, justice is. We need to challenge all the really deep assumptions, and also help people – both as scientists and citizens – to value other ways of knowing. I think scientific thinking has got its place, but it is no more or less effective or useful than other ways of knowing" (HAES participant 003).

As this quote demonstrates some HAES practitioners have abandoned the notion of absolute objectivity in favor of an epistemological position that presumes that all researchers have bias and so all researchers must be vigilant to avoid "confirmation bias" and must aid each other in managing bias through open, rigorous debate. The problem from this perspective is not that researchers have biases; but that they do not declare their biases. More precisely in the HAES critique of weight-dependent research, the problem is that they do not know they have bias. HAES researchers argue that the dominant understanding of weight science is largely treated as "settled science" and has been raised to a status of "common sense." Most obesity researchers take for granted that their ideas about the negative relationship between weight and health are "True" and have moved on to problem solving at a different level of analysis. HAES researchers want to disrupt this; they feel that the science is not, and should not, be settled.

Use of Evidence-Based Medicine language.

One repeated strategy to gain credibility utilized by the HAES movement is to emphasize their conclusions as evidence-based, best practice. Evidence-Based Medicine (EBM) is an evaluative framework for treatment decision making that is currently favored within medical science. The concept of "evidence-based medicine" holds a lot of institutional weight[55]. It is unsurprising then that HAES practitioners anchor the validity of their approach in a claim that HAES is an "evidence-based practice." In 1996 Sackett, Rosenberg, Gray, Haynes, and Richardon defined EBM as "the conscientious and judicious use of current best evidence from clinical care research in the management of individual patients" (312). This evaluative framework privileges particular kinds of knowledge production over others, specifically the randomized control trial (RCT) and the meta-analysis. Evidence based medicine is cautious of the use of observational studies in drawing conclusions. This may be one reason that the HAES advocates find it a useful tool for dismantling the weight-dependent hegemony. Evidence Based Medicine creates a link between epidemiological and biostatistical data and individual patients in the clinical setting. It is a framework designed to bridge a gap that has existed between research and practice and to avoid the use of "consensus" and authority in the place of evidence. In this way it also has appeal for HAES advocates. Evidence Based Medicine was designed to move away from the use of opinion or consensus to solve problems. EBM shifted best clinical practice from reliance upon expert consensus to evidence (Thoma & Eaves 2015:NP262).

[55] As an example: readers of the *British Medical Journal* included evidence-based medicine as seventh among "the 15 most important milestones" that shaped modern medicine (BMJ, 2007 as cited in Thoma and Eaves, 2015).

This shift was supposed to reduce bias and increase efficacy in treatment selection. This is a helpful prioritization for the HAES position; it allows them an avenue through which to claim scientific standing while defying claims of consensus. Evidence-based medicine gives them a language with which to argue that their dissent from consensus is not only scientific, but the better scientific position because theirs is the one based on data.

A repeated claim from HAES practitioners is that HAES is both evidence-based medicine and best practice. A common mantra within HAES communities is "show me the data" as a means to challenge the traditional medical paradigm. As one respondent put it, "Evidence-based medicine rather than fear based myths is sort of HAES's whole thing" (Respondent 22). The evidence for a HAES approach comes from original research produced by HAES oriented researchers, epidemiological studies from within weight-dependent paradigm, and the obesity paradox data (especially the healthy obesity data and the fat-but-fit data). EBM language is utilized when HAES practitioners attempt to have a dialogue with WDP researchers. We can see this in the three most cited journal articles promoting HAES that are published in *Nutrition Journal* and *Appetite*, which are peer-reviewed journals with professional audiences.

> "Dietetic literature on weight management fails to meet the *standards of evidence based medicine*. Research in the field is characterized[sic] by speculative claims that fail to accurately represent the available data. There is a corresponding lack of debate on the ethical implications of continuing to promote ineffective treatment regimes and little research into alternative non-weight centred[sic] approaches." (Aphramor, 2010, *Nutrition Journal,* emphasis added).

> "Concern has arisen that this weight focused paradigm is not only ineffective at producing thinner, healthier bodies, but also damaging, contributing to food and body preoccupation, repeated cycles of weight loss and regain, distraction from other personal health goals and wider health determinants, reduced self-esteem, eating disorders, other health decrement, and weight stigmatization and discrimination. *As evidence-based competencies are more firmly embedded in health practitioner standards*, attention has been given to the ethical implications of recommending treatment that may be ineffective or damaging" (Bacon & Aphramor, 2011, *Nutrition Journal,* emphasis added).

> "The weight-neutral program employed was the HUGS Program for Better Health; HUGS stands for Healthfocused, Understanding lifestyle, Group supported, and Self-esteem building. This integrated approach *is based on an evidence-based manualized curriculum* that incorporates the key components of popular weight-neutral approaches" (Mensinger, Calogero, Stranges & Tylka, 2016, p. 366, *Appetite,* emphasis added).

These three quotes are all from nutrition journals with a WDP audience. The authors utilize the evidence-based medicine frame to try to gain their audiences' attention and contradict concerns about credibility. The 2010 article explicitly engages the evidence-based approach, utilizing a meta-analysis to conclude that intentional weight loss approaches are not evidence-based. The 2011 article once again asserts a lack of evidence-base for weight loss approaches and encourages the audience to widen their frame of analysis with regard to what data to consider. Last, the 2016 article engages EBM by not only explicitly stating that their methodology is "evidence based" but also by producing a randomized control trial – the "gold standard" of EBM.

This attention to EBM is not simply employed as a persuasive technique or a bid for legitimacy. Immersion within the HAES field has made it very evident that the researchers and healthcare practitioners that work with a HAES paradigm are committed to "good science" and spend a great deal of their time engaging with what "good science" can and should look like. They have produced a heavy critique of the traditional medical model not only at the level of its efficacy but in regard to its research methodology and analysis of data and they want to see a dialogue develop between themselves and the leaders in their fields.

On the ASDAH Linda Bacon discusses her ongoing efforts to try to gain a dialogue with institutional leaders in the field of nutrition. She was able to secure an opportunity to debate John Foreyt at the Food & Nutrition Conference Expo (FNCE) during the American Dietetics Association national conference in 2011. Other ASDAH members have actively

tried to engage with leadership of their professional organizations, establish sub-group or practice groups. They strategize about attending conferences on obesity that utilize the weight-dependent paradigm and try to engage with researchers and clinicians at these conferences about the HAES approach.

HAES use of media appearances.

The HAES movement is aware that they have limited power within the structure of medical research. They are gaining power and reputability over time which can be parlayed into funding, research, and more traditional forms of credibility. However, the process is slow and could be easily susceptible to suppression attempts. ASDAH and individual HAES practitioners have made savvy use of the media in spreading their message and forcing a conversation both within the scientific field and on the public stage. This is one of the areas where the alliance between Health at Every Size and Fat Acceptance (discussed in more detail in Chapter 6) has been instrumental in continuing the controversy and provoking dialogue. ASDAH and fat acceptance social movement organizers work together to channel reporters to sympathetic and credible sources. ASDAH has set up lists of resources for the media to access, in order to gain comment on stories they are writing about obesity. National Association to Advance Fat Acceptance (NAAFA) also participates in directing media sources to knowledgeable HAES advocates that will represent the position well. HAES practitioners are quick to jump on opportunities to discuss the failure of dieting and the potential for a weight-neutral approach to health, such as those that arise when the media picks up a story about the "obesity paradox" or a big study about "healthy obesity" or "fit

but fat" studies. The obesity paradox bandwagon has been beneficial to the HAES paradigm, they do not utilize the bandwagon, or its toolkit, to gain access to institutional resources, but they have used it to gain access to the public and they cite the obesity paradox studies frequently.

Emergence of the "Healthy Obesity" Paradox

The "healthy obesity" paradoxes is a different set of assertions than the idea of mortality protection derived from overweight status and it is different from the HAES paradigm. The healthy obesity paradox, like the fat-but-fit paradox, has emerged out of attempts to sort out the obesity-mortality paradoxes. These mortality paradoxes demonstrated the possibility that excess adipose tissue could potentially be protective in certain sub-groups of people. One explanation that was proposed for the obesity paradox was "heterogeneity" in the data. Might obese people with heart failure be "accidentally" diagnosed with heart failure? Could the variation in all-cause mortality rates from the CDC study reflect that the overweight and obese populations have a subgroup of "healthy" people who have been mislabeled as fat? Initially that thinking was that body builders and other athletes might have accidentally infiltrated these categories and they might be skewing the data. This led to investigations that attempted to parse out the health status of those in the overweight and obese categories.

The "healthy obesity" paradox refers to evidence that it is possible to be healthy at higher BMI points and to be healthy even when that higher BMI point accurately represents adiposity. Healthy obesity does not make a claim about obesity as a protective factor, but instead focuses upon a small group of obese individuals who appear to be free from

cardiovascular disease. The scientists who do this work explicitly engage with the obesity paradox bandwagon to gain funding, and they tend to adhere to the weight-dependent paradigm which is why the data is referred to as a "paradox." The interesting result of this data is that it has led these scientists to ask a lot of the same questions that HAES researchers have been asking the medical community to investigate. It has prompted an unpacking of the theoretical and methodological norms that are currently part of the weight-dependent paradigm. The implications from their work could, ultimately, reshape the definition of obesity. The hypotheses that HAES practitioners and healthy obesity paradox researchers want to see tested overlap, but their theoretical orientation toward obesity, the obesity epidemic, and the obesity bandwagon do not. The obesity paradox researchers have a much more respected claim to credibility, expertise, and research validity. They also have greater access to funding and institutional support. The "healthy obesity paradox" is comprised of two categories of obesity paradox data: fitness may be more important that fatness in predicting mortality and the existence of metabolically normal obese people which is called the "healthy obesity phenotype."

What is "metabolically healthy obesity" (MHO).

"Metabolically healthy obesity"(MHO) or the "healthy obesity phenotype" concept was introduced by RP Wildman in 2009 as a way to describe "substantial variation in the observance of deleterious cardiovascular disease (CVD) risk markers in individuals of the same body size" including those with little or no CVD risk markers. Wildman argued that studies were needed to understand this phenotype of obesity whose health status was uncertain. He noted that the obese population showed high rates of metabolically normal

obesity, between 16 - 35%. He argued that additional research was needed to understand the condition better;

> "the limited existing data suggest that it is a fairly prevalent phenotype which is likely not to be at increased risk of [cardiovascular disease, CVD]. Whether these individuals remain at risk for the host of other obesity-related conditions such as certain cancers, sleep disorders, reproductive problems, and musculoskeletal disorders is likely but has not been investigated. Factors related to the characteristics of the adipose tissue of healthy obese, such as its location and metabolic activity, likely enable healthy obese to maintain favorable CVD risk profiles despite excess adiposity, but further research into these areas is much needed. Behavioral factors such as physical activity and diet composition likely assist healthy obese individuals in overcoming the cardiometabolic disturbances often accompanying obesity and may influence the cardiometabolic profile of healthy obese individuals differently from at-risk obese individuals. The insights gained from explorations among healthy obese may not only clarify safe and effective methods of weight loss for these individuals, but also will likely identify novel targets of intervention for at-risk obese individuals"(Wildman 2009: 440).

The initial data about "healthy obesity" or "metabolically normal obese" phenotype was met with similar skepticism and criticism to the overweight mortality paradox. Initial responses involved problem solving, tweaking, and testing to determine the limits of the phenomenon. How should "metabolically normal" or "metabolically healthy" be defined? Is it a durable phenomenon? What factors ought to be controlled for to confirm its existence?

Metabolic syndrome is usually defined as the clustering of at least three out of five medical conditions: Abdominal obesity (as defined by waist circumference), high blood pressure, high blood sugar, high serum triglycerides and low HDL cholesterol levels (Mayo Clinic). Within the medical research on "metabolically normal obesity" much more stringent definitions are used, often including down to one or none of the above listed factors. Most of the time waist circumference is excluded from the list when testing the idea of metabolically normal obesity. Marques-Vidal, Velho, and Waterworth (2012) argue that

variation in definition of metabolically healthy obesity (MHO) biases results, particularly when inflammation levels were used to stratify MHO from other phenotypes. They tested a number of different constellations of symptoms as defining MHO.

> "MHO was defined using six sets of criteria including different combinations of waist, blood pressure, total high-density lipoprotein cholesterol or low-density lipoprotein –cholesterol, triglycerides, fasting glucose, homeostasis model, high-sensitivity CRP, and personal history of cardiovascular, respiratory or metabolic diseases. IL-1b, IL-6 and TNF-a were assessed by multiplexed flow cytometric assay. CRP was assessed by immunoassay" (426).

This study, like other studies, found that depending upon the definition of MHO one uses, MHO was associated with lower risk and with reduced inflammation markers. These markers were in turn associated with lower abdominal obesity, leading to a question about whether or not BMI is clouding categories and whether or not distribution of fat is what is being tested. These are very similar questions to the kinds of stratification and collider effects questions that were being discussed in the other obesity paradox literature. The stringent application of technoscientific practices seems to be the typical first reaction to obesity paradox data. As I discussed earlier, the HAES subworld also wishes to see these kinds of stringent technoscientific analyses applied to epidemiological data that is supportive of the hegemonic theory/methods package but when they present these requests they are responded to as if they are denying established scientific fact. They have different priorities for which kinds of variables need to be accounted for, but the methodology they are seeking is the same as what is being applied to obesity paradox data.

Frank Hu, of the Harvard School of Public Health, and his co-authors Norbert Stefan, Hans-Ulrish Häring, and Matthia B. Schulze wrote a personal view paper for *The*

Lancet Diabetes & Endocrinology. They argue that a standardized version of "metabolic health" ought to be developed for testing the validity of metabolically healthy obesity (MHO). This proposition makes sense from a comparative epidemiological point of view, particularly when moving forward with a well-established phenomenon. However, when a standardized set of measures is applied to all research at an early stage of investigation, as in the case of the obesity paradox, it has the effect of limiting avenues of investigation. Standardized definitions of still unknown phenomenon black box the component parts, making easier to test but limiting testing to one set understanding or hypothesis. If, on the other hand, diffuse definitions are used, the data is harder to compare across studies but component variables can be analyzed and multiple hypotheses remain open.

At the present moment the picture that has developed around the concept of metabolically healthy obesity is as follows: there is a persistent subset of the obese population that presents as "metabolically healthy" (by various definitions of healthy, some more stringent than others); this population tends to be younger and fitter than their metabolically unhealthy counterparts; and they also tend to be white and of higher socioeconomic class. Metabolically healthy obese patients probably still have a higher risk profile than their metabolically healthy, normal weight peers, though this may be due to heterogeneity in the "health" and fitness levels of these subgroups not detected in the classification process. Metabolically healthy obese patients have lower risk profiles than the metabolically unhealthy peers all along the BMI spectrum. With follow-up in excess of 10 years, about a third of metabolically healthy obese patients will convert to being metabolically unhealthy status, conversion to metabolically unhealthy is higher among the

obese than those in the normal weight category (Johnson, 2018:1-2). What this all means is a matter of persistent debate.

What is the Metabolically Obese Normal Weight (MONW) phenotype?

"Metabolically Obese" is a term that is used within medical research literature to refer to a subgroup of the population that is not obese but still has a constellation of symptoms that are associated with metabolic syndrome. The term "metabolically obese" is inconsistently applied: sometimes researchers use the term "metabolically unhealthy normal weight" instead. The existence of the term "metabolically obese, normal weight" reveals a great deal about the hegemonic understanding of what obesity "is." Even though obesity is technically defined by BMI and implies the presence of excess fat, it is tacitly understood that this excess fat is pathological, meaning it induces ill health. Fatness is theorized to induce increased inflammation and to create bodily imbalance in the form of metabolic abnormality. The presence of metabolic abnormality in normal weight people coupled with the presence of persistent metabolic health in some obese people does weaken the argument that obesity is the causal agent in the obesity-disease association.

What is the "fat but fit" paradox?

In the 1980s Steven Blair published a paper that looked at cardiorespiratory fitness and mortality at 8 years of follow up. What he found was that those with lower cardiorespiratory fitness (below the first quintile) had higher risk of mortality than those within that quintile. In many ways the association of cardiorespiratory fitness with decreased mortality and morbidity should not seem surprising. The presumption that a sedentary lifestyle is pathogenic is built into the hegemonic understanding of the obesity epidemic and

the weight-dependent paradigm. Lack of physical activity is one of the variables that BMI is presumed to stand-in for in obesity in population studies. At the clinical level, obesity is often presumed to be an indicator of sedentary lifestyle. Low cardiorespiratory fitness and obesity are both risk factors for all-cause mortality and cardiovascular disease, and it is often presumed that one pathway that explains this is lack of physical activity causing obesity and in turn increasing cardiovascular risk. The surprising finding regarding fitness and obesity has been that fitness may mitigate the risk conveyed by obesity.

> "These studies demonstrated that all-cause and CVD mortality risk in obese individuals, as defined by body mass index (BMI), body fat percentage or waist circumference, who are fit (i.e., cardiorespiratory fitness level above the age-specific and sex-specific 20th percentile) is not significantly different from their normal-weight and fit counterparts (i.e., the theoretically healthiest group possible)" (Ortega, Ruiz, and Layaen, 2018:151).

This is remarkable because it could indicate that the effects attributed to fat mass might actually be the effects of a sedentary lifestyle. Alternatively, it could indicate that cardiorespiratory fitness somehow counteracts the pathogenic effects of excess adipose tissue. Both of these would be exciting findings that could alter the way we understand adipose tissue and "obesity" as a disease. Both fatness and cardiorespiratory fitness are not completely within the control of the individual. Both are heritable and influenced by environmental factors, however regular vigorous physical activity can most effectively improve cardiorespiratory health, even when it doesn't reduce weight. The authors of the above quoted article do caution,

> "Although exercise interventions in obese individuals lowered CVD risk, even without weight loss, literature is limited regarding whether these improvements in health without weight loss are driven by increases in cardiorespiratory fitness. In other words, such studies will be able to test the Fat but Fit paradox using an experimental design. Future exercise-based

> randomized controlled trials conducted in obese population should therefore include an accurate assessment of cardiorespiratory fitness before and after intervention so that formal mediation analyses can be performed" (152).

Such randomized control trials are exactly the kind of studies that the Health at Every Size contingent have been advocating for. The obesity paradox researchers and the HAES researchers have found themselves on the same side though their theoretical approaches are strikingly different.

Reactions from the weight-dependent camp.

For the purposes of this chapter what is interesting to note about metabolically healthy obesity, metabolically obese normal weight, and fat-but-fit is the way that these are responded to within the research literature. As Gary Wittert and Brett Huang discuss in their 2018 editorial published in *Obesity Research & Clinical Practice,*

> "If obesity is a disease then it must contemporaneously, at least in some way, be consequential to health and wellbeing. That is, apart from the exogenous influences of stigma. Some suggest that it is possible to be both obese and ''healthy'' at least from a cardiometabolic perspective. By contrast people can be of normal weight with the metabolic complications and CVD risk profile characteristic of obesity. Further, under certain circumstances mild to moderate degrees of obesity is said to confer a health benefit. Such a notion, if correct, is inconsistent with the conceptualization [sic] of obesity as a disease and implies that some factor or factors either innate, exogenous, or behavioral [sic], must interact with obesity to adversely impact health. If so, obesity should therefore be viewed as a risk factor and not a disease" (1).

These researchers have pointed out that *if* the various obesity paradox data turn out to be correct, the very definition and understanding of obesity that the current paradigm operates under could be wrong. These authors go on to list a host of confounding social factors that other authors have failed to account for in their research, a list that looks very similar to one a HAES practitioner might produce: "they do not identify the relative contributions of

muscle mass and function, physical activity, specific dietary patterns, shift-work, sleep disorders, and stress"(1). Finally, these authors conclude that,

> "Apart from severe obesity with multiple co-morbidities where interventions such as bariatric surgery are unequivocally effective, maintaining weight is associated with better outcomes than losing weight. Priority ought to be focused on optimizing health related exposures and behaviors [sic] across the population rather than with an obsession on weight" (2).

This conclusion is a striking marriage of Health at Every Size proposals within a weight-dependent paradigm. This is also exactly the kind of conclusion that had been vociferously defended against with regard to the overweight-mortality and obesity-mortality paradoxes.

Reactions to the proposition of a "healthy obesity" phenotype have been skeptical and even contemptuous. Obesity is seen as so obviously dangerous that it is common sense to combat it. The reduction in weight is believed to be in pursuit of a social good. Some researchers demonstrate impatience at the need to address data that contradicts these well-established truths. One example is a paper written by Dr. Rishi Puri who published a letter in *Journal of the American College of Cardiology* asking "Is it finally time to dispel the concept of medically healthy obesity?" Rishi questions the need for obesity paradox research, stating:

> "If we were to find a means of labeling a subset of obese people as metabolically healthy, of what benefit would this be to society? Given our current lack of a 'cure' or efficient means of successfully treating obesity over the longer term, might the resources spent on trying to define and justify the existence of a metabolically-healthy obese population be more wisely allocated to elucidating ways to prevent or treat obesity? Obesity adversely affects almost all physiological homeostatic mechanisms, and its presence is associated with both cardiac and many noncardiometabolic disorders, including malignancy, infection, infertility, joint disease, depression, and cognitive decline" (Puri, 2014, p. 2679)

This kind of dismissive response to data that supports the obesity paradox or a HAES approach is part of what produces skepticism about the objectivity of researchers by the HAES cohort. In interviews many HAES practitioners expressed frustration with their non-HAES colleagues to even discuss the possibility of a non-weight focused approach. They noted a tendency to presume that if an obese patient did not display adverse metabolic factors now, that they would eventually and that it is an impossibility that a body with excess adipose tissue could be and remain healthy. Even when confronted with evidence of potentially healthy fat patients, a lack of viable treatment options and evidence of benefit from non-weight loss options, they reported being met with derision and intolerance; the only viable solution for excess adipose tissue is treatment the reduces adiposity. To assert otherwise is to risk being considered not a scientist. When I asked one epidemiologist and public health expert about Health at Every Size and the possibility of healthy obesity their response was "I think there's no serious epidemiologist that believes that."

Conversely, some researchers have welcomed the news of "healthy obesity" in part because it supports the aims of the war on obesity. In an article published in *The Lancet Diabetes and Endocrinology*, Norbert Stefan, Hans-Ulric Häring, and Matthias Schulze termed metabolic obesity the "low hanging fruit" of obesity research. They point out that despite the best efforts of the medical world, long-term sustained weight loss of less than 8-10% of initial body mass is not achievable for most patients. Low amounts of weight-loss however are associated with improvements in diabetes. These authors see the promise within metabolically healthy obesity of a means to support the argument in favor of small amounts of weight loss, weight loss that does not necessarily support a transition between

BMI risk categories, but that might enable patients to achieve a state of "metabolically healthy obesity." They say,

> "Because people with metabolically healthy obesity have a lower risk of cardiometabolic diseases than people with metabolically unhealthy obesity do, the question arises: how can a transition from metabolically unhealthy to healthy obesity be achieved? Lifestyle intervention induced weight loss should always be the first target in the treatment of obesity, irrespective of metabolic health phenotypes. Weight loss reduces cardiometabolic risk and provides other health benefits, such as improved osteoarthritis and sleep apnea, decreased cancer risk and depression episodes, and improved wellbeing. But how much weight loss is required to transition from metabolically unhealthy to healthy obesity?"(252).

In their conclusion Stefan, Häring, and Schulze propose an approach to obesity management that looks a great deal like early versions of the HAES approach. It does not give up the weight-dependent paradigm or the long-term goal of weight loss for the obese, but it does propose utilizing "metabolically healthy obesity" as an interim goal to tempt patients toward appropriate lifestyle and behavioral changes. It offers an interpretation that a goal other than weight loss might keep patients motivated for change. Last, William Johnson opines in the April 11, 2018 issue of the *Annals of Human Biology* that

> "[i]n my mind however, the very construct of healthy obesity has led to a plethora of epidemiological research and debate on whether or not the phenomenon truly exists, instead of asking questions that accept, exploit and investigate heterogeneity among people with the same BMI. When viewed this way, there are many novel and important research questions that human biologists might see as being better aligned with their field. In particular, we know very little about the biological processes and mechanisms (e.g. growth and development patterns) and modifiable lifestyle factors (e.g. physical activity and diet), operating across the life course, that lead to some people developing a disease or dying while other people with the same BMI do not. Such research would help develop targeted prevention programmes[sic], in line with various precision or stratified medicine initiatives, such as that of the UK Medical Research Council. It is undeniable that obesity is bad for health, but there are clearly differences between individuals in the extent to which it is bad. While the concept of healthy obesity is crude and problematic

> and may best be laid to rest, there is great opportunity for human biological investigation of the levels, causes and consequences of heterogeneity in health among people with the same BMI" (2).

Again, there is alignment with HAES ideas followed by an emphasis upon sustaining the weight-dependent paradigm. The pursuit of 'biological processes and mechanisms (e.g. growth and development patterns) and modifiable lifestyle factors (e.g. physical activity and diet), operating across the life course" is a substantial part of the HAES theory-methods package. It is unlikely that these researchers are familiar with the HAES approach, instead this seems to demonstrate some synchronicity of conclusions that might emerge when the kinds of research questions that the HAES social world has been advocating for begin to be asked.

The future of research design?

The HAES practitioners I interviewed had plenty of methodological concerns about medical research. They also had some interesting ideas about what medical science end epidemiology ought to be studying instead of delineating risk between BMI groups. Some of their ideas could be aided by the legitimacy conveyed by the obesity paradox research. The HAES experts that I interviewed thought that resources ought to be spent on 1) ways to make fat people's lives better and healthier without weight loss, or 2) on the pursuit social justice efforts that recognize the environmental and social causes of ill health, including bias against fat folks and other identities which intersect with fatness (social class, race, gender, and sexuality). And, 3) research into the impact of "the war on obesity" and dieting upon the health of fat folks.

HAES experts and fat activists agree upon the need for more research into accommodating large bodies. The position from the weight dependent paradigm has been to "treat the weight first" – either explicitly or in practice – and this means that the medical field is often unprepared to treat fat bodies while still fat. This means that there are material barriers to treatment (size and weight bearing ability of equipment) and knowledge production and dissemination barriers to treatment. We often just don't know how to best treat large bodies because we have not studied or have not disseminated this knowledge. As one HAES expert commented,

> "I want more research (maybe practice-based research?) on best surgical techniques, imaging techniques, drug dosing, etc. for very fat patients. I want to know whether fat patients benefit significantly from different practices and techniques than thinner patients, and I want to know what existing practices work fine for all patients" (HAES forum).

Anesthesia and imaging are commonly discussed barriers to care for higher weight patients. Many of my respondents indicated that these medical services require research for safe and efficacious application to large or highly adipose bodies. They point out that lack of access to the same care that thin patients receive likely contributes to the negative health outcomes of higher weight people. The obesity paradox may support research in this area. As the classic obesity paradox includes better mortality outcomes after surgery for fat patients there has been increased interest in practices specific to surgery on higher weight bodies.

Access to these surgery for very fat patients varies by provider and region, but denial of care due to weight is an often reported phenomenon. This is particularly true for routine,

non-emergent, or “elective” surgeries[56]. The concerns reported by anesthesiologists and surgeons is that high-weight patients have higher mortality during surgery and higher rates of complications. Thus, weight-loss prior to surgery is a common requirement. Excerpted below is a response that a higher weight patient received from a surgeon and shared. The original poster had been seeking a surgeon that does not have weight-limits for surgery.

> "The vast majority of surgeons taking insurance and even out of pocket will have BMI/weight requirements for surgeries. ... This is due to higher post-operative complication risks related to diabetes and compromised healing, surgeon's fatigue during operation, as well as the surgeon's ability to see [surgical area]. This is a barrier for many of our patients. Unfortunately, I have no surgeon off the top of my head that will operate on someone with a high BMI. If someone has a high BMI, they may want to consider contacting private surgeons and paying out of pocket, but this is outside of my knowledge and scope of practice. They may also want to consider gastric bypass surgery to meet the surgeon's BMI/weight requirements. This is a route that some of our patients take."

In my participant-observation and my interviews with fact activists I have had respondents report being denied surgery for joint replacements, breast reduction, gender reassignment, and infertility. They are denied until they are able to lose weight and had bariatric surgery recommended to aid in attainment of weight loss required for their medically indicated surgery. This recommendation is confusing and an example of an area where further research or dissemination of knowledge might benefit higher weight patients.

> “I'm always mystified by the whole 'too fat for any surgery but weight loss surgery' business” said one respondent. The Original Poster of the above email queried the group, ‘This person is suggesting a surgery so

[56] In the UK, as part of an effort to reduce costs associated with an underfunded universal healthcare system, “obese” patients and smokers are denied non-urgent surgeries until they have lost a certain percentage of their body weight or have quit smoking (respectively).

someone can qualify for surgery?' –this practice does seem to be a paradox."

That surgeons or anesthesiologists are willing to perform bariatric surgery but to not perform other life-enhancing surgeries on higher BMI individuals seems to create a double standard. Within HAES spaces, particularly those that share space with Fat Activists, this double-standard is perceived as result of stigma and prejudice against higher weight patients. Community members are often outraged and frustrated by this policy as demonstrated below[57]:

> **A**: "joint replacements are refused for people with BMIs of 40 and higher, and some places it's 30. Absolutely disgusting!"
>
> **B**: "By making an arbitrary cutoff into a medical requirement, the BMI is also used to deny fat people access to medical treatments that thin people get. These treatments can be life-changing and improve a patient's quality of life dramatically, but due to the use of the outdated and meaningless BMI tool, fat people are denied access to solid, evidence-based medicine."
>
> **C**: "BMI is an old tool developed in the 1800's, by a mathematician. I think we can do better with other tools, like ultrasound and blood tests for starters that were actually developed to measure an individual's health."
>
> **D**: "So true. It's lazy risk assessment."
>
> **B**: "I'd love to hear their reasoning for why it's 'too risky' for a fat person to undergo anesthesia to fix a medical issue (like performing joint replacement surgery), but it's perfectly fine for a fat person to undergo anesthesia to get weight loss surgery. Because there IS no solid reasoning for that. It's just prejudice." (Emphasis in the original).

As we can see in this discussion the perception of these individuals is that bias is the deciding factor behind these surgical decisions; whether that is bias on the part of the individual surgeon or bias built into medical policies and procedures. They also identify the

[57] This discussion has been shortened and organized to aid readability. In online forums there are often numerous interjections that are not relevant to the original topic; I have redacted these interjections. I have also corrected typos.

use of BMI as a tool for assessment and question its validity. In another discussion about higher weight people and knees the reasoning that some physicians use was made explicit to the patient:

> "My daughter is fat and she tore her ACL dancing a few years ago. She was 21. The first surgeon we saw was not going to fix it because "she wasn't particularly athletic". Are you f***ing kidding me???? So, because she was fat she could just remain injured & in pain since, clearly, she never moves!!! I finally found one who never mentioned her weight. Did the repair and then did a scope to clean out scar tissue a few months after. The nurses were even kind enough to sew extra-long Velcro to her brace so she could actually wear it. It is sad how rare and special that was."

Stories like this one contribute to the perception that denial of care is based upon bias and prejudice. The physician is making two potentially unfounded assumptions: that he knows how active this patient is based upon her BMI and that her level of activity can rightly be used to determine how worthy she is of treatment.

As I discuss elsewhere, this seemingly inconsistent and insensitive care results in risk-benefit assessments that favors weight-loss outcomes. This particular physician may well be influenced by anti-fat bias, but it is a bias that is reinforced through the "obesity as a technology" epistemological tool kit. It is a systemic as well as a personal bias. Physicians do not question the layering and collapsing of BMI, weight, activity level, and physical fitness because it is part and parcel with the construction of "obesity". Anytime a patient might qualify for surgery a risk-benefit assessment needs to be done. In the case of joint replacement improvement to quality of life is balanced against risk to that life. If the physician unreflexively believes that a higher BMI person was not using their knees all that much to begin with and that the patient has a higher risk of complications then it seems reasonable that this kind of surgery might not be recommended for them. Weight-loss

surgery on the other hand is seen as having a completely different risk-to-benefit ratio and therefore is an acceptable risk. One aspect of this phenomenon is that this kind of risk-to-benefit ratio is being done without the consent and inclusion of the patient. One reason for this might be that the anesthesiologist and surgeon must first be willing to perform surgery before consent of the patient can be obtained. Thus, the risk-to-benefit assessment might be made with respect to the physicians' willingness to take on risk and concern over success and outcome ratios used to evaluate the physicians' performance. Yet again, the exclusion of the patient in the discussion results in a flattening out of the variations in the higher BMI population and an uneven and potentially biased risk assessment. More to the point, if surgery can be safely performed for the sake of weight loss surgery then perhaps wider distribution of that expertise is a better solution to this problem than the recommendation of weight loss. This, ultimately is the point that my respondents were trying to make. Research dollars are spent trying to make fat people "healthier," but not fat, when they might be better spent finding ways to make fat people healthier just as they are. They also point out that this is a more evidence-based practice as 1) there is not an evidence-based method for proven long-term weight loss and 2) evidence for the benefits of long-term weight loss is sparse.

Putting behavior before body size

What a careful reading of the HAES theory-methods package as compared to the "healthy obesity" paradox demonstrates is the use of obesity as a boundary object. Different socialworlds have competing ways of defining and making meaning around obesity. The HAES social world objects to the way that the weight dependent paradigm defines obesity and uses that definition to assess the risks of adiposity. The hegemonic understanding of

obesity, as expressed through the technology of obesity, has made body size the primary factor in assessing health. Common-sense understanding of the etiology of obesity allows BMI to be understood as a rubric for lifestyle. This is an assumption that is made by the lay-public and obesity researchers alike. One might presume that this means that lifestyle is the most important factor to be isolated for the weight-dependent model, to the contrary under the weight-dependent paradigm body fat is that most important factor to be isolated. As the measured variable, body fat (through the auspices and imperfections of BMI) has superseded lifestyle in the understanding of health. This has transformed how obesity is thought about. Public health policy has been shaped by this emphasis upon BMI and has prioritized attainment of thinness over access to healthiness.

This definition of obesity has turned public health policy upon its own head. Starting from the assumption that obesity is a physical manifestation of a caloric imbalance (the first law of thermodynamics or "calories in/calories out) then if your body doesn't fit within the proper BMI, this must be the result of a caloric imbalance. This is the "eating to excess" option that was discussed in the previous chapter. Under this understanding if you are fat your lifestyle must be unhealthy because your lifestyle is inappropriate in maintaining an anthropometric measure of risk and so you must be consuming in an inappropriate fashion and/or expending too little. This position seems to be held by the weight-dependent paradigm even if your BMI is the result of manipulation of the thermodynamic equation by exogenous things like genetics, use of pharmacology, or a history of dieting. It doesn't matter what the cause of your obesity is, despite all of the interest in targeting obesogenic environments or identifying obesity genes, at the end of the day under the dominant

understanding of obesity, because your body represents the deficit that has accrued, your lifestyle is not healthy. Under this understanding you can tell a person's health based on how they look, or at least their eventual health relative to others. Body size has become primary even though it was designed to be a heuristic for lifestyle. HAES articulates its frustration with this reprioritizing and redefining of obesity through a criticism of categorization of eating disorders and categorization of risk. Under the current weigh-dependent paradigm you cannot have anorexia or bulimia if your BMI is incorrect. This derives from the same logic that has prioritized BMI over health enhancing behaviors. The potentially unhealthy, disordered eating pattern of starvation or intermittent starvation, binging and purging is seen as appropriate because your BMI is wrong and these practices will bring your BMI down[58]. Thus, the body size trumps health-promoting behaviors under the weight-dependent paradigm. Even in the accounts from the obesity paradox where a turn toward accounting for behaviors is evident, there is still a reliance of eventual achievement of appropriate BMI. In comparison, HAES practitioners want to make health-promoting behaviors primary and consistent and to stop paying attention to BMI or fat percentage entirely. As a result of push-back from the Fat Acceptance community (to be discussed in chapter 6) the HAES approach has moved beyond emphasizing pure behavior modification

[58] This is especially true if the disordered behavior has been induced through biotechnological means. While intermittent fasting and very low calorie diets still remain acceptable as weight-loss practices for the very obese, most practitioners would still be alarmed to find that there obese patients were purging. Unless that purging is the result of bariatric surgery, in which instance it is seen as an acceptable side effect to mitigate. Interestingly, binging is almost universally pathologized, provided it is identified as binging. However, many times binging-like behavior is also part of our cultural milieu.

to emphasis upon access to health-promoting behaviors what some HAES experts refer to as the "relational approach" to health.

Conclusion

Boundary objects are "those scientific objects which both inhabit several intersecting social worlds … and satisfy the informational requirements of each of them"(Star and Griesemer 1989: 393). "obesity" is a boundary object that allows collaboration between epidemiology, public health, nutrition, psychology, clinical medicine, bariatrics, and obesity paradox researchers. Each of these social worlds understands and defines obesity a little bit differently, despite the existence of theory-methods package (the obesity paradox) that allows them translate across these differing meanings. A clinician will have a fundamentally different conception about the meaning of obesity than a public health official. Thanks to the obesity epidemic toolkit these two social worlds can utilize the same measurements and talk to each other about the needs of each social world in controlling and treating obesity. Obesity is also a boundary object between Health at Every Size and Obesity Paradox researchers. The obesity paradox challenges the shared understanding of obesity, it even threatens to dismantle it, but thanks to the standardized package (Fujimura, 1992) around obesity these researchers can still interact, exchange and translate ideas about obesity. Health At Every Size has a competing conception of obesity that is so far afield from the ones that other weight science social worlds use it becomes hard to exchange ideas or collaborate. However, the changes that obesity paradox causes in their understanding of obesity makes it possible to collaborate and translate ideas between these two social worlds.

The obesity paradox has the potential to become a translating between the HAES approach and the rest of weight science.

PART 2: FAT BODIES

Obesity research tends to ignore fat people as key stake-holders in the debates around the nature, meaning, and implications of excess adipose tissue. Fat people are implicated actors in the process: their bodies are discussed and decisions are made about their health and well-being but they are implicated as *objects* of research, not producers of knowledge. Knowledge about fatness is anchored in the presumption of risk: risk to health and risk to society.

Adoption of the BMI as the appropriate measure to construct fat identity was based in its ability to facilitate risk comparison and assessment at a population level. Which BMI group has the lowest risk of death? Which group(s) have the highest? How much or how little adipose tissue can humans have and not be at increased risk for disease? Risk here stands in for other questions too. How might we optimize the human body to live the longest, be the healthiest, cost the least amount, and produce the most good (or is it goods?) for human society.

As Deborah Lupton explains, risk divides populations into those who have a particular risk factor or disease, and those who might get a particular risk factor or disease. In her work on the AIDS epidemic Lupton discusses risk factors as often being synonymous with "lifestyle choices" that create opportunity for pathology to take hold, this idea can be extended to chronic diseases which are presumed to have a "lifestyle" component (Lupton, 1993). In the case of obesity, lifestyle is both the generator of the disease and de facto treated as the disease itself. Within medical literature and public parlance, "fatness" is linguistically and symbolically substituted for inactivity and poor diet with such frequency

that they are substantively treated as the same thing. Thus, the category of "overweight" or "obesity" becomes generated simultaneously as identity, lifestyle, and disease.

Those categorized as obese[59] are constructed as "at risk from" their disease/poor choices/themselves and "at risk to" the general public (here-in constructed at once as all those who have not given way to the lifestyle choice of obesity and the body-politic as a whole). This construction of "at risk to" can be seen in the way that obesity is discussed as a burden upon the medical system which produced excess deaths, excess work, and excess financial strain. Further, it is visible in the way that obesity is discussed as a "time bomb" (Fitzpatrick, 2004; Walker, 1998) and a "looming disaster" (Ludwig, 2018:2) for the country.

Those who do not have obesity (who have presumably resisted the lifestyle that produces the caloric imbalance that has led to obesity) are constructed as being doubly "at risk from" obesity: First, public health messaging constructs all bodies as needing to be constantly vigilant in their need to resist both the lifestyle and the physical form of obesity. Self-monitoring is encouraged to stave off even the hint of potential obesity. Overweight, originally constructed as "pre-obesity" was categorically created at a low enough threshold that it could be identified ad stopped before the danger of obesity set-in. Population monitoring is encouraged seek out and identify those who have succumbed or are in danger of succumbing to the temptation and state of obesity. Second, the non-obese are "at-risk-from" the obese themselves as transmitters of disease and societal plague. They are

[59] Here-in I will confine my discussion to the obese range of BMI for a brief time and return the construction, deconstruction, and reconstruction of risk from the overweight category again later.

burdened with the strain upon the system that the obese present. They are further "at-risk-from" the potential contagion of the obese lifestyle which threatens to lead others astray. They are further at risk from the spread of obesity as either social contagion[60](Christakis and Fowler, 2007) or literal contagion (Harley and Karp, 2012).

Last, obesity is constructed as a "risk" to the public as a result of the social, environmental, and economic burden that the fat body imposes upon society. The fat body is presented as resulting from gluttonous choices that produce economic burdens to be shouldered by all, either through insurance or healthcare services costs, material structure costs of supporting larger bodies, or environmental impact of obesity[61]. The obesity epidemic is described as causing increases in healthcare costs both in the present and in the

[60] The study which presented obesity as socially contagious has been debunked by a statistician (Lyons, 2011) and but it continued to be cited and informs public health policy.

[61] It is worth noting that the issues here that are often constructed as potentially being blamed upon obesity can also (and potentially better) be explained by other sources. Fatness in these cases is utilized as a scape-goat or whipping boy, substituting a socially acceptable group to blame or an easy target for complex issues. While obesity is correlated to increased morbidity rising healthcare costs can hardly be exclusively blamed upon fat people: rising administrative costs, increasing profits, various components of the healthcare system, increasing use of technology in general and to extend lives combined with an aging population all significantly contribute to rising healthcare costs. Similarly, global warming is the result of actions on the part of nations, corporations, institutions, and individuals. Even if the presumed increases in carbon emissions cited *could* be blamed upon fat individuals the contribution is low in comparison to other actors. Further, these speculations about the relationship between obesity and global warming presume a causal chain not in evidence.

imagined future where the majority of the population has "contracted" obesity[62]. This increased burden of both human suffering and economic strain is part of the justification for the vigilant monitoring of body weight and the public health initiatives to reduce population average weight. A perusal of the comment sections attached to articles on obesity will also demonstrate that the belief that obese people raise insurance rates and costs for other, lower-risk individuals is often cited as reason to target obese individuals for intervention and even shaming, discrimination, ridicule, or harm. The presumed burdensome nature of obesity makes the fat body a public problem and aids in breaking down social norms that might otherwise prevent people from publicly commenting upon bodies or interfering in the health habits of others (or justifies them)[63]. Secondarily, fat bodies are blamed for increasing healthcare costs through their presumed "overuse[64]" of medical services that might cause shortages of essential services for others (longer wait times for emergency departments,

[62] For examples of such speculations see: Wang et al (2011) *Health and economic burden of the projected obesity trends in the USA and the UK* and Finkelstein et al (2012) *Obesity and severe obesity forecasts through 2030.*

[63] As anti-fat attitudes predate the existence of shared or tracked medical costs I am reluctant to assign a causal relationship between economic burden of obesity and public targeting of fat people. Instead, I suggest that the calculation of healthcare costs related to obesity have a reciprocal relationship with anti-fat attitudes. Anti-fat attitudes make it more acceptable to calculate the burden of this group, while other economically costly groups might not be targeted for calculation in the same way (the elderly, the disabled and premature babies all come to mind – although lifestyle actions of their mothers might still be targeted). These calculations can then be used to justify the targeting of the fat population and for public scrutiny of this body type. This in-turn supports anti-fat sentiment.

[64] This is predicated on the assumption that fat people have a higher morbidity rate that could be successfully mitigated through alteration of lifestyle.

rationing of care) if their need outstrips the ability of the healthcare system to support[65]. Further sources of economic burden from fatness within the healthcare system come from structural changes that are being made to accommodate larger bodies: larger beds and equipment(Associated Press, 2006). Some media sources even report upon workman's compensation claims on the part of nursing and orderly staff related to the physical burdens of their jobs as resulting from the increases in heavy patients[66].

Another commonly cited source of burden is the presumed environmental costs of obesity. Obesity has been linked as a causal factor in global warming by certain commentators (Jacobson and McLay, 2006; Edwards and Roberts, 2009; Irfan, 2012). In 2006 Sheldon Jacobson and his graduate student Lauren McKay published an article in *The Engineering Economist* which calculated the "excess fuel consumption" caused by rising rates of obesity. The authors used obesity rate data to calculate the cost of transporting heavier passengers and concluded that obesity was responsible for the consumption of "one

[65] This narrative of the burdensome obese body is currently pushed in the UK where the NHS has been underfunded and obesity and smoking have been targeted as lifestyle factors which are "crashing" the system (rather than a system collapsing due to purposeful neglect). See for example: UK Parliamentary Report HL Paper 151, chapter 6 (2017), The Guardian article titled "Obesity Bigger Cost for Britain Than War or Terror" (November 20, 2014), BBC's Nick Triggle article "The Cost of Being Unhealthy" (2015), and James and McPherson commentary published in *The Lancet* (April 5, 2017) "The Costs of Overweight." For counterpoints see: Richard Alleyne's 2012 Telegraph article "Obese and Smokers Less of a burden on the NHS than the healthy who live longer – report" and Christopher Snowdon's 2016 article "Ignore the NHS propaganda: fat people aren't to blame for its soaring costs" in The Spectator.

[66] See the CDC National Institute for Occupational Safety and Health (NIOSH) Science Blog on "Preventing back injuries in the healthcare setting (Bell et al, 2008) and Daniel Zwerdling (2015) NPR article "Hospitals Fail To Prevent Nursing Staff From Becoming Patients."

billion gallons of additional fuel" were used between 1960 and 2002 due to increases in weight. The media picked up the story and ran headlines like, "Obesity Make Us Waste More Than a Billion Gallon of Gas Every Year" (Fung, 2012). Similarly, in 2009 Edwards and Roberts extended this idea calculating excess fuel use not only from transporting excess body weight but from the presumed excess use of car transportation by the obese which they attribute to Newton's second law of thermodynamics,

> "Newton's first law of motion expresses the idea that any mass will remain at rest unless acted upon by a force. The reluctance of mass to start moving is known as inertia. Energy is required in order to overcome inertia and the greater the mass the more energy is required. Because these basic physical laws also apply to human bodies, total body weight is a key determinant of the energy cost of walking. The increase in energy expenditure with increasing body weight should prevent further weight gain in a negative feedback loop but with rising BMI people are likely to move less, particularly those who are substantially overweight. Even when walking at their preferred walking speeds, heavier people are making a greater relative aerobic effort. Walking is an effort for heavier people and therefore some reluctance to walk would not be surprising.[10] As a mode of transport, walking provides access to goods and services and since people are likely to have the same demand for access irrespective of body weight, one might reasonably expect that heavier people would replace walking trips with motorized transport"(1138).

In essence the argument above is that it is more work to move around a heavier body and heavier people move less, so they are more likely to take cars for small trips. The authors also assert that larger bodies require higher energy intake and approximate this population level increased intake at 19% more "food energy" above their proposed "normal" population. The study did not make use of any available statistics on living patterns of obese or ideal weight adults, nor did it utilize existing data on food production, consumption or waste. The authors took the existing global emissions of GHGs, extrapolated to a projected 7 Billion person population, assumed 20% of that was from food production, and that 19%

of that food production was produced to fuel obesity and assigned this number as resulting from obesity. They also calculated the increased fuel expenditure of flying obese passengers. In conclusion the author's asserted that, "it is likely that increased adiposity is responsible for between 0.44GT and 0.98GT carbon dioxide equivalents per year" and "We argue that increased population adiposity, because of its contribution to climate change from additional food and transport GHG emissions, should be recognized as an environmental problem" (1139). This article has also been picked up by a number of media outlets and publicized with headlines like, "Thinner is better to curb global obesity, study says"(CNN) and 'Are Fat People Destroying the Earth?"(LiveScience). The link between global warming and obesity is not always assumed to be causational, some authors argue that the lifestyle which causes obesity also causes global warming, one set of public health researchers labeled this hypothesized phenomenon "Globesity" (Delpeuch, Maire, Monnier and Holdsworth, 2009). As mentioned in chapter 2, other researchers have hypothesized that global warming may be contributing to obesity. Reactions to the environmental studies were mixed and some news outlet noted that these studies continued an ongoing trend that

appeared to blame all of society's ills upon obesity. One such news outlet was *The New York Times* which ran a political cartoon (see above) accompanying an article entitled "For A World Of Woes, We Blame Cookie Monster" this article reported on the increasing stigmatization of fat people and increasing blame placed upon obesity in society. Whether or not people agree with these arguments about the risk to the public that obesity poses, these concerns successfully transform the fat body into a social problem and permit public scrutiny of individual bodies.

Figure 3: "How Obese People Are Responsible for Everything Bad" by Rob Barrett. The cartoon was used as an illustration in the New York Times article "For A World Of Woes, We Blame Cookie Monster" by Gina Kolata, October 29, 2006.

Obesity, Biomedical Individualism, and Biopower

The biomedicalization of obesity has constructed fatness as a category of risk and of riskiness and thus a category that needs to be monitored and controlled. The more technical and biomedical the definition of obesity has become, the more the fat body is monitored, the more this type of "at-risk" status is constructed as the equivalent of sinning (Touwnsend,

2009). This connection between obesity and sin can be seen in public health posters. New York City ran two campaigns that attempted to reduce obesity rate by lowering consumption

Figure 4: New York City Public Health Poster. Displayed around New York City starting in August of 2009.

of gluttonous foods, specifically sugary beverages. A 2009 advertising campaign with the tag line "Are you pouring on the pounds?" included images of liquid fat being poured into or out of soda containers in an effort to convey the fattening nature of sugary sodas (see figure 4). The advertisements also included images of a man drinking fat, the images were designed to convey disgust. This campaign was created by Cathy Nonas who directed the physical activity and nutrition programs at the New York City Department of Health and Mental Hygiene. The department reportedly hoped "the biggest effect [would be], first of all, shock, and that the understanding is that when you drink extra calorie, they will be stored as fat"(Nonas, quoted in the New York Time, August 31, 2009 by Sewall Chan). While this and the other discussed advertising campaign are designed to discourage the consumption of specific foods, as can be seen in the quote above the target is reduction in population fatness.

In 2012 the New York City Department of Public Health and Hygiene ran a different campaign targeting sodas, French fries, and hamburger consumption. The campaign was presented as being about restaurant portion size, however the ads appear to

Figure 5: New York City Department of Public Health "Cut Your Portions, Cut Your Risk" campaign. Rolled out January of 2012 under the direction of Mayor Bloomberg the campaign included posters displayed in the subway system and television advertisements.

target fast food specifically. The "Cut Your Portions, Cut Your Risk" campaign (see figure 5) layered images of soda or other fast food item over mages of fat individuals who were visibly disabled (Allen, 2012). The posters were designed to demonstrate rising portion sizes over time that correspond to rising obesity levels. As seen in Figure 5, the images show food choices that are also associated with convenience and lower socio-economic status such as fast food hamburgers, fountain sodas, and French fries (pictured in a different poster). The images communicate a personal responsibility narrative around obesity: both prevention of obesity and outcomes of excess consumption are responsibilities born by the individual and resulting from lifestyle choices. The campaign implies that disability results from inappropriate management of food choice. The choice of targeted food and the

specific disability consequences displayed also tacitly implicate the public as a secondary

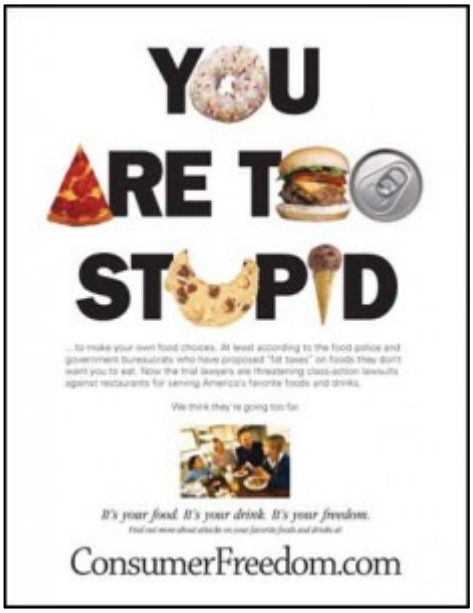

Figure 6: Center for Consumer Freedom advertisement that appeared as a full page ad in the October 1, 2009 edition of the New York Times.

victim of these poor food choices. In a very expensive city like New York fast food consumption and disability status are likely to be associated with poverty and public assistance. New York City has many 5-star restaurants whose portion sizes have also likely grown and whose food could be considered fatty, sugary, or gluttonous but these food choices are not the ones targeted.

A television commercial that was run in the f same campaign shows a man eating multiple packets of sugar while onlookers seem horrified and disgusted, the onlookers drink bottled soda. The ad states, "You'd never eat 16 packs of sugar. Why would you drink 16 packs of sugar? There are 16 packs of sugar in one 20oz. bottle of soda."[67] This ad does not

[67] https://www.youtube.com/watch?v=62JMfv0tf3Q

include images of fat people, but does evoke horror at socially unacceptable behavior and unknowing gluttony. The commercial concluded "All those extra calories can bring on obesity, diabetes and heart disease. Go with water , fat-free milk, seltzer or unsweetened tea instead." Thus, while fat bodies are not present they are evoked as the threat which the commercial wishes to address. This commercial and the advertising campaign aired as part of an initiative from the Bloomberg administration to ban the sale of soft drinks over 16oz. sold at restaurants, theaters, and food carts within New York City. The effort was blocked by a state judge after the soft-drink industry filed suit (Grynbaum, 2013). All of these advertisements combine a presumed source of obesity (lifestyle choice, gluttony, lack of self-monitoring or self –control), with adverse outcomes for the individual, while simultaneously making it clear that obesity and nutritional choices are a public concern. Obesity is the result of a lack of appropriate self-restraint or a lack of understanding of the choices being made. These advertiements increase monitoring of fat bodies and seek to increase self-monitoring as a means to reduce obesity rates. The horror and shock that the advertisements evoked portray fatness as a pernicious threat which is a physical, economic, and a moral danger to all. Through these associations a fat body becomes proof of the poor choices and deviant acts in the history of the individual. Importantly, these advertising campaign and the public health policies they represent target fat people but do not elevate fat people's voices or seek to understand their motivations or desires.

These ads were responded to by various restaurant and beverage industry groups. This included a campaign by the Center for Consumer Freedom (CCF) that depicted the 2009 "pouring on the pounds" campaign as paternalistic, hyperbolic, disruptive to consumer

choice, and disrespectful of consumer intelligence. The CCF was concerned about government efforts to tax sugary beverages. As previously discussed in chapter 2, the Center for Consumer Freedom is a non-for-profit that is run by Rick Berman whose PR firm is often retained by industry interests. The donors who contribute to CCF are not disclosed but are widely believed to be restaurants, soda manufacturers, and other industries whose interests could be potentially impacted by laws and public policy that the CCF campaigns against. The CCF utilizes arguments grounded in three main concepts: personal responsibility, freedom of choice, and freedom of consequences. Many of the attack campaigns that the CCF engages in are reminiscent of the tactics utilized by big oil in combating global warming or the tobacco industry in combating warnings about the dangers of smoking.

The Center For Consumer Freedom advertising campaign included a full-page advertisement in the New York Times (see figure 6) which utilized various gluttonous or fatty foods to aid in spelling out the message "You are too stupid" followed by smaller text that reads

> "…to make your own food choices. At least according to the food police and government bureaucrats who have proposed 'fat taxes' on foods that they don't want you to eat. Now the trial lawyers are threatening a class-action lawsuit against restaurant s for serving American's favorite food and drinks. We think they're going too far" (CCF).

This blurb is followed by the tag-line "It's Your Food. It's Your Drink. It's Your Freedom" (Centers For Consumer Freedom). This version of the advertisement (which was published in the New York Times) rails against government "over-reach" and emphasizes not only the "freedom" of consumers to exercise their own good judgement in selecting foods for their

families but the dangers to consumers if personal responsibility is replaced by a litigious nanny state[68] which might deprive citizens of the right to access the foods they enjoy. A different version of the ad states:

> "The New York Department of ~~Health~~ Hype has used your tax dollars to launch an advertising campaign to demonize soda. Food cops and politicians are attacking food and soda choice they don't like. Have they gone too far?" (CCF).

This advertisement is a poster that is available on the CCF website for download and display. This poster engages again with concepts of freedom and consumer choice but also sows doubt about the validity of the concerns of the New York City Public Health and Hygiene department, through the use of the phrase "hype." Far from defending fat people, the CCF posters defend "freedom of choice" and "freedom of consequence" which still treat obesity as the result of poor lifestyle choice and also frame obese people as "poor consumers or even "unfit citizens." This is an ad campaign that evokes the importance of the savvy consumer and savvy health citizenship reflecting a transformed patient model which positions patients as consumers responsible for making appropriate health choices or living with the consequences. What these campaigns lack is representation of fat voices. In both campaigns the fat body is targeted for monitoring: by the state or by the self and others.

Despite efforts on the part of researchers and activists described in chapter 1 and 3 of this dissertation to locate the "risk" of becoming obese external to the body (obesogenic environment) or external to personal control (genetics, setpoint theory) obesity continues to be perceived and constructed as an internal risk under the auspices of control and choice.

[68] "Nanny state" and "food police" are terms that the CCF deploys often.

The result has been a tendency to "blame the victim" of the disease for their own disease state. "Blaming the victim" is also blaming the individual and so it is a practice that aligns well with biomedical individualism and contemporary concepts of health. Biomedicalized health, in a neoliberal era, is an individual responsibility and necessary facet of biocitizenship. Due to the highly stigmatized nature of fat identity and their deviant resistance to the patient role, fat people who engage in fat activism are co-constituted as implicated actors and implicated *others*, "othered" by the narrative construction of their pathology.

"Everyone already knows" that fat is unhealthy. This is the most common result of the "obesity epidemic" rhetoric and the "war on obesity" which has enrolled us all as citizen-soldiers in the fight. We are obligated to monitor ourselves and each other for the presence of the enemy. Public health campaigns aimed at reducing obesity encourage the identification of fat individuals for intervention. This monitoring and identification is supposed to occur at the physician's office through the yearly weighing and measuring recommended by the AMA to screen for obesity. However, family, friends, and strangers in the street are encouraged to identify obesity. Most especially self-monitoring and identification is encouraged. The underlying presumption here seems to be that although "everyone already knows" that fat is unhealthy, fat people may be ignorant either of the status of their own bodies, the cause of their fatness or of their own danger. Implicit in the construction of the posters discussed above is that if you are fat then you have consumed in a fashion similar to the individuals in the posters above, and you likely have (or soon will have) health problems like the people in those posters do.

The ill-health of fat people has become so self-evident within our society that no one has to prove it, we just know it to be true. Pathological fat holds the simultaneous power of common sense and the institution of medicine. It is also the case that "Everyone already knows" that fat is unhealthy because of what fat people *do*, how they become fat in the first place. This is why anti-obesity campaigns can interchange messages about targeting obesity with lifestyle interventions, treating fat as if it is simultaneously a bodily state and a lifestyle choice. "Everyone already knows" that fatness is a choice. "Everyone already knows" that fat bodies are less valuable.

Even very small children know about the problems of fatness, exhibiting a marked preference for thinner playmates by their preschool years (Latner and Stunkard, 2003; Musher-Eizenman et al, 2004; Harriger et al, 2010). This "knowingness," "the reserve force of information, the reservoir of presumptive, deniable, and unarticulated knowledge in a public that images itself also as a reservoir of ever-vioble[sic] innocence"(Sedwick & Moon, 2001, p. 298 -299), about fat bodies emerges from an enduring narrative about fat bodies, fat lives, fat histories, cultures, oppressions, and bodily acts that we have consumed at every stage of life and which has only been enhanced through the "war on obesity." The stereotypes, stigmas, and presuppositions about the proclivities of fat bodies does not need to be proven, it is as ever-present and ever-known and it underlays the narrative and knowledge production about fat bodies. This "knowingness" informs how science, medicine, public health, the media, and individuals think about fat bodies, yet it remains unacknowledged.

The discourse around fatness has multiplied in the last three decades[69](Boero, 2007). We concern ourselves more and more about fat and fatness. We have increased the number of words we have to talk about fatness, medical journals have had long debates about which name to use to label this excess flesh: obesity, overweight, corpulence, fat, adiposity (Flegal, 2005; Eknoyan, 2006; Haslam, 2007; Vartanlan, 2010). How should it best be measured?[70] Public health campaigns have been launched warning us to be vigilant lest we become susceptible to the dangers of fat. Congressional hearings have been held to discuss fat and how best to measure, regulate and control fat[71]. All of this discourse around obesity contributed to a collective "knowingness" we share about the fat-body.

This "knowingness" about fat bodies predates medicalization of fatness but has been amplified by that medicalization process and the knowledge produced by it. Anti-fat attitudes predate medical data indicating that fat is potentially unhealthy, they predate the medicalization of fat altogether (Schwartz, 1982; Vigarello, 2010). The idea of fatness as moral failing and personal choice narrative existed prior to the medical narrative of

[69] Use of "obesity" in article published and catalogued by Pub Med have climbed steadily since 1990. In 1990 there were 1704 article published using the term "obesity" by 1999 the yearly number had almost doubled (3,397). By 2004 the yearly number of articles had again doubled to 6,940. In 2011 the number was 14,180, and in 2015 and the subsequent years the number exceeded 20,000. Similarly, a search of ProQuest shows

[70] See chapter 2

[71] There have been multiple congressional hearings related to fatness and obesity: Throughout the 1990s there were a series of hearings about commercial weight loss products resulting in a congressional sponsored conference, **"**Commercial Weight Loss Products and Programs What Consumers Stand To Gain and Lose"(1998). In 2008 a senate hearing on Childhood obesity included testimony by fitness guru Richard Simmons (NPR, 2008). On March 4, 2010 a congressional hearing was held regarding Childhood obesity (Senate Hearing 111-1130). In 2014 Dr. Oz was asked to testify in front of a Congressional Hearing that looked into his promotion of various quack health remedies, including weight loss (Firger, 2014).

pathology (Rasmussen, 2012). Rather than one supplanting the other, the medical discourse has been built upon the discourse and narrative about fat the scientists have been steeped within in Western culture. This is the "knowingness" that Michael Moon and Eve Sedgwick refer to in their multiply published essay "Divinity: A Dossier, A Performance Piece, A Little-Understood Emotion." We can see it in the way that journal articles feel free to move easily back and forth between discussions of lifestyle and fatness as if they were one and the same. These presumptions are built into our society and they have been built into the technology of Obesity, which has served to reinforce these "everyone already knows" aspects of obesity, ne fatness. This "knowingness" creates another open secret about fat bodies where "everyone already knows" about the fat person's lifestyle, proclivities, desires, and character. Eve Sedgewick and Michael Moon refer to this experience of having an open-secret about your very visible body as being in a glass closet;

> "Nonsensically, fat people now live under the same divisive dispensation; incredibly in this society everyone who sees a fat woman feels they know something about her that she doesn't herself know. If what they think they know is something as simple as that she eats a lot, it is medicine that lends this notionally self-evident (thought, as recent research demonstrates, usually erroneous) reflection the excitement of inside information; it is medicine that, as with homosexuality, transforming difference into etiology, confers on this rudimentary *behavioral* hypothesis the prestige of a privileged narrative understanding of her *will* (she's addicted), her *history* (she's frustrated), her *perception* (she can't see herself as she really looks), her *prognosis* (she's killing herself). The desire to share this privileged information with the one person thought to lack it is more than many otherwise civilized people can withstand " (pp. 305-306).

The fat person is inculcated with the heavy burden of all we "know" about obesity[72] including our presumed knowledge about how obesity comes to be. Sedgwick and Moon refer to this as the "ontogenic question: the question of how did such-and-such a person come to be"(p. 302), our conception of how individuals come to be fat rather than thin.

[72] Here I intentionally make use of the medicalized descriptor to note the heavy influence of medical authority in constructing the shared narrative we have about fat bodies.

What makes fat people fat? Above Sedgwick and Moon note that the perception is that fatness is the direct result of overconsumption of food and under-performance of exercise (the rudimentary behavioral hypothesis). This open secret can also be seen in the NYC campaign posters which invert the glass closet, asking the fat person to view themselves as others are able to. Having done so, the campaign hopes to aid the in seeing the obvious source of their adiposity that has, presumably, evaded them and to finally "do something about it." The "it" here is not just their weight, but their behavior choices that have led to such a state.

Fat acceptance activists spend a lot of their time talking about health, and this "knowingness" about fat and health is why. Just about every fat activist space has resources about the Health At Every Size concpet and "how to find a fat-friendly doctor." Fat activist organizations and leaders reject the medicalization of obesity and intentional weight loss. While these two positions may not be shared by all fat activists, they are sticking point within the leadership and are the source of perennial debates about the nature and meaning of "fat acceptance.[73]" One of the stated aims of many fat activists that I interviewed was

[73] The National Association to Advance Fat Acceptance and NOLOSE are both explicitly anti-diet and reject a medicalized definition of fatness. This is why terms like "obese" and "overweight" are rejected within these organizations, they represent the medical classification of fatness as disease. Activist-leaders like Virgie Tovar, Ragen Chastain (Dances With Fat), Jes Baker (AKA The Militant Baker), and Kelsey Kinzel (Two Whole Cakes) explicitly reject diets, intentional weight loss, and medicalized approaches to fatness. For instance, in response to the AMA decision to classify obesity as a disease Virgie Tovar stated, "Fat cannot be viewed with myopic unidimensionality, and that is exactly the lens that *some* members of the AMA have adopted."(6/24/2013) However, there is debate about the compatibility of intentional weight-loss with fat activism and some well-known body positive activists have gotten weight loss surgery. This will be discussed in more detail in Chapter 6.

the demedicalization of the fat body and/or an end to the "war on obesity," this is also an aim stated by fat activist organizations. Despite this goal, health is a huge part of movement. This appears to be a contradiction. The reason for this is twofold: First, the dominant discourse around "obesity" (itself a medicalized terminology for fatness) is so totalizing that the movement has to engage with the topic and navigate around it in order to make any of the points it wants to make about fat bodies. Second, despite the intense focus upon medicalization of the fat body many fat people are intensely medically marginalized and unable to access adequate, respectful healthcare.

One solution to these problems would be to band together as a self-identified patient group and advocate for different kinds of care. This is the "patients' rights approach[74]." There is resistance to this framing of fat acceptance activism, particularly from activists who identify themselves as "radical fat activists." The primary objection to the patients' rights approach is the need to take on the patient identity and tacitly accept the medicalization of fatness. The HAES movement attempts to merge a patients' rights approach with a rejection of medicalized fatness. This mean rallying around a normalized patients identity and demanding evidence based care that does not treat fatness as necessarily pathological. This

[74] Patient's rights movements have a long history as medical self-help groups. There are groups of obese people who strongly identify with the patient role and the medicalizaed definition of fatness. These groups may advocate for care in the form of treatment options to "cure" obesity, insurance coverage for weight-loss treatments, and strategies for living with the illness. These groups include "Overeaters Anonymous" and bariatric surgery support groups. To a lesser extent Weight Watchers groups could be seen to fall into this category, however most Weight Watchers groups include mixed-weight categories of people from the very obese to those who started out in the normal range but wish to meet a societal aesthetic expectation through the use of diet. An excellent ethnographic study of some of these spaces has been conducted by Natalie Boero in her book "Killer Fat"

approach is one of the source of controversy and conflict about the HAES approach within fat activism. Despite the attempted rejection of the patient role, fat activism must engage with issues of health, healthcare, medicalization, and healthism in order to push through the overriding narrative and be heard and so "health" remains a topic that fat activists must, however reluctantly, engage with.

The most pernicious aspect of medicalization for those seeking fat acceptance has been the way that medicalization fuels, rather than prevents, vocalization of anti-fat sentiment. Far from protecting fat people from stigma, the combined perception that fatness is a choice and the public's hyper-awareness that fat is bad for you, have combined to create an environment where anti-fat prejudice is common and socially acceptable. Unlike other stigmas and prejudices where the bearer might be reluctant to admit to holding stereotyping and biased beliefs, anti-fat attitudes are often freely shared. This is facilitated by the ability to assert that bias as concerns about health. This prejudice is acceptable because it is presented as well-intentioned. Fat activists refer to this practice as "concern trolling." Concern trolling is shaming or stigmatizing behavior from others which they defend as being acceptable because the stigmatizing individual is "only concerned about your health." Such behavior may be outwardly recognizable as hostile, such as the example the Marianne Kirby uses when she says, "I don't believe [anti-fat bias is] really [about] a concern for anybody else's health. I mean the people shouting stuff out of their car window if I am walking down the side of the street, they are not in it because they are concerned about my health"(Nightly Show). Alternatively concern trolling might be a more subtle kind of shaming, such as unasked for advice regarding food choices or rejection of Tess Holiday's

modeling career because she "glorifies obesity" and might encourage others toward ill health. Fat activists point out that what the "war on obesity" achieves is the perception that it is safe to hate fat (and thus fat people) because fat is bad for you. Further, a fat is bad for you, *we can hate your fatness for your own good.* The stigmatizing, shaming, and targeting of fat people is thus an acceptable practice because of their status as unhealthy. It is unsurprising then that even a movement whose shared goal is rejection of the patient role also expends a great deal of its social movement resources attempting to reshape the medical definition of "obesity." In this portion of the dissertation I will devote time to understanding the impact that the obesity epidemic theory/method package has had upon fat bodies. I will also examine the strategies that individual fat people, fat activists, and HAES activists use to try to reshape the available discourse about fat.

CHAPTER 5: FAT STIGMA, ANTI-FAT DISCRIMINATION, AND EQUAL PROTECTION

Fatness is a spoiled identity. In Erving Goffman's classic treatise on stigma he speaks of stigma as arising out of a gap between the expected attributes of a person (virtual social identity) and their actual attributes (actual social identity), "[t]he process by which the reaction of others spoils identity"(p.3) The individual in question possesses "an attribute that makes him different from others in the categories of persons available for him to be, and of less desirable kind—in the extreme, a person who is quite thoroughly bad, or dangerous, or weak. He is thus reduced in our minds from a whole and usual person to a tainted discounted one" (p. 3). Possession of excess adipose tissue has the effect of deeply discrediting the fat individual. Goffman would have categorized fatness as being an "abomination of the body," though due to its link to stereotypes about how fatness comes to be, it can also be understood as a "blemish of individual character." Those who are so afflicted will attempt to manage their social identity in response to the stigma. First, they may try to conceal or cover their stigmatized identity: they may hide their excess adipose tissue and if this is not possible, they may work to make the presence of this fat less salient in interactions. If the level of excess adipose tissue is minor they may even be able to "pass" as normal. Next, they many give in and attempt to change the stigmatizing attribute, in the case of adiposity they may attempt to lose weight by dieting or by getting bariatric surgery or through liposuction. Last, resigned to their spoiled social identity they may try to find sympathetic others and wise fellow travelers (in today's parlance, allies).

Over the last three decades the salience of fatness as a social identity has increased. Some negotiation around fat identity has become necessary in response to the pressure imposed by "obesity epidemic" rhetoric (see Chapter 1 for further discussion). Passing or covering as having a normative body size has become more difficult in an "obesity epidemic" era. Public health efforts have stressed a vigilant surveillance of bodies: one's own body and the bodies of others. Those who might have remained ignorant of their status as overweight or obese are now unlikely to remain so. Once identified with this spoiled identity, individuals must either embrace the patient role and seek to "treat" their medicalized state or embrace this identity and seek means of resistance. Goffman outlined a number of strategies to negotiate identity and resist group stigma. One such remedy is to "come out[75]" as fat and assert ones fatness as a political identity. This assertion of identity is what many of those who identify as members of the "Fat Acceptance[76]" movement have

[75]"Coming out as Fat" is a process of asserting positive identification with the label "fat" and the association with the affirmative group identity of "Fat." Assertion of this identity is not just the recognition that one's body is corpulent. It asserts that the corpulence is not transient. Fat bodies are often portrayed as bodies that are "becoming" something else, they are not depicted as stable. They are either becoming thin or becoming dead. To assert a fat identity rejects not only diet culture and the dream of becoming an "after photo," it also asserts one's fat as an integral part of identity This assertion might include a rejection of stereotypes around fatness and replacing those with a new identity (see discussion of "good fatty" identity) but this is not necessarily the case (see discussions of necropolitics in the fat acceptance community). Coming out as fat does, however, assert a positive identification with the tangible political goals linked to that assertion of identity and affiliation with the fat acceptance movement.

[76] A note about language: "fat acceptance" is the most commonly utilized name for fat activism, but it is not the only term. Some activists I spoke with do not like the term "fat acceptance" because they feel that "acceptance" is not a sufficient goal for the fat people, they offered terms like "fat liberation" or "fat power" as alternative names. As I will discuss in more detail in chapter 6, "fat activism" encompasses multiple, sometimes overlapping, communities of people with varied ideologies and goals. The unifying factor across these different groups is an assertion that fat individuals ought to be free to live their lives without stigma, shame, or unwanted intervention.

done; often individuals first attempt to conform to the patient role and after their attempts at remedy fail they are spurred toward politicization.

Bias, Stigma, and Discrimination in Society

Anti-fat attitudes[77] are common (Hilbert et al, 2008), increasing (Andreyeva, Puhl, & Brownell, 2008) and socially sanctioned (Flanagan, 1996). Higher weight individuals face discrimination in their personal and professional lives at rates on par with racial and age discrimination (Andreyeva, Puhl, & Brownell, 2008). In contrast to other minority group members who are more likely to have positive in-group beliefs, higher weight individuals are prone to internalization of the bias against them in society and are just as, or more likely, to hold anti-fat attitudes as not-fat individuals (Wang et al, 2004). Overall, the evidence is clear that "fatness" is a highly stigmatized identity and that "obesity" as a disease category does not alleviate this stigma and may even increase the stigma. The etiology of anti-fat attitudes is theorized as related to three factors: perception of choice, social consensus, and disgust directed at fat bodies.

Is fatness a choice?

Popular wisdom and medical knowledge both construct fatness as predominately the result of choice (see figure 1, Chapter 1). As discussed previously, while medical knowledge recognizes biomedical, ecological and social causal factors for obesity, these factors are still filtered through "lifestyle" making individual choices the nearest causal factor within the web of causation. Put simply, despite the existence of outside factors in the last instance

[77] "Anti-fat attitudes" is the common, catch-all term used in the psychology literature to refer to bias, stigma, shame, and prejudice directed at fat-bodied individuals.

Obesity is always conceptualized as the result of *choices* and as such is categorized as a personal responsibility. In scientific research on stigma, belief in personal responsibility for body size is a significant contributor to stigmatizing beliefs about fatness. Puhl and Brownell (2003) postulate that choice as a source of stigma is explained by the "attribution theory" of stigma:

> "Attribution theory suggests that people attempt to search for information that determines the causes of uncertain outcomes. When approaching a person with a stigmatized condition like obesity, people search for its cause and in turn form their reactions to the obese person. Stigmas therefore are representations of society's negative perceptions about particular groups. This knowledge is used to categorize information about social groups and to form impressions and expectations of individuals" (215).

Attribution theory interacts with the "just-world hypothesis," a belief that individuals get what they deserve and that their current circumstances reflect their worth and efforts. Commonly held American values like the Protestant Work Ethic, rugged individualism, and the American Dream all emphasize internal control, hard work, and self-discipline (Crandell & Martinez, 1996, [1166]) reinforcing this ideology. Stereotypes about fat people as weak willed, lazy, self-indulgent, and greedy contradict these values. Such values are not unique to the United States and are shared in many Western, industrialized cultures.

Experimental interventions which seek to mitigate stigma through the presentation of research that demonstrates fatness as outside personal control can sometimes reduce implicit and explicit bias (O'Brien et al, 2012) and other times do not (Lippa & Sanderson, 2012). Why might this be? One theory is that these interventions fail to change beliefs about obesity or the effectiveness of dieting (O'Brien et al, 2012). Interventions that attempted to demonstrate lack of choice around obesity had mixed impacts on weight-biased beliefs and

stigma; interventions that increased belief in the malleability of weight strongly increase weight-based bias and stigma. For instance research that manipulated exposure to "before and after" diet photos increased negative attitudes and endorsement of stereotypes about fat people (Geier, Schwartz, & Brownell, 2013). Societal understanding of obesity that reduces all other factors to choice are difficult to counter, contribute to stigma, and are endemic to the dominant medical model of obesity. This is similar to the persistence of beliefs about choice and poverty or choice and HIV/AIDS status.

Social Consensus

Puhl and Brownell (2003) describe the social consensus theory of stigma as "explain[ing] stigma from a social constructionist view and emphasiz[ing] the influence of perceived consensus on the expression and endorsement of bias; stigma is a function of how one perceives the stigmatizing beliefs of others" (paragraph 58). Under this theory the appearance of societal consensus that fatness is bad, worthy of censure, and the result of personal failings would contribute to the stigmatization of fatness. Research indicates that perceptions of how acceptable it is to feel negatively about a group correlated to stigmatization of the group (Crandall, Eshleman & O'Brien, 2002). If group attitudes were to change, then an individual's stigmatizing beliefs may also change. In an experimental manipulation Puhl, Schwartz, & Brownell (2005) found that "participants who received favorable consensus feedback reported more positive and fewer negative traits about obese people [one] week later. Thus, this study shows that expressed attitudes can be modified by providing consensus information about the beliefs of others" (p. 519-520) and that "favorable consensus feedback has more influence on reported attitudes when it comes from

an in-group versus an out-group source" (p. 520). Similarly, Zitek and Hebl (2007) studied college students' willingness to condone or condemn discriminatory statements about a variety of social groups, including "the obese" if a confederate first expressed the same belief. They found that the students were likely to conform to the opinion expressed by the confederate (positive or negative) and to maintain this position when retested one month later.

Studies which investigate the impact of media images and news reporting about fatness also support the importance of perceived social consensus regarding the acceptability of prejudice, bias, and stereotypes. These studies indicate that portrayals of "overweight" and "obese" individuals that conform to stereotypes about fatness and portray fat people as the butt of jokes, as unattractive, without romantic partners (Greenberg et al, 2003; Himes & Thompson, 2007). News media coverage is also more likely than not to utilize images of fat people that are negative (72%), while reporting on news related to fatness (Heuer, McClure, & Puhl, 2011, p. 976). Brochu et al (2014) found that the use of stigmatizing imagery increased endorsement of discriminatory weight-based medical policy whereas use of non-stigmatizing imagery were less likely to endorse discriminatory policies (p. 197). As media portrayals of fat people could be seen as consensus representation, negative portrayals might add to the perception that anti-fatness is an acceptable form of prejudice (Flanagan, 1996) and thus increase discrimination. Conversely, Pearl, Puhl, and Brownell (2012) found that positive media portrayals could help reduce weight stigma (p. 828).

Disgust

Emotional responses to fatness were also predictive of implicit and explicit anti-fat attitudes with disgust being theorized as a key emotion in producing and supporting anti-fat attitudes. LR Vartanian (2010) explored the relationship between perceived control over obesity and negative attitudes about fat people, including disgust. The results indicated that,

> "Disgust was the strongest predictor of negative attitudes toward obese people, and disgust fully mediated the association between perceptions of control and attitudes toward obese people. In addition, obese people were rated less favorably, and as more disgusting, than almost all social groups. Across all social groups, perceived control over group membership was positively correlated with disgust ratings, and disgust mediated the link between perceived control and favorability ratings" (p. 1302).

O'Brien et al (2012) similarly found associations between anti-fat prejudice, disgust, fear of fat, and body image disturbance. Strong negative emotive reactions to fatness may be a symptom of anti-fat prejudice or a cause thereof, and likely interact with both attribution and consensus to produce socially acceptable stigma.

The Impact of Anti-fat Attitudes

Fatness is correlated to lower socioeconomic status (Goldblatt, 1965; Galobardes, 2000). The cause of this correlation is a matter of debate (Sobal & Stunkard, 1989; Crandall & Schiffhauer, 1998) and may be multifactorial (Brewis, 2014). Fatness is more common in those who begin their lives at a lower socio-economic status, but fatness has also been documented to have a downwardly mobile effect (Sobal & Stunkard, 1989). Discriminatory practices towards fat people in the workplace and education may contribute to this trend. Similarly, difficulties in accessing adequate medical services might lead to increased disability, stigma, and higher economic burden for fat people. Fatness is similarly correlated

with other marginalized identities; African Americans, Native Americans/First Nations Peoples, lesbians, and women all have higher rates of "overweight" and "obesity." These various marginalized and stigmatized identities may well interact producing collider and/or compounding effects.

Workplace and Education Discrimination

Fat individuals face considerable disadvantages in the workplace. Fat people have few legal protections from weight-based discrimination, with only three jurisdictions providing formal legal protections for height and weight status[78]. Employers may not want to hire fat individuals due to their perceived lower health status, believed to contribute to higher health-related costs, lower productivity, and increased absenteeism (Paul & Townsend, 1995). According to a 2007 study by Roehling, Roehling, & Pichler,

> "using data from the National Survey of Midlife Development in the United States, a nationally representative sample of adults ages 25–74 years. One study (N = 2,838) found that overweight respondents were 12 times more likely, obese respondents were 37 times more likely, and severely obese respondents were 100 times more likely than normal-weight respondents to report employment discrimination. In addition, women were 16 times more likely to report weight-related employment discrimination than men" (as cited by Puhl and Heuer, 2009, p. 942).

It is evident that fat people believe that they are the subjects of discrimination; experimental and observational data supports this idea. Multiple longitudinal studies have identified a wage penalty associated with obesity (Baum & Ford, 2004; Cawley, 2004; Maranto & Stenoien, 2000; Brunello & D'Hombres, 2007) with obesity in women being more severely penalized than for men (Maranto, 2000). Experimental studies have revealed negative attitudes toward overweight and obese job applicants that impact hiring decisions (Roehling

[78] Michigan, San Francisco (CA), and Binghamptom (NY).

et al, 2008, Polinko, & Popovich, 2001; Klassen, Jasper, & Harris, 1993, Popvich et al, 1997). Overweight and obese job applicants were rated as having lower job related skills, competence, and leadership ability and were less likely to be offered a job (ibid). When candidates were employed, overweight and obese candidates were offered lower starting salaries, lower and fewer pay raises, and fewer promotion opportunities (Judge & Cable, 2010). The lack of legal protections from weight based discrimination leave employees little recourse for their experiences of discrimination: they can attempt to sue under the ADA[79] or seek social strategies to mitigate the impact of bias and discrimination[80], but direct legal protections are few and the legal cases often fail.

Discrimination in Education Settings

Educational opportunities may also be impacted by weight based discrimination. Bias and discrimination may originate from instructors and peers. Fat children face considerable prejudice from their peers who have been documented to show a preference for thin children at an early age (Latner & Stunkard, 2012). Even preschool aged children as young as 3-years-old have even been shown to have a marked preference for thin bodies and anti-fat prejudice (Count et al, 1986, Steinwert, 1998). Fat children and adolescents report weight-based bullying and socially isolating behaviors on the part of their peers (Puhl & Latner, 2007; Puhl & King, 2013). Fat individuals continue to face challenges in higher

[79] While "obesity" or "overweight" are not considered disabilities under the ADA and the American Medical Association explicitly indicates that while a disease, "obesity" should not be considered a disability, there is a way to use ADA to seek recourse for weight based discrimination. A fat person who has been denied a job based upon the perceived inability to perform the job can sue for "perceived disability," but must show that they could competently fulfill the duties of the job without accommodation and that denial of the job was based on a perception on the part of the employer that they were disabled.

education, with lower acceptance rates (Solovoy, 2000; Weiler & Helms, 1993) and greater difficulty paying for college (Crandall, 1991). Fat students also experience lower evaluations (Weiler & Helms, 1993). A very public example of anti-fat attitudes and their impact in higher education played out in 2013 when Professor Geoffrey Miller tweeted,

> "Dear obese PhD applicants: If you didn't have the willpower to stop eating carbs, you won't have the willpower to do a dissertation #truth" (NPR, 2013).

Miller's tweet set off considerable backlash, largely facilitated by quick and coordinated actions within the fat activist networks that I observed. Miller suffered no consequences at Columbia University, where he was a visiting professor.

Impacts on Health and Well-Being

I will devote the second half of this chapter to the specific and special consideration of anti-fat attitudes in the healthcare setting. However, I wish to first note that stigma in general is a highly researched social phenomenon and the effects of stigma upon health are well known. Whether it is the impact of lower status jobs from the Whitehall Study (Marmot, Kogevinas, & Elston, 1987) or the adverse effects of anti-black attitudes upon birth weight in African American babies (Collins et al, 2004), we know that stigma makes you sick. There is no reason to believe that the impact of weight-based stigma would be an exception. Anti-fat bias impacts the health of fat people through multiple mechanisms. First, the overall stress of living in a hostile world impacts the health of fat people. Stress and strain from experiencing prejudice is theorized to increase the allostatic load of stigmatized groups. This in turn impacts the overall function of the body, adversely impacting susceptibility to disease (Geary 2009) and increasing the prevalence of chronic illness in affected populations (Ibid). Some theorists have even gone so far as to call fatness

a "social determinant of health." Last, stigma and bias against fat people impacts their access to healthcare and the quality of care that they receive. I will elaborate on this last point for the remainder of this chapter.

Stigma and Barriers to Healthcare for Fat People

Fat people report some of their most consistent, severe, and impactful experiences of stigma and prejudice as occurring within the healthcare setting and coming from healthcare practitioners. This kind of stigma can be particularly damaging because the physician's office is often presumed to be a place of safety and because the consequences of bias and prejudice within this setting are so high. Experiences of "shaming" are reported both by fat activists and those who accept the dominant meaning of their fatness and strive to change their bodies. The concern is described by fat activist Ragen Chastain on her blog "Dances With Fat."

> "In order to truly have access to healthcare fat people must first be willing to go to our [healthcare provider] – if that [healthcare provider] is a doctor then we have to be able to go in knowing that there is a more than 50% chance that the person we are coming to for health care will think that we are 'awkward, unattractive, ugly, and unlikely to comply with treatment', and an almost 25% chance that the nurse we see will be 'repulsed' by us. Even if they are not part of that group, there's a good chance that no matter what we go in for, we are getting a lecture about our weight. … If we can get over that, we have to find a doctor who won't let his/her personal weight bias get in the way of actually treating us for what is medically wrong. … I wonder how many of the incidences of major health problems in obese people are due to the fact that going to the doctor is such a stressful, humiliating, and ultimately useless experience for us that we don't go until our minor medical problem has become something major? How many people miss out on early diagnosis and early cure of issues because they couldn't bear to be humiliated and lectured at their annual physical, or they don't get a proper examination because the doctor is convinced that weight loss is some sort of snake oil cure-all. How many people don't go get follow up x-rays because they just can't bare [sic] to put themselves through the process of being naked in front

> of someone who is repulsed by them. How many people gave up on doctors because no matter how healthy our habits were, we were called liars if we claimed to be anything other than sedentary over-eaters" (January 20, 2011[81]).

Chastain points out that health is about more than personal choices and lifestyle. Healthcare is at least in part a matter of *access* and this is what activists are fighting for.

Bias and Stigma in Healthcare Providers

Bias on the part of medical providers and barriers to adequate, non-shaming healthcare is one of the most commonly discussed problems in online HAES and Fat Acceptance spaces[82]. Thus, the quest to find a "fat friendly physician" (see social movements chapter). How much of an issue is anti-fat bias in healthcare? A 2001 study by Teachman et al found that implicit anti-fat bias was found for both attitude and stereotype measures even in healthcare providers who specialize in obesity care. Bias was less for this provider group than for the general public, but still substantial. A 2003 study by Schwartz et al had similar findings indicating that

> "health professionals exhibited a significant pro-thin, anti-fat implicit bias on the [Implicit Associations Test]. In addition, the subjects significantly endorsed the implicit stereotypes of lazy, stupid and worthless using the [Implicit Associations Test]" (abstract).

A 2006 review of studies about the attitudes of nurses examined 11 studies (eight quantitative and three qualitative) and demonstrated a consistent finding of anti-fat attitudes in a substantial sub-population of nurses. Of those evaluated, qualitative reviews found

[81] https://danceswithfat.wordpress.com/2011/01/20/fat-chance-for-healthcare-access/
[82] Interestingly discussions of fat-shaming and stigma at the physician's office can be found in any space where higher-weight people congregate, irrespective of their orientation to the fat acceptance or body positive movement. Even individuals who self-stigmatize and seek drastic measures to change their weight, and who presumably occupy the "obese patient role" willingly face stigma and shame from practitioners.

nurses to be ambivalent about working with fat patients and demonstrated negative attitudes about fat patients, including their perceived weakness of will, presumed non-compliance with medical orders, a sense of disgust about fat bodies, and negative feelings stemming from the "unhealthy" nature of obesity (Brown, P. 224). The quantitative studies support these conclusions indicating that,

> "[o]verall, then, the studies consistently suggest that a range of negative attitudes and beliefs relating to obese patients can be found among a proportion nurses. Clearly, some nurses have a perception of physical and social unattractiveness of patients who are obese, even to the extent of feeling repulsed. Some perceive obese patients to be emotionally and physically demanding. A number of negative factors are attributed to the psychological make-up and personality of obese patients – laziness, self-indulgence among others. It is also evident that nurses have beliefs about the cause and prevention of obesity that lead them to the view that patients have control over the condition, but are not motivated to change" (p. 229).

Like nurses, medical students have been shown to have significant implicit and explicit anti-fat attitudes. A 2014 study found that 74% of surveyed medical students exhibited implicit bias and 67% exhibited explicit weight bias (p. 1201). International studies on anti-fat attitudes are not as abundant, but a study of German medical students also found that nearly all (98.9%) held negative attitudes toward the overweight patient in the experimental intervention (Patenburg, 2012). Schwartz et al (2003) also found that anti-fat bias is inversely associated with a person's body weight, and is persistent irrespective of their status as a healthcare professional or a lay-person (Schwartz 2003; Schwartz, 2006), meaning the higher the weight of the individual the less likely they are to endorse implicit stereotypes about fatness. Further, healthcare professionals with obese friends *and* an understanding of the experience of obesity had lower implicit bias (Schwartz, 2003). This indicates that like many other prejudices exposure to the group reduces stigma.

Negative attitudes alone are not necessarily enough to impact patient care, however other studies have indicated that healthcare providers not only hold anti-fat attitudes but also act on these attitudes. A 2017 systematic review found that implicit racial, gender, and weight biases were consistently found in healthcare providers[83] and that when they were found, they adversely effected patient care including physician attitude, diagnoses, and treatment decisions (FitzGerald et al). A 2015 narrative review by Phelan et al found that "[t]here is considerable evidence that [anti-fat] attitudes influence person-perceptions, judgment, interpersonal behavior and decision-making. These attitudes may impact the care they provide" (p. 319). Physicians have been found to spend less time with fat patients (Hebl & Xu, 2001). These changes negatively impact patient healthcare, experiences, and overall health status. As noted in a 2011 review,

> "[o]besity stigmatizes patients in a way that reduces their status and leads to feelings of powerlessness. This in turn creates inequity and discrimination, with patients perceiving that they are treated unfavourably, with health professionals actively denying patients care, or less likely to suggest care options to obese patients. Therefore, obese patients may have less choices and opportunities to access health-care resources, compounding their already compromised health status" (Mold & Forbes, p. 140).

These studies support the narrative from fat patients that I observed in my field research, reporting significant incidents of bias, stigma, and prejudice while seeking medical care. These experiences create a barrier to care, which I will discuss in greater detail later in this chapter. As the Phelan et al study notes, "Experiences of or expectations for poor treatment may cause stress and avoidance of care, mistrust of doctors and poor adherence

[83] An unsurprising result as these are attitudes are found commonly in the public; one would imagine that healthcare professionals are subject to the same biases as others. My highlighting of healthcare professional biases is not meant to target them but to demonstrate that they are not immune from such concerns.

among patients with obesity. Stigma can reduce the quality of care for patients with obesity despite the best intentions of healthcare providers to provide high-quality care" (p. 319). This reduction in quality of care and experience of poor treatment is a primary motivating factor reported to me for social movement involvement by activists within the HAES movement and the Fat Acceptance movement.

Structural Barriers to Care

The existence of BMI based categories has material consequences for those in all weight categories. For those who are categorized as "underweight" or "normal" weight there may be a presumption on the part of the patient or the physician that they are not at risk for obesity or lifestyle related illnesses. This may lead to a lax attitude about health enhancing lifestyle, preventative screening and testing, or reluctance to begin treatment for obesity related diseases. For overweight or obese individuals, even if visually they could "pass" as being part of the unblemished class, their spoiled identity has consequences for discrimination by both physicians and the healthcare system. Those who have been deemed to have "too high" of a BMI have found that they do not qualify for medical insurance on the individual market or that they are required to pay higher premiums or have certain services unavailable to them. Even when individuals are able to qualify for group insurance plans they can be subjected to requirements set out in Workplace Wellness plans[84]. These plans often require that obese patients are identified, undergo some type of extra counseling and often must engage in some sort of structured weight loss attempt. These plans create a structural barrier to care for fat patients and force patients to endure advice sessions that are

often ill-informed, highly stigmatizing, and not evidence based[85]. The UK has similar programs and has recently proposed that those who undergo such treatment and fail to meet the standard of a 5% weight-loss be denied non-emergent surgery.

Anti-Stigma Efforts

The impacts of anti-fat bias are increasingly being documented within medical and social sciences literature. As such, efforts to end stigma against higher weight individuals have also increased. Yale's *Rudd Center for Food Policy and Obesity* functions from the traditional weight-dependent paradigm and has identified weight-based stigma, bias, and prejudice as a significant barrier to treatment and weight-loss success. They have produced many studies demonstrating the prevalence of anti-fat bias and weight stigma. They offer a number of resources to the lay-public and to physicians, including humanizing and positive photos to accompany media reports on obesity and education courses for healthcare professionals. Rebecca Puhl describes the center's work to a HAES audience in the following quote:

> "[W]e've spent considerable time at the Rudd Center developing evidence-informed resources that we can quickly and easily disseminate to different groups to help reduce weight bias. We've created an image gallery containing hundreds of positive, non-stigmatizing images of adults and children to replace the "headless stomachs" and other denigrating images that so often appear in media reports. We've created policy briefs and resources about weight bias for policy makers who are interested in legislation to address weight discrimination. We've created toolkits, courses, and educational

[85] Not only are these plans not evidence based in the sense that there is not a viable path to permanent weight loss to offer patients, there is also a lack of evidence that the plans do anything to improve health or cut costs for employers.

> videos for health providers to increase their awareness of weight bias in the health care setting." (Interview on the ASDAH blog[86])

While The Rudd Center is committed to reducing weight stigma, they still define higher BMI as a problem to be solved and one motivation is the data they have produced showing that experience of stigma increases BMI. (Puhl, 2013 presentation; Jackson, Beeken, & Wardle, 2014). The Rudd Center favors an environmental explanation of obesity prevalence. They seek policy changes to reduce "obesogenic" environments including reduction of stigma. One effort to combat weight bias is the use of unconscious bias training. This training was part of the HAES certification that I attended as part of my field research. Increasingly, unconscious bias training is part of medical school curriculums. Acknowledgement of bias is at the structural level, rather than interpersonal level. As discussed in the previous chapter and in the HAES chapter, bias at the structural level impacts the *generation of knowledge about obesity*.

While some researchers and public health officials acknowledge the deleterious impacts of stigma to public health efforts and the humanity of fat people others favor the use of stigma and shaming as a means to encourage weight loss. Daniel Callahan, co-director of the Yale-Hastings Program in Ethics and Health Policy (at the same institution as the Rudd Center) has been quoted as saying that we ought to fight obesity with "the force of being shamed and beat upon socially[87]." Many other researchers warn of the dangers of "normalizing" obesity and are critical of efforts to improve the lives of fat people and of

[86]https://healthateverysizeblog.org/2013/07/30/building-bridges-interview-with-rebecca-puhl-part-1 accessed, May 28th, 2018

[87]http://www.slate.com/articles/health_and_science/medical_examiner/2015/09/fat_shaming_does_not_work_poverty_is_worse_for_health_than_obesity.html

social movements like HAES and Fat Acceptance that encourage higher self-esteem in fat people.

Ethnographic Analysis of Individual Barriers to Care

There is a cartoon that is posted repeatedly within both HAES and fat activist circles (see figure 7). In it a noticeably plump woman stands with what appears to be a very large piece of wood protruding from her abdomen. She is declaring "Doctor! I've been impaled!" in front of her a surly looking man with a clip board and white coat replies "Well, maybe

Figure 7: "Things that need to stop" artwork by "Stephen" @Bogswallop. Cartoon of woman impaled by a log and refused medical services, shared in multiple HAES and Fat Acceptance Facebook groups.

you'll feel better if you lose some weight." This cartoon resonates with the community because it captures the frustration fat people often experience in seeking medical care. Irrespective of the condition with which they present they are prescribed weight loss. This experience is quite common, verging upon universal and frequently documented within fat

activism[88]. This experience can range from the awkward and frustrating to deeply dangerous and harmful, depending upon the condition that is being dismissed in favor of a discussion of weight loss.

In my observation of fat activist and HAES spaces there were a number of doctor related scenarios that were commonly discussed in addition to refusal of care; prescribing weight-loss or surgery as gatekeeping, over-prescription or over-monitoring of fat bodies, and shaming. Each of these scenarios involve a patient seeking care, either acute or routine, and finding that their fat identity created interference in obtaining the kind of care that they sought. In these instances fat individuals are actively seeking medical advice or intervention, they are attempting to care for their health and they have found that physician attitudes about fatness and the assumptions built into Obesity get in the way of their care.

Refusal of Care

There are three ways that physicians deny care to fat patients: prescribing weight loss in the place of other treatment (treating the weight first), postponing care until a weight goal is met, and "firing" fat patients for non-compliance with weight loss recommendations. The first scenario is the one exemplified in the above cartoon: a fat patient goes into the doctor for something acute and is met with advice to lose weight. The acute malady may or may not be correlated with high BMI in the medical literature. In these instances the acute

[88] The blog "First, Do No Harm" documents such experiences through reader submitted narratives. https://fathealth.wordpress.com/ and https://www.facebook.com/First-Do-No-Harm-170369163044894/

symptoms are either attributed to fatness[89] or the presenting symptoms are not addressed at all because the physician has taken up the appointment time with an "intervention" about the patient's weight. The patient leaves with pamphlets on diets, exercise or weight loss surgery but without addressing the original complaint. An example of this kind of experience was shared online:

> "I have had persistent knee problems following a car accident in my early 20s. I was having a significant amount of pain at one point and my primary care physician referred me to an orthopedist for help. I went to see him and he didn't even physically examine my knee. He didn't even open my file. He told me that he would not treat me until I lost weight. I asked him what he would do if I were not obese, because I was working on the weight issue but my knee pain was making it hard for me to exercise. He said, and this is a direct quote, 'I could offer cortisone shots but your knees are just going to get worse and worse until you lose the weight so literally anything I could do for your knee would just be a Band-Aid.' I paid hundreds out of pocket for this consultation, and the only thing I got from it was a recommendation to stretch more often and take Tylenol" (2017).

This respondent's experience is exemplary of the many stories I was told about physician refusal of care. The physician engages more significantly with concerns around weight than the presenting problem. The physician refuses to consider other kinds of care until or unless BMI is lowered. The presenting problem is attributed entirely to the patient's weight despite the concession that people with lower BMI suffer from the same condition. The tactic that the fat patient utilizes to try to access care in this post (How would you treat this in a thin patient?) is a commonly recommended tactic in Fat Acceptance spaces.

The second type of denial of care results from physicians executing the imperative to "treat the weight first" as recommended by the "Endocrine Society Clinical Practice

[89] Such as the case where a fat patient presented with upper-respiratory symptoms and was told that she was short of breath due to her fat weighing on her lungs and being "out of shape," only to be diagnosed with bronchitis in the emergency room a few days later.

Guidelines For Treating Obesity and Obesity-Related Comorbidities." This Endocrine Society recommendation makes formal a common clinical practice. Physicians are encouraged to engage in motivational interviewing and prescription of weight management drugs or surgical interventions in order to induce a 3-5% weight loss as a treatment for high-BMI correlated illnesses prior to trying other interventions. For the patient, the result is a consultation that recommends weight loss dieting, exercise, drug use and/or surgery and refusal of care until a trial of weight loss is completed.

> "I didn't know where else to put this. Basically, my psychologist thinks I'm in bad enough shape to go to a psychiatrist to get medication. The new psychiatrist, instead of giving me a solid diagnosis and giving me medication (the whole reason I went), said (among other things)
> 1) he probably couldn't take me on as a client because I am "too difficult"
> 2) he said even if he did, he will not see me again until I go to 6 meetings of OA (over-eaters anonymous)."(Dorothy, seeking advice in a HAES space).

For the patient, if they do not wish to lose weight, or like the majority of dieters they are unsuccessful at weight loss, the recommendation places a barrier to accessing care. Fat activists report being told to "come back when you have lost 50[90] pounds." Fearing the reaction of the physician or interpreting this as a refusal to give care until the goal is met, many patients do not return at all or only when acutely necessary. This is a phenomenon that is also verified and documented within the medical literature (Amy et al, 2006; Aramburu Alegria Drury & Louis, 2005). Like the previous example weight loss has been substituted for care, however in this case further care is an option if the patient meets the designated goals. One of my respondents related the following story that illustrates how damaging this kind of experience can be:

[90] The amount of weight lost varies but this is a repeated narrative within the community.

> "In 1998, after suffering from increasingly severe pelvic pain, I went to a new primary care doctor. At the time, my Ob/Gyn had moved out of the area and I hadn't had a regular PCP for some time. I figured it would be better to get established with a PCP and obtain a referral, if needed. In addition to the pelvic pain, my menstrual cycle was irregular and the flow extremely heavy. I was weighed and my height measured and the nurse took my vitals. … The doctor came in and introduced herself. She reviewed my chart and asked me to describe the pain. She did minimal manual palpation of my abdomen and upper pelvic region. She explained that my weight was a problem and that I would need to lose weight before any further diagnostics could be done. She closed the visit by offering to 'write me a prescription for walking' if that would encourage me to actually do it. She denied my request for a referral to an Ob/Gyn. I left her office in tears, humiliated and feeling defeated. It took many years before I felt confident enough to find another PCP. I never returned to her office and went a number of years without seeking medical care at all. I did eventually find a new PCP who referred me to an endocrinologist that specialized in female reproductive issues. Blood tests confirmed her suspicious of PCOS and a CT scan revealed a mass on my right ovary. The resulting surgery removed an 8cm teratoma which had grown large enough to envelop my right ovary and fallopian tube, both of which had to be removed along with the mass" (Activist Respondent 013, online communication).

This respondent's experience of being denied care resulted in shame and embarrassment that became an obstacle to seeking care elsewhere. The respondent also ignored the symptoms she had been experiencing because she had been told they could not be dealt with until she lost weight. Her pursuit of weight loss failed and so she did not return to the doctor. It is possible that with prompt treatment her ovary and fallopian tube could have been saved.

Last, fat activists report that if they refuse to consider weight loss, refuse certain treatments, or in some cases simply fail at dieting they are dropped from their primary care or gynecological practice. There are incentives around care-goals from insurance that might encourage these practices on the part of physicians. This is a claim that is verified by other sources. A survey of Florida gynecologists in 2011 made national news when it revealed that 15 of the 105 offices surveyed refused new patients in the "overweight" or "obese" range.

Some offices set the standard cut off as low as 200 pounds (LaMendola, 2011)[91]. A 2013 article published in *International Journal of Health Policy and Management* noted an international trend in refusing to take on new patients over a certain weight or denying care until weight loss is achieved, the author termed this "an extreme 'personal responsibility for health' policy"(p. 108). Lest we believe that such policies are universally opposed, a published response to the article stipulates that "making health behavior[sic] a condition to accessing healthcare can serve to develop commitment to lifestyle changes, make the health intervention more successful, help appreciate the value of the resources being spent, and help reflect on the possible risks of the intervention" (Venkatapuram, 2013, p. 235).

Weight Loss as Gate Keeping

Patients are reliant upon their primary care physicians to access multiple kinds of care. Given the bureaucratic structure of medical care, both in private insurer structures (like the United States) and public healthcare structures (like Canada, the UK, and Australia), patients must go through one or more physicians in order to access services like prescription drugs, physical therapy, and surgical referrals. Prescribed trials-of-weight-loss create a barrier to care for fat patients. Whether this barrier is implicit (as a result of mistreatment, shaming, or misinterpretation of intent by fat patients) or explicit (such as refusal to write a prescription or referral until a fat patient has agreed to go on a diet, take a weight loss drug, or sit for a bariatric surgery consultation) the physician acts as a gatekeeper restricting access to care that is more readily available to thinner patients. Overt refusal to refer to care is less common than implicit refusal, but it does occur. As previously mentioned, the NHS

[91] http://articles.sun-sentinel.com/2011-05-16/health/fl-hk-no-obesity-doc-20110516_1_gyn-ob-gyn-obese-patients

has introduced progressively more restrictive and severe policies designed to force patients to lose weight or quit smoking. These have included plans to delay "non-urgent" surgeries, or suspend access to surgery indefinitely, until a patient quits smoking or loses weight (Donnelly, 2017[92])[93]. This is a practice that formalizes weight loss as a gatekeeper to care. It is also a method of rationing care in an underfunded system. The 2017 decision came under fire from the Royal College of Surgeons as a discriminatory practice likely to harm patient health and cost more money, however the practice is widespread and not new. While such practices are not formalized within the institutional structure in the United States, denial of surgery is a common complaint shared within Fat Activist and HAES spaces (see discussion of surgery in HAES chapter).

Surgery is not the only service patients report being denied access to. My community observation included cases of denial of medication refills or initial prescriptions for birth control pills, migraine medication, blood pressure and diabetes medication. Fertility treatments are also routinely denied until patients have achieved a 10% or greater weight loss. Other activists have reported being denied referrals to physical therapy for a

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[92] https://www.telegraph.co.uk/news/2017/10/17/nhs-provokes-fury-indefinite-surgery-ban-smokers-obese/

[93] These policies are implemented by regional Clinical Commissioning Groups (CCG). They require that "[p]atients with a Body Mass Index (BMI) of over 40 will not be referred for routine surgery unless they are able to reduce it to under that number over a nine-month period. Alternatively they will be required to shed 15 per cent of their weight … Whichever achieves the greater weight loss will then allow them to be considered for surgery. Patients with a BMI over 30 but under 40 will also be required to reduce that figure to under 30 or lose 10 per cent of their weight before they are considered for surgery" (Bulman, 2017). https://www.independent.co.uk/news/uk/home-news/nhs-obese-patients-non-urgent-surgery-lose-weight-healthcare-treatment-reaction-a8006896.html

variety of aches, pains and injuries being told that if they lose weight they will no longer have such problems. Such practices place fat patients in a bind, particularly if they have previously attempted and failed at dieting or if they are in recovery from an eating disorder. The fat patients must either work around the physician or institutional barriers or comply with treatment recommendation against their will. This has ethical implications.

Over-Monitoring and Over-prescribing

Fat patients do not just report difficulty accessing adequate medical care, paradoxically they also report excessive monitoring and intervention for obesity associated illnesses. During my observation period I saw reports online and heard in-person from many fat activists who discussed being tested and retested for diabetes, hypothyroidism, high blood pressure, and lipids. While monitoring such health indicators is recommended, and more frequent monitoring of obese patients is indicated, these reports far exceed the recommended frequency. In my field research at Fat Activist gatherings, I overheard conversations where one activist would share about a physician checking their blood sugar three or four times a year despite the HbA1c value being in the "lowered risk of diabetes" range. I would then overhear the majority of the group share similar stories of excessive testing of thyroid, lipid, and glucose levels. These interactions often had a domino effect, spurring stories of the difficulties that fat activists faced when they had to act as patients. These included troubles in getting an accurate blood pressure reading while at the doctor's office and the disbelief, dismissal or repetition of the measure on the part of medical staff if BP returned in the normal range. I saw these same concerns mirrored in the kinds of

questions presented for help and analysis within activist/HAES combined spaces. The quote below are representative of such stories:

> "I went to a gynecologist after about 6 months of trying to get pregnant and all she would say was that I wasn't getting pregnant because of my weight and I needed to get tested for diabetes, even though I had been tested just a couple weeks earlier at my primary doctor (and I told the doctor that). She did an endometrial biopsy (checking for endometriosis) then told me again it was my weight and to get checked for diabetes. She didn't discuss PCOS with me, etc. do an ultrasound, no discussion of PCOS or ovulation or tracking my cycle etc., she didn't do a pap smear or any of the regular stuff a gynecologist does at your yearly appointment. And of course it turns out I have PCOS. I take medication now, but my A1C stays perfect. I'm not diabetic and that wasn't the answer" (respondent 004, online communication).

Over-testing due to unnecessary repetition of tests is a problem for all areas of medicine, but there is collective concern about this practice within the Fat Acceptance and HAES community. Such testing is believed to lead to surveillance bias, contribute to the statistics indicating that obesity costs the health system more money, and can potentially introduce harm and over-diagnosis for fat patients. Additionally, fat activists reported feeling that this was an indication that their physicians did not have faith in the ability of the fat patient to be healthy. This in turn eroded trust in healthcare practitioners. The impression one gets from these accounts is that of the immense burden fat patients experience from constantly advocating for appropriate care. This can be seen in the following quotes about blood pressure readings:

> "It's just not the first time this kind of thing has happened to me. I've had nurses tell me my BP is high BEFORE putting a cuff on me, and then re-taking it when the reading is pretty normal, because they are convinced it was incorrect" (L, online forum, 2018).

> "I informed him [the doctor] that the nurse had taken my weight, pulse and temperature but hadn't touched me or taken my BP. 'It's not a problem,' I said, 'but I'm a little confused about how I got diagnosed with 'pre-hypertension' without getting my BP taken.' He got a little angry (not at me) and told me to wait. I heard him chewing out a nurse outside of the little curtained room.
>
> She came back in, and struggled to take my BP with an Adult Large cuff that kept un-velcroing [sic] itself. I asked her if she had a thigh cuff, it tended to work better on me. (I have big arms, and I usually bring my own cuff, but forgot it this time.) She looked confused and said, 'Yeah, we have one, I've just never used it. We can take it on your thigh.' I said, NO, put the thigh cuff around my arm since the others are too small. It finally clicked and she went to get it. Good lord. She got a BP reading, and it was 122/80. I looked at the form and asked her where she got the numbers she entered into the computer. She said, 'Oh, those were old numbers from your file, I was going to come back in and take your BP.' AFTER the doctor has prescribed medications and discharged me?! Okie dokie. Also, the last time I had been to this clinic was almost ONE YEAR AGO" (R, online forum, 2017).

Fat activists often discuss the challenges they experienced in trying to get an accurate and reliable blood pressure reading when seeking medical care. In addition to procedural complaints (feet not on floor, unsupported arm, lack of a back rest, not resting at the time of test) there were material challenges to gaining adequate care. Many times physician offices did not have an adequate sized cuff or if they did, the nurse or physician was unable or unwilling to use it. Instead readings would be taken with an improperly small cuff or taken on the forearm, which is not the standard of care and does not have accuracy measures (Maxwell et al, 1982; Jones et al, 2003; Pierin et al, 2004).

Legal Rights

Given the extensive nature of anti-fat bias and discrimination it is unsurprising one of the goals listed by my respondents was the passage of anti-discrimination legislation. Not only do fat people face discrimination in the settings described above, they also face unequal protections under the law. As of the writing of this dissertation no federal laws specifically

ban discrimination on the basis of height and weight. One state (Michigan) and six cities (San Francisco, CA[94]; Santa Cruz, CA; Washington D.C.; Binghamton, NY; Urbana, IL; Madison, WI) have laws that prohibit discrimination based on "height and weight," "physical characteristics," or "personal appearance"(NAAFA). For all other areas of the country case-law is decided based upon arguments which position anti-fat discrimination as a violation of disability rights legislation or sex discrimination laws leaving fat people little recourse when they are faced with discrimination. Further, fat people are less likely to be selected for jury duty, more likely to be the subject of "peremptory objection" in jury selections, and both fat victims and fat defendants have been found to evoke less sympathy from juries and perceived to be more guilty and less believable (O'Grady 2011; Beety, 2013). In liability case-law, fat complainants have been found partially or wholly responsible for their injuries, even when the defendant admits neglect, if they have failed to make efforts to lose weight in the aid of the recovery[95] (Lowe, 1992). Parents of fat children

[94] San Francisco is one of the few cities with height/weight protections that were specifically enacted to protect fat people. According to Solvay, "When 24 Hour Fitness, a health club chain, put up a billboard in San Francisco that featured a space alien and the caption, "When they come, they'll eat the fat ones first," activists rallied in full force. Holding "Eat Me!" signs, protesters garnered international coverage. The public backlash resulted in the adoption of a citywide law outlawing discrimination on the basis of weight"(Fryer and Kirby, 2005).

[95] In Tanberg v. Ackerman Investment Company, Bruce Tanberg was a guest at a motel, he slipped and fell getting out of a tub. The Jury found Ackerman Investment Company to be negligent and therefore liable, but they also found that Tanberg was also liable as he had failed to lose weight after the fall as suggested by his physician to help mitigate the pain. The physicians that testified stated that they could not guarantee that weight loss would improve the injury, or even that it would probably improve the injury. None-the-less the jury found Tanberg 70% liable for his condition. Under Iowa law, if the plaintiff is found more than 50% liable for an accident then they get nothing. In other cases plaintiffs have had to demonstrate a willingness to go to extreme measures to try to lose weight (willingness to undergo bariatric surgery) in order to avoid a judgement of "failure to mitigate damages).

face the threat of losing custody or CPS interventions (Solvay, 2000; Arani, 2002) and fat individuals can be rejected as adoptive parents (Collier,2008: 48). Fat individuals are also legally allowed to be charged more for service such as airline tickets (Mylrea, 2009)[96] and health insurance(Sizemore, 2011).[97] "Lifesyle" discrimination is also on the rise with employers controlling what employees can do in their off time if it impacts their healthcare costs (ACLU). Additionally, legislation is increasingly enacted that specifically targets elimination of obesity, leaving obese citizens vulnerable (Mayer, 2004).

In the United States, there is case-law regarding anti-fat discrimination in a variety of settings. The case-law outcomes are varied, one legal author refered to the legal treatment of anti-fat discrimination by the courts as "incomplete and indifferent"(Howard, 1995) another called it "arbitraty and capricious"(Theran, 2001). The first substantive anti-fat discrimination court case was in 1985 in a New York Court of Appeals ruled that Catherine McDermott, a computer programmer, was denied employment at Xerox corporation due to her status as "obese." In *State Division of Human Rights on Complaint of Catherine McDermott v. Xerox Corp* McDermott's lawyers argued that denying her employment based upon a medical diagnosis (obesity) was a violation of disability law (Sokkar Harker, 2015:305). In 1993, a federal court similarly ruled that Bonnie Cook was unjustly denied employment at a Road Island residential care facility due to her status as "morbidly obese." In *Cook v. State of R.I., Dep't of Mental Health, Retardation, and Hospitals* Cook had worked for the hospital two times previously at similar weights and left in good standing.

[96] Canada has created legislation to prevent this practice (Williams, 2009).

[97] These charges come in the form of employer wellness programs

Upon reapplying for the same position in 1988 she had undergone a physical exam conducted by a nurse and been found to be morbidly obese, but the nurse noted that Cook was capable of performing the tasks related to her job. The hospital chose not to rehire Cook and cited the potential of her weight to cause problems as the reason. The hospital had *perceived* Cook's weight to be an impairment to her work, when it was not, and so it was decided that her case was covered by the Rehabilitation act of 1973 (Taussig, 1993; Burccoli, 1993). The court reasoned that "the language 'regarded as having such an impairment' extended the reach of the Rehabilitation Act to individuals with some kind of visible physical condition which either does not substantially limit their functioning, or limits their functioning only because of the negative reactions of others to their condition"(Taussig, 1994: 950). The court rejected the idea of obesity itself as a disability unless it was caused by some underlying medical condition. Also in 1993 the California Supreme Court ruled against Tony Cassista in her case against grocery company "community foods" but found that obesity could be a protected disability if it resulted from an underlying physiological condition. As Cassista argued that she did not have an underlying condition, nor experience her weight as disabling, the courts ruled against her (Dunsworth, 1994). Most recently, in *McDuffy v. Interstate Distributor Co* (2005) the plaintiff was awarded $109,000 in a jury trial. John McDuffy was a truck driver who had been working for Interstate Distributor Co for over a year when he was reassigned to a smaller truck with a steering wheel which could not be adjusted as the mechanism was broken. He reported the issue and was reassigned to a larger truck but then asked to undergo a physical before returning to work. The physical found McDuffy to have some impairments but that he was capable of doing his job, he was not allowed to return to work.

He sued. His defense included a video of McDuffy doing his job. The Jury found in his favor (Seattle Times Staff, 2005).

The ADA does not specify obesity or morbid obesity as a disability and applicability of ADA protections to anti-fat discrimination cases occur in an ad-hoc, case-by-case basis. Prior to the legislative expansion of the ADA in 2008 discrimination cases have a high failure rate to begin with (over 90%) and ADA provisions are very narrowly applied (Kramer and Mayerson, 1994; Lanctot, 1997;Forman, 2012). The new 2008 legislation clarified the meaning of disability and impairment and also included provisions for protection if one was perceived to be disabled, even if you are not. The provisions around "perceived disability" have allowed obese complainants to claim disability protections while also maintaining claims to able bodied status. This allows a complainant to charge that they are capable of doing the job at hand, but also protected by disability laws. Much of the case-law around obesity as a disability rests upon two factors: the perceived voluntarity of obesity and perceptions by employers of the obese as an impairment. In determining whether or not obesity qualifies as a disability, one re-occurring question is whether or not obesity is a voluntary and mutable characteristic? If obesity is voluntary and mutable then it does not qualify for legal protections as individuals could choose to leave this class of people. Further, some courts have chosen to interpret the ADA as only covering obesity if it is caused by some other underlying medical condition.

Multiple legal scholars have written about the possible paths to legal protections from discrimination for fat people. Some have argued that fat people do not deserve such protections, arguing that fat people have higher absenteeism, increase health insurance costs,

and that protections for fat people discourage appropriate lifestyle choices these scholar also argue that fatness is a voluntary condition (Vallor, 2013; Browne et al, 2010; Puliver, 2008). Other legal scholars argue that obesity ought to be covered under disability law (Liu, 2008; Kozel, 2008; Henry, 2007; Frisk, 1996) or sex/gender discrimination law (Sablowsky, 2006). Most authors who have analyzed the available legal claims to discrimination protections for fat people conclude that the current laws are not sufficient to protect fat people, they argue that legislation is necessary which would explicitly protect overweight and obese individuals from discriminatory practices (Hartnett, 1993; Taussig, 1994; McDermott, 1995; Lynch, 1996; Jone, 1996; Buxton, 2003; Henry, 2007; Solovay and Vade, 2009; Morris, 2010; Ware, 2013).

Legislative protections against discrimination would be one way to further judicial coverage of fatness in antidiscrimination law. Achieve this goal face significant challenges. Focusing upon the United States, such protections would mean the inclusion of body size as a protected class at the state and/or federal level. Legal protections against discrimination have the immense positive potential for fat activism: they would lend legitimacy to the concerns of fat activists, they would aid in reframing anti-fat prejudice and discrimination as not socially acceptable and they would give fat people a potential pathway of recourse when confronted with discrimination and prejudice. Anna Kirkland has written extensively on right's consciousness in the fat activist movement as well as the underpinning logics that constitute antidiscrimination law. She is the Arthur F. Thurnau Professor of Women's Studies; Director of the Institute for Research on Women and Gender; and Director of the Science, Technology, and Society Program at the University of Michigan. Dr. Kirkland

holds both a J.D. and Ph.D. (Jurisprudence and Social Policy, UC-Berkeley). Kirkland argues that access to antidiscrimination protections in the U.S. legal system comes down to the ways that a groups' claim to protections interacts with different logics of personhood: functional individualism, embedded personhood, blame-shifting, diversity, actuarial personhood, and managerial individualism (2008a). Kirkland also points out how the two primary pathways to rights protections (civil rights and disability rights) present problems for fat activists (Kirkland, 2003; Kirkland, 2008b).

In order to access legal rights protections, fat people must convince others (institutional authorities and the public) that they are worthy of those rights protections. This is the paradoxical relationship between rights protections and social movements, such protections lend credibility to a movement but social change that favors such changes often must precede the establishment of such laws. Further in the United States, in order to access civil rights protections, fat people must fit their claim into the existing legal framework. Civil rights protections speak to the particular understandings of civil obligation and fairness that are a marked part of American culture. Such understandings speak back to an enlightenment history and a liberal understanding of the relationship between individuals and society. Approaches to analyzing social movements have been similarly anchored within an enlightenment framework that presumes rational motives and rational actors. Fairness, even when applied to groups, comes down to the rights and abilities of the *individual*. As Anna Kirkland explains "Antidiscrimination law conceptualizes unfairness as rooted in governmental classifications that single out and burden groups of people without sufficiently good reason (in the case of equal protection) or in employment

decisions based on protected traits…"(Kirkland, 2008b: 401) Fairness is rooted in judgement based upon individual merit and worth free from erroneous outside influencers. Bias, then, is unfair because of the way it interferes with self-determination and individual agency. Government does not grant rights, it safeguards the individual's access to their indelible, naturally occurring, rights. This has led to the existence of what are called "suspect classes" or classes that have often been subjected to unfair discrimination, the existence of which might interfere with the individual's pursuit of merit based successes. Suspect classes have certain characteristics in common including: a history of discrimination, being a discrete minority, having immutable characteristics and a general lack of political power (Strauss, 2011). The immutability of a characteristic turns out to be integral to accessing rights using the civil rights master frame, for a group to gain strict scrutiny protections it must be the case that the individual cannot simply *leave* the group and thus the question of "choice" becomes deeply important to accessing both rights protections and the highly useful "civil rights" master frame for social movements.

As Anna Kirkland notes, there are historically two legal paths to discrimination protections: civil rights or disability rights. Rights protections are conveyed to classes of people who have "protected traits:"

> "Protected traits are classically those that bear a recognized history of oppression and are understood to be outside the realm of personal choice, irrelevant to one's merit and capacities, and in the case of disability, a lamentable affliction to be overcome with gumption and equal opportunity"(2008b: 401).

Fitting fatness into the category of a protected trait is a challenge. While fatness certainly has a history of oppression, it is not always recognized. The question of choice is deeply

problematic in the communication of fat acceptance to a lay-person audience as it has been for other groups (like LGBTQ rights) whose trait might conceivably be thought of as a "choice" or "lifestyle." Fat rights and gay rights have in common that if a person embraces a biological source for these identities they are far more likely to be in favor of civil rights protections for these groups. This is what is sometimes referred to as an "essentialist" perspective, or in the vernacular a belief that the individual was "born this way." This is a deeply problematic approach to civil rights: not only does an essentialist understanding of sexuality contradict decades of feminist ground work in the understanding of sex/gender/sexuality, basing a bid for rights on a lack of choice is a precarious basis for a social movement. It seems to argue that if the group in question *could* be different, it would be acceptable to *expect* them to be different.

The need for fat rights groups and LGBTQ rights groups to appeal to their immutable state in their search for rights is a result of the history of civil rights and disability rights case-law in the United States and the public understanding of these protections. Fat rights and LGBTQ have an additional obstacle, for the perception of body size as choice is also intrinsically linked to the issue of merit and capacities as these choices could be interpreted as reflecting a character fault. Further, if fatness is a choice then group membership is voluntary and it does not make sense that it would need to be a protected class. Individuals could simply "opt out" of group membership by changing their behaviors. Some factor must compel us to believe that such an "opting out" would either be impossible or unreasonable. Choice and its link to stereotypical traits disrupts the ability of fat people

to assert functional individualism, where-in a person is judged on their abilities and skills divorced from bodily traits. As Kirkland explains,

> "[t]he predominant way of justifying nondiscrimination against fat people was to use the logic of functional individualism. As I have described, functional individualism is a way of reasoning about who deserves rights that defines the deserving person as a font of capacities and talents who should be evaluated on those alone, not on any feature of appearance" (2008b: 418-419).

Protections against discrimination require a balance between indelibility and insignificance. For example, legal protections around race require the assertion that race is real, however race must also be insignificant. Race is real in the sense of being an enduring social category that is rooted in highly noticeable characteristics. For civil rights protections race must be argued as a tangible and fixed. Racial difference also must be framed as "only skin deep" and thus insignificant and not in the way of functional individualism. Thus, those who are protected classes must constantly demonstrate that their differences are simultaneously, real, permanent, and insignificant. The significance of race as a protected class stems from the discrimination experienced from others. Its significance is from other's perceptions and actions, these are what produce injustice: that it is not in the individual's qualities but in the actions of others that from which lack of opportunities stem.

This tension is how injustice is framed and so immutability that is real but also fundamentally superficial has become integral to gaining rights. Women also had to conform to this standard showing that gender is indelible, tangible, biological and fixed, but also a source of hardship that is both external (imposed) and based in fallacy. Again, gender is fixed but not actually the source of the lack of opportunities; reactions to gender are the source. Yet, our difference must be shown to be real, negligible, and also involuntary or able

to be fixed by choices. From this bind we get the need to talk about social construction of gender as a separate phenomenon from the fixed signifier (sex). Feminism had to make an argument that gender based disadvantage was fixed, real and superficial. However, feminism also sought protections for women when their bodies were not negligible: specifically while pregnant or lactating. Thus, reproductive needs were divorced from gender protections and protections were afforded through the disability resulting from pregnancy as a disease state.

Fat activists must also present fatness as a fixed, real, and superficial in order to access legal protections and to make their bid for civil rights protections intelligible to the public. Fatness has to be essentialized as natural variation and the result of biomechanisms that prevent the reversal of fatness in order to qualify for societal protections. Fat has to be a "born this way" issue. Fatness must result from some mechanism outside of the control of fat individuals and reversal of this state must be impossible or so difficult as to be inhumane or unfair to ask of the fat individual. Just as asking a gay person to deny an entire aspect of their humanity would he inhumane. Activists then must show that the oppression they face is real and relevant. Last, they must demonstrate that such discrimination and oppression is unfair because the differences between fat and thin people are superficial. The HAES paradigm is instrumental in meeting these requirements.

A further complication of the essentialist approach is that it divides the individual, engaging in a mind-body split. Such a split divorces the mind from the body and ignores embodiment in favor of the functional value of the mind/self. However, corporeal existence of fat bodies cannot be ignored as the material world interacts with these bodies. The

material reality of a body that exceeds the limits of normal means that fat bodies do not always fit in a world that is not designed for them. It is not just the mind that works, or goes to school, and exists in the world. The body is corporeal and its needs and limits cannot be ignored, fat bodies simultaneously require measurement on individual merit and accommodation for bodily difference. Discrimination is not always about ignoring talents, it can also be about impeding access: access to the same comfort level of seating as others, to the same appropriately sized life-saving equipment in medical settings, to reliable safety equipment in motor-vehicles, and to adequately sized uniforms at work. Functional individualism is intelligible because it sits nicely within American values of individualism and meritocracy, but it also backs fat rights activists into a rhetorical corner when they are faced with the need to ask for consideration that ignores their physical traits *and* accommodation for their differently sized bodies. For this reason the disability rights path to rights protection is sometimes engaged with.

The disability rights frame accessing protections not through an assertion of a natural group identity that has been unfairly linked to oppression but through an acknowledgement that there are bodily differences that exist and that these bodily differences do change functionality but that the reason these bodily differences represent such restriction has to do with how the world defines functionality and how the world is designed to accommodate a particular kind of body. This is called the social model of disability. Again, Kirkland discusses,

> "a disability rights frame acknowledges that the rules about proper functioning are not themselves neutral, ahistorical, or nonpolitical. A disability is then not something that is just wrong with a person, but rather it

> is a site of difference that exposes hegemony and injustice in the normal workings of the world. The problem is the stairs, not the legs of the person who uses a wheelchair to get around"(2008b: 402).

This framing of physical difference is useful for discussion of fatness and I have witnessed such wording when discussing the needs of fat bodies within fat acceptance spaces. One area that this is very apparent is in the discussion of "flying while fat" and the problem of airplane seats that are too small. The problem is not with fat bodies but with the physical structure of the plane and the planning that went into that airplane. A disability rights framework for fatness makes a certain amount of sense because fat bodies do need some kinds of accommodation. However, in order to access these protections fatness itself must be embraced as representing some kind of disease. This is an unacceptable trade-off in the eyes of many activists. Further, to concede that fatness is somehow a disease erodes claims of individual merit. Again, Anna Kirkland explains:

> "[c]urrently, then, those who try to come up with legal arguments for fat rights must argue that it is irrelevant and without meaningful implications if they want Title VII-type protections, but that it is a medicalized impairment if they want disability accommodation. It is a fairly impossible position to be in. Fat advocates know this only too well"(2008b: 403).

Fat rights activism finds itself caught between two approaches to gain rights: status as disabled and status as a protected class. For the time being judicial courses of action are quite limited for the fat rights movement. They will likely need to forge new paths of arguing for rights and for this to be successful they will need to first shift the culture and allow the judiciary to follow. As DeGirolami & Walsh assert, "law, like politics, generally conforms to the culture" (July 2, 2018). The courts are surrounded by culture and responds to it. The fight for fat rights has to begin in reshaping culture and the dominant discourse around fatness.

CHAPTER 6: FAT ACTIVISM

On February 2, 2015 Fat Rights Activist Marianne Kirby appeared on *The Nightly Show with Larry Wilmore*. *The Nightly Show* was a late-night, comedic, round-table news discussion show on Comedy Central. The show, which had replaced "The Colbert Report" and ran after "The Daily Show," had a reputation for taking on serious issues in a thoughtful fashion through the use of humor. Kirby was slated to appear alongside CNN host Morgan Spurlock (who created the documentary "Super Size Me[98]"), actor and comedian Lavell Crawford (whose standup routine focuses a great deal on his status as a black, very large, fat man) and disabled comedienne Shannon DeVido, there was a great amount of anxiety and excitement about the appearance within the fat activist community. The discussion that followed is of note not because it was particularly enlightening, but because of the way it was a microcosm of the societal discourse around obesity. The panelists moved from one dominant narrative about fatness to another in a way that impeded Kirby's attempts to communicate the Fat Acceptance[99] Message. These narratives included: fatness as a public and private health concern, fatness as an economic drain, fatness as a choice, fatness as the

[98] Inthis documentary Spurlock ate only McDonald's food for a period of 30 days. As part of the experience any time he was asked if he wanted to "supersize" his meal he would say yes. He documents a dramatic shift in his health and weight. The veracity of the documentary and the claims made there in have since been questioned as other's have tried, and failed, to replicate his results.

[99] In this introduction I use "fat acceptance" in the way that Kirby does on the show: as a generic term for the amalgam of multiple, heterogeneous, semi-coordinated, social worlds which self-identify as engaging in fat-positive or fat-accepting activism. In this section, and throughout the chapter "fat acceptance" is used as a short-hand for this diverse, constantly shifting, and (often) allied network of communities, individual actors, and social movement institutions. The term is not intended to imply homogeneity or even necessarily unity of these diverse communities. Instead it is a linguistic short cut that I will utilize sparingly, often opting instead for the terms "fat activist," "fat activism," or "fat resistance."

result of self-indulgence, gluttony, or weakness-of-will, fatness as the result of an obesogenic environment due to economic disadvantage, and fatness as disgusting and worthy of ridicule.

In the first segment of the show, prior to the panel discussion, host Wilmore opens with a summary of the issue of "obesity" in the United States, and globally. He invokes pathologizing and alarmist rhetoric discussing the explosive increase in obesity rates over the last two decades. Wilmore insists that obesity is a serious matter and that stigma against fat people is a problem. However, his statements are constantly interrupted by Wilmore's own past instances of fat-shaming-jokes, perhaps conveying Wilmore's own sense of ambivalence toward the topic. The segment then introduces the possibility of treating fatness as a disability and the existence of rampant and systemic bias and marginalization of fat people. Wilmore reports on anti-fat discrimination and proposes the possibility of fatness being a civil rights issue, utilizing the treatment of Eric Garner[100] as a supporting example of the need for civil rights protections. Wilmore concludes the segment by saying that he doesn't know whether obesity is a civil rights issue, but he does know that the way we are treating fat people "ain't right."

[100] Garner was killed by police while he was being arrested. He was placed into a choke hold and suffocated. His medical condition (asthma) along with his obesity were utilized by some media commentators and government officials to justify his death. For an analysis of this incident from a fat-studies perspective see Anna Mollow's journal article, "Unvictimizable: Toward a Fat Black Disability Studies" and Jason Whitesale's "Intersections of Multiple Oppressions: Racism, Sizeism, Ableism, and the 'Illimitable Etceteras' in Encounters With Law Enforcement"

The round table then set out to discuss the issue of whether or not fatness (or as used in the segment, "obesity") can be a civil rights issue. The discussion opens with Marianne Kirby making a case for fatness as "personal" and "none of anyone else's business." She attempts to head off the discussion of anti-fat bias being about concerns over health by stating, "I don't believe [anti-fat bias is] really [about] a concern for anybody else's health. I mean the people shouting stuff out of their car window if I am walking down the side of the street, they are not in it because they are concerned about my health." Wilmore agrees, however health remains a shadow-topic throughout the discussion[101]. At the conclusion of the panel discussion that ranges across a broad number of fatness related topics (from disability and economics to junk food), Wilmore implores his panel "but, can we acknowledge that obesity in children is not healthy?" Kirby is off camera and is not able to address this question, but the other panelists are heard to agree.

Throughout the discussion Kirby is unable to steer the conversation toward a question of civil rights, despite the sympathetic aims of the host and the stated topic of discussion. Instead, other dominant narratives of fatness keep getting raised and addressed. These include a discussion of whether or not fatness ought to be considered a disability, which leads to a longer discussion about whether or not fat bodies are malleable and whether

[101] It is interesting to note that "health" is only directly mentioned a few times, mostly in reference to childhood obesity or through jokes about diabetes. However, health is implicated throughout the discussion. Instead of directly using the terms "health" or "healthy" the panelists reference economic costs of obesity and lifestyle choices and options that are deemed healthful or not. The issue of obesity as unhealthy is not brought up because it is not questioned. It is as present as the air in the room and as invisible. The unspoken agreement that fat is unhealthy is the air the conversation breaths, it gives all other aspects of the conversation rhetorical and logical life.

or not obesity is a choice. Rather than a discussion about *civil rights* or *disability rights*, the discussion becomes focused upon whether or not fatness is a *choice*. The unspoken, but important, subtext here is that if fatness is a choice then fat people are not worthy of protections. DeVido, a disabled comic who uses a wheelchair, at one point responds to the idea of fatness being a disability by saying,

> "I think that, I mean you [fat people] can go to doctors and maybe, like, kind of correct it or even just, like, get it under control, but I can go to as many doctors as I want and unless one of them is the 'Ripped Jesus' from earlier, I'm not walking anytime soon, so ..."

she trails off not finishing her sentence but implying that as her bodily state is both involuntary and fixed her body can be understood to be both disabled and *worthy* of accommodation, whereas a fat body is constructed in this description as being potentially malleable, the result of choice, and less worthy (or not at all worthy) of accommodation[102]. DeVido's also speak to an understanding about disability rights which includes a division of responsibility: in order to access rights the disabled person must take on personal responsibility to mitigate their disability as much as possible and attempt to attain bodily health as much as is possible given their personal limitations. Kirby attempts to counter with the idea that fatness is not a choice, citing the long-term failure rates of diets, but her facts and figures are disregarded as the panel unanimously agrees that it is not the diets which fail, but the dieters. Fatness is designated a choice.

Once fatness is designated as a choice the potential discussion of fat civil rights cannot happen. While none of the panelists are legal scholars they do seem to understand that legal protections for fatness would hinge upon fatness not being a voluntary state. Next,

there is a discussion of whether fatness might be a constrained choice (due to economics), this is constructed as an injustice but the question of civil rights issues is then transitioned to being about either race or class not fatness as an identity trait. In fact, fatness becomes one of the injustices these disadvantaged groups deserve protection from. The positioning of fatness as the result of lifestyle and choice is insurmountable for Kirby[103]. The topic of civil rights protections is never actually discussed and the panel focuses instead upon the presumed over-consumption of food by fat individuals with Crawford engaging in self-deprecating and self-stigmatizing humor about his fat body, overeating, ill-health, and presumed lack of self-control. Crawford ends the panel by revealing that growing up his family suffered from food insecurity which he links to childhood obesity[104], but even this serious moment devolves into a fat-bashing self-deprecating joke about eating his own pillow. Throughout the discussion the panel easily transitions between discussing fatness as unattractive[105], unhealthy, economically burdensome, and a choice without any real acknowledgment that these ideas are different and perhaps, unfounded. The disadvantage

[103] It is important to note that the underlying, but unspoken presumption in these discussion is not just that fatness is a choice but that it is a *bad choice* because it is unhealthy, unattractive and a "drain" on society. Packed into the "obesity as choice" rhetoric is a subset of assumptions about fat bodies, their health, productivity, value, ability, and worthiness. All of which impacts how desirable (or undesirable) that bodily state is judged to be. If obesity were judged to be a choice, but a good choice, the discourse around fatness and obesity would be quite different. This also impacts the way that fatness as a constrained choice is presented. The apparent sympathy or even advocacy that is present when Wilmore and Spurlock discuss the economic aspects of obesity stems from their belief that the fatness in these communities is a representation of economic inequality or oppression that forces obesity upon them, robbing them of the choice not to be fat.

[104] An observation that is backed up by epidemiological research (Eisenmann, Gunderse et al, 2011).

[105] Interestingly Wilmore does make a bid for this being the result of social construction and classism.

conveyed to poor people that is represented by obesity is discussed as being all these things (unattractiveness, poor lifestyle choices, lack of health, and moral failing) at once and lamented as placing a burden upon the poor due to environmental disadvantage. Despite this sympathy, and highlighted by Crawford's comedy, the fatness of the poor is still constructed as a choice which might be overcome with sufficient opportunity or will-power. The discussion is remarkable for how utterly unremarkable these slippages are for the panelists and how banal this branding of obesity has become. Kirby is a long-time fat activist. Her various blogs are widely read and she has been engaging with the public (including internet trolls) for at least 5 years prior to her appearance on the Nightly Show. She has also appeared on the Dr. Phil Show and is no stranger to adversarial media appearances. Kirby was clearly prepared for this encounter and did an admirable job presenting the fat acceptance perspective, yet she could not overcome the dominant discourses around fatness and redirect the conversation toward the aims of fat acceptance: civil rights protections from discrimination.

Why did this happen? In this chapter I will explore how the dominant discourse around fatness, particularly its medicalization and its positioning as a "choice" create immense challenges for fat activists in their crusade for civil rights. The topic of "fact activism" and "fat acceptance" is too broad to cover in its entirety within this project. Additionally, there have been many excellent account of the fat acceptance movements already written both from an academic standpoint () and by fat activists themselves (). For this project, after a brief introduction, I will focus specifically upon activism as I observed it in fat activist and HAES activist intersecting spaces. I will outline some ways that these

groups differentiate their movements, rely upon and benefit from each other, coordinate their messages and influence each other, and the conflict and controversies that arise when activists from the two groups comingle. It is important to note that while these two groups regard the movements as separate and in my observation speak of the movements as separate, there is considerable overlap between these groups in history, aims, participation, and leadership. In part this is a reflection of the nature of both movements as themselves being comprised of a multiplicity of smaller social worlds, communities, and activist groups which interact. It is beyond the scope of this dissertation to map out all of these groups, however I will outline some of the diversity in the section entitled "what is fat activism?" For this dissertation I have chosen to focus specifically upon communities where fat activiststs and HAES activists comingle. These groups self-identify as separate and distinct and I argue that there is advantage for both groups in this argument. I further posit that the relationship between the groups might best be thought of co-constitutive and symbiotic. I will end the chapter with a brief discussion of what the future might hold for the intersection of fat activism and the Health At Every Size Movement.

What is fat activism?

In this dissertation "Fat activism" is a blanket term for a variety of social movement activities where activists: 1) adopt "fat" as a positive and affirmative identity or treat fatness as a neutral or benign bodily trait, AND 2) recognize some form of oppressive anti-fat attitudes within society from which they seek redress. This is an intentionally broad definition, though it provides an important set of markers for delineating the boundaries of fat activism. "Fat acceptance" is here-in used as a linguistic catch-all for the amalgamation

of the network of communities, social worlds, social movement institutions, and individuals who engage in fat activism (as defined above). Fat activists refer to themselves and the movement by a number of different names including "fat liberation," "fat acceptance," and "fat power." Activists also sometimes refer to themselves as being "fat positive" or "body positive." For the purposes of this dissertation I treat "body positivity[106]" as a different social world with sympathetic aims to fat acceptance. Some body positive activists are also fat activists, but not all body positive activists are fat activists. Similarly, while most fat activists also engage in body positivity, not all fat activists engage in, promote, or think of themselves as "body positive.[107]" Like all social movements fat activism has multiple subworlds with varying ideological frameworks for understanding fatness, fat activism, and

[106] "Body Positivitiy" or "BoPo" emerges out of mainstream liberal feminism and its concerns regarding patriarchal beauty norms, pervasive negative self-body image among women, body policing, body projects, gender non-conformity, and prevention of eating disorders. While the movement attempts to expand the social boundaries of what is considered "beautiful" and to transform individual relationships that people have with their bodies (especially young women) these transformations tend to merely expand existing norms rather than challenge them all-together. Many body positive spaces have upper limits on what they find to be an acceptable weight as which a person can reasonably celebrate their body. They also often engage in emphasizing wellness and health, even while trying to bring disability acceptance into the fold. In this dissertation I distinguish between body positivity which functions as a form of "self-help" and expansion of "normal," from "fat activism" or "body positive activism" which functions as collective resistance and civil rights movement.

[107] While many fat activists celebrate their fat bodies and extol the virtues of self-love, others talk about being "body neutral" or even publically share their dislike for their own body whilst simultaneously asserting their right to live in that body without societal blame, shame, or interference. While my definition of fat activism makes room for a body-neutral approach I side with the majority of activists in the spaces I have observed by requiring some level of positive regard or at least a neutral relationship to the idea of fat bodies (if not an ability to have positive regard for ones own fat body) as a precursor for designation as a fat activist. While a fat activist might struggle with internalized shame and bias, they must at least hold up the idea of a right to positive self-regard for fat people.

differences in goals and methods. There are a number of key issues and debates that currently give heterogeneity to the fat activist community. These debates reflect the diversity and growth of the movement. As I outline these debates I encourage the reader to think of these debates in terms of a spectrum of ideas rather than clearly delineated camps. Fat activism has always been constituted as a community of communities (Cooper, 2017). Each enclave of activism, be it regional, ideological, or delineated by the space in which people congregate (real or virtual), will have its own character and majority positions on these debates. Within the movement as a whole there are majority positions and minority positions. It is important to conceptualize this diversity not as evenly distributed but as existing within groupings which allow a diversity of opinions to thrive. This is both a strength and weakness of this movement. The strength lies in the rigorous debate that is ongoing within these activist communities which allows for reflection and change. The weakness lies within the potential to divide the community. It is also worth noting that many communities have overlapping actors, which is part of why I advise conceptualizing these communities as both communities and networks.

Fat activism is a global community. While the majority of activism is concentrated within English-speaking countries, the community is growing an groups have popped up on all continents (with the exception of Antarctica). My observations were confined to English-language groups and U.S. social movement organizations. This project has a U.S. focus, but in online spaces there is a great deal of national comingling and U.S. only spaces are rare and would be difficult to enforce. Much of fat activism occurs in virtual spaces, but does not exclusively occur online. The network of online fat activist spaces is sometimes referred to as the "fat-o-sphere." This is a play on the word "blog-o-sphere" and was coined

when the majority of online activity occurred in individual or shared online blogging spaces such as “Livejournal” or “Tumblr” in the last decade much of these online interactions have moved from blogging platforms to social media platforms like Facebook, Twitter, and Reddit. Vlogging (video logging) is another popular medium for the fat activist message. While most of these mediums are open to the public, it is evident that some spaces are intended as fat activist front-of-stage spaces while others are fat activist backstage spaces. Front-of-stage spaces are intended to engage with, educate, and persuade the “public” as well as communicate with other fat activists. Some examples of “front-of-stage” activist spaces include vlogs and vlog comment sections, blogs, Facebook activist pages (as opposed to groups), and Twitter accounts. These are spaces where a speaker (or a group of speakers) addresses an audience. They are also spaces without any expectations of privacy. While these spaces are open to the public some are more curated than others. Some online spaces endeavor to be “safe spaces” for fat people where trolling or certain kinds of dissent are not permitted. In these spaces commenting is moderated or otherwise pruned. Backstage spaces are intended for activists to speak amongst themselves, thought they are not always closed to the public. These spaces assume some kind of membership or interest in membership within the fat activist community. These include Facebook groups, Reddit, some blogging communities, and email chains/listservs. These groups have the ability to restrict access (though many do not) and varying expectations of privacy. I never observed within “secret” Facebook groups, which are groups that closed and not visible to anyone outside the group. Such groups have a clear expectation of privacy. The majority of my participant-observation occurred within Facebook groups set to “open” or “closed” but without significant entry criteria. Groups set their own informal expectations of etiquette for privacy

within such groups which I respected. I also observed within email chains and listservs, again mindful of group rules and privacy expectations. In addition to these online spaces, there are communities that meet in-person and there are the social movement organizations: National Association to Advance Fat Acceptance (NAAFA) and National Organization of Lesbians of Size Everywhere (NOLOSE).

Current debates and divides within the field of fat activism.

In this section I will outline some of the current debates and divides within the field based upon my ethnographic field observations. This is not an exhaustive list, but is designed to give the reader an understanding of the fabric and context within which the HAES/fat activism collaborations take place. Generally, fat activism can be divided into liberal and radical branches akin to the liberal and radical branches of feminism. Liberal fat activism emphasizes an expansion of societal norms, access to equal rights and legal protections, self-determination, and is more likely to emphasize the ability of fat bodies to fulfill normative aspects of citizenship like productivity, healthfulness, and beauty. Liberal fat activism seeks inclusion of fat people within existing societal structures. In some ways the liberal fat activist project is one that seeks redress for loss of privilege. This variety of fat activism is sometimes criticized for creating "good fatty archetypes" or versions of the fat person that are palatable and acceptable to the powers that be and/or general public. The good fatty/bad fatty divide has been discussed extensively within fat activism spaces and written about notably by Stacy Bias, who also created a very popular cartoon illustration of the idea. There are 12 good fatty archetypes that Stacy Bias outlines, but there are five that are most relevant to the liberal fat activism approach: the fat unicorn (engages in all

healthful behaviors, has perfect health, productive, moral), the fat athlete (defined more in terms of physical prowess than health), the hapless fatty (the person who is fat through no fault of their own) the natural fatty (the person who is fat due to their genetics) and fatshionista. Bias encourages her audience to think critically about these identities and they ways that they mitigate their stigma by upholding aspects of the dominant culture that target fatness or exclude others from the fat activist fold. These identities have in common either a source of worth that comes from hegemonic norms.

Stacy Bias also discusses the rad fatty of fierce fatty. This is the fat person who "is the ultimate rejector of stigma. Appropriating stigmatizing terms and turning them on their head, refusing conformance on every level, and often engaging in performative displays of behavior that is discouraged in or considered stereotypical of fat people but with intention and tone of rebellion"(Bias). This archetype belongs to the radical branch of fat activism. Like radical feminists, this branch seeks to overturn societal norms and structures in order to address their oppression. The radical fat activist sees fat oppression as an integrated part of a kyriarchy of oppressions which aligns fat activism with other oppressed groups and oppressive systems like anti-black racism, white supremacy, capitalism, patriarchy, colonialism, and heteronormativity. Radical fat activists are less likely to emphasize the importance of health or the "healthy fatty," but many still recognize access to healthcare as an important aim. Many radical fat activists will engage in public displays that revel in stereotypes and engage in the potential of the fat body to be defiant. As Vikki Chaulklin notes this kind of activism may include:

> "activity that demonstrates a queer celebration of amateurishness, insecurity, trauma and pathology, creating a carnivalesque cocktail of ambivalence, apathy, catharsis, disgust and shame that emphasises yet resolutely refuses to

> engage with the fat person's civic responsibility to strive towards health and happiness. It considers the value of this impudent assertion of fat subjectivity outside of the normative demands of a positivist culture within the context of fat activism that is usually oriented towards a more wholesome rhetoric of affirmation, and argues that there is something radically, queerly liberating at play in the audacious and impertinent refusal to be a 'good fatty'. Rather than providing a rational critique of 'obesity epidemic' discourse, or striving to portray fat people as just as healthy and happy as their slender counterparts, these activist activities embrace the negative and often damaging rhetorics of ugliness, gluttony, misery and abjection thorough which fat people are positioned in contemporary society"(107-108).

Many in fat activists who fall toward the radical end of the spectrum rail against the tendency of liberal fat activists to emphasize fat citizenship and engage in what they see as respectability politics. These activists are sometimes critical of the other fat activist's use of HAES ideas to bolster fat liberation, and particularly the HAES movement's relationship to the fat community. Charlotte Cooper notes, "my interest in fat activism that is lawless, messy, ambiguous, uncomfortable and far out. I don't know how, or if I want to, fit myself within this increasingly dominant paradigm. I am concerned with how radical ideas and communities have been appropriated and sanitized[sic] by HAES, how fat identity and culture is reduced to a question of health, and that the movement's roots in fat activism are frequently sidelined" (Gingras and Cooper, 2013:2-3). While Cooper and her fellow "chubsters" might seek out a fat activism that is "lawless, ambiguous" and "uncomfortable" other activists are not interested in overturning society, only be able to function safely within it. Despite this concern about the potential respectability politics that the HAES approach might represent, radical fat activists also utilize the HAES approach and often shares goals of demedicalization and safe access to respectful care. They object to centrality of HAES within the movement fearing that it contributes to "healthism." Radical fat feminism has a variety of sub-worlds with different ideological frameworks including Marxist radical fat

activists who are critical of the consumer culture based activism of liberal fat activism, libertarian radical fat activism whose proponents do not favor legal protections but position fat activism as part of radical liberty, black radical fat activism which is concerned specifically with the relationship between anti-fatness and the history of anti-black racism.

Another factor influencing heterogeneity within the fat activist movement is intersectional identity. The public face of fat activism is decidedly white, female, able-bodied, hour-glass shaped, and young. There are certainly an abundance of individuals who meet this criterion within fat activism, but they are not the only kind of people who are part of the movement. Concerns abound about whose voice is being amplified and whose is being marginalized, both internal to the movement and in communication of the movement to the media and mainstream culture are a source of conflict. Should the movement focus its energies upon the concerns of "superfat[108]" members who are most marginalized by their experience of anti-fat culture? Or, should the movement focus its energy upon the in-betweenie[109] or small-fats[110] who represent the majority of fat people in this country, but

[108] "Superfat" is a term used within the fat acceptance movement to refer to people whose body size is several standard deviations above the mean. It is a play upon the medical term "super-morbid obesity" that is intended to "queer" the term by playing upon multiple meanings of the word "super." Like most terms within the movement not everyone likes the use of the term "superfat" and other terms are utilized and generated. There is no set weight or BMI threshold that designates one as "superfat" it is a self-imposed category.

[109] "In-betweenie" is a term that comes out of fat fashion and originally referred to people whose body could fit into straight-sized or plus-sized clothing (women's sizes 12-16) but also is used to refer to people in the fat acceptance movement who are not generally seen as "fat" within the movement but might be considered fat based upon narrow societal standards.

[110] "Small fat" is another categorizing word within the movement to refer to people who are fat or self-identify as fat but are at the lower end of the size spectrum. These people often can rightfully claim the word fat but face fewer social and material challenges due to their

who experience less oppression? Should white voices continue to be amplified, or should they learn from the lessons of second wave feminism and actively make room for the voices of fat people of color, fat disabled people, and queer fat activists? What about men? Is there experience of fat oppression being adequately considered, addressed, and amplified within the scope of the movement? Is a desire to make male voices more central to the movement re-centering masculinity, or recognition of the fat oppression that men experience too? How best can "room at the table" be made for these multiple voices?

Some activist communities have taken great pains to try to address issues of intersectionality, such as NOLOSE. Others have been subject to extensive critique that they have been slow to address these concerns, like NAAFA. There are fat activist spaces that are dedicated to the concerns of fat people of color, queer fat activists, masculine presenting fat activists, and self-identified male fat activists. Each of these subworlds has their own interpretation of the fat activist mission. Within these groups there are again those who favor a liberal fat activist agenda that seeks concessions and widening of social norms and more radical agendas that seek to overturn societal norms. Further complicating issues, many activists from lower socioeconomic backgrounds and/or minority status also critique a white "rad fatty" agenda which does not prioritize health and health access as reflecting the privilege of those in the group who can rely upon access to healthcare when they need to seek it.

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size. They can reliably find clothing, feet in available seating, fly without fear of being made to purchase a second airline ticket and may even be able to "pass" as a not-fat.

Further stratifying the field at the present time is the insistence by some upon an abandonment of a body-positive focus as part of what constitutes fat acceptance. Some activists find the emphasis on body love exclusionary because they do not necessarily like their bodies. Must an activist feel positively about their fat and their fat body to be part of the movement? Can a person want to change their body and be a fat activist? Can one diet? Engage in intentional weight loss for "health" reasons or even get weight loss surgery? This controversy has been amplified by a series of high profile articles (confessionals) of fat activists who have either gotten weight loss surgery or intentionally lost weight. The majority of fat activists agree that one cannot promote intentional dieting and be a fat acceptance activist, because dieting seeks the eradication of the fat body. There is a small minority of people in the movement who thinks that there should be a space within fat activism for people who both wish to seek rights and protections, and want to change their body size. Sometimes this is justified as being about "body autonomy" or "body sovereignty" other times it is an acknowledgement that everyone is "on their own journey" and that those who are not yet at peace with their bodies should not be excluded from the movement.

There are many ways at the present moment that fat activism is a highly stratified field. This reflects the growth that the movement has undergone over the last decade. The increasing surveillance of fat bodies has pushed more people to self-identify as fat. Further, the body positive or "bo-po" movement is quite popular in mainstream culture and sometimes serves as a stepping stone to the relatively more radical fat activism community. As the strength and numbers of the movement grow it is unsurprising that conflict,

heterogeneity, and debate grow with it. This heterogeneity is one of the reasons I have chosen to focus so narrowly upon spaces where fat activists and Health At Every Size activists co-mingle.

A brief history of fat activism.

There is inadequate space for an exhaustive history of the fat activist movement, what follows outlines the broad strokes of the three waves of fat activism (Cooper, 2010). Histories of the fat activist movement have been written by Charlotte Cooper (2010, 2016), Amy Farrell (2011), Katherine LeBesco (2001, 2004), and Sara Bolden (2018). Arising alongside other collective identity movements of the 1960s, the first wave of fat acvitism occurs in isolated, but increasingly networked pockets around the United States, Canada, and eventually the United Kingdom. Most fat studies scholars identify the Fat-In at Sheep Meadow in Central Park in June 1967 as the earliest fat activist event. The event was organized by radio host Steve Post. Around the same time Lew Louderback published a letter to the editor entitled, "More People Should Be Fat" in the *Saturday Evening Post*. Louderback's article railed against what he saw as "anti-fat madness" and plead with Americans to "release their inner fatty" and "release themselves from guilt." Louderback and William Fabrey founding NAAFA (The National Association to Advance Fat Acceptance[111]) in 1969. Louderback and Fabrey were both "fat admirers," men who were romantically involved with fat women. They saw the struggles their significant others endured and wanted to organize to change that. NAAFA (originally the National Association to Assist Fat Americans) has been integral to the development of fat acceptance. It is the

[111] formerly The National Association to Aid Fat Americans

oldest fat activist social movement organization and many other fat activist and HAES organizations began as sub-committees of the NAAFA organization. NAAFA has always included a strong social component as it was created by fat admirers. The "big beautiful women" (BBW) community is intertwined with activism through NAAFA. BBW communities are focused upon dating and hookup culture. The fat-admirer component of NAAFA has led to criticism that the organization is based in heteropatriarchy and prioritizes the concerns of the male NAAFA membership, there have also been controversies about sexual harassment at the conferences. There has also been criticism of NAAFA as marginalized the voices of people of color. NAAFA has worked to address these concerns. Despite this, NAAFA has been instrumental in the fat activist movement. They are a public face for the movement and do a lot of lobbying work. They provide funding for fat activist projects and a starting point for many, more radical, organizations and communities.

In 1972 the Fat Underground was formed. The Fat Underground was influenced by leftist politics, radical therapy, and NAAFA. It was formed as a fat feminist consciousness raising organization and radical therapy collective. Judy Freespirit and Sara Golda Bracha Fishman organized a small NAAFA chaper in Los Angeles, but they wanted to engage in a much more confrontational style of activism than was typical for NAAFA, particularly regarding the health professions. This conflict led to this NAAFA chapter breaking off and forming the Fat Undergroumd. This established the two arms of fat activism: Fat Admirers (and their partners) and Fat Feminists which loosely correlate to the liberal and radical branches discussed above. The Fat Underground was rooted in the radical therapy perspective. As Sara Golda Bracha Fishman explained in Radiance magazine (1998)

> "Radical Therapy developed in the early 1970s as an in-your-face rebuke to the mainstream mental health profession. Conventional psychotherapy places the burden of change on the 'maladjusted' individual; radical therapists condemned this as a 'blame-the-victim' approach. 'Change society, not ourselves,' they urged. Practitioners of Radical Therapy (or Radical Psychiatry, as some called it) prided themselves on having no professional credentials. The 'problem-solving groups' wherein they conducted therapy were also training grounds for social activism.
>
> A major concept of Radical Therapy is that oppression goes unchallenged if it is 'mystified.' That is, its true nature is concealed. The oppressors do not say to the victims, 'We will torture you until you submit to our will.' Rather, they say (and often believe), 'This treatment may seem painful or unfair, but it is for your own good.' An example would be the practice of 'protecting' women from sexual harassment by denying them access to education or employment in predominantly male fields. The Fat Underground viewed medical weight-loss treatments as a form of mystified oppression"(Fishman, 1998).

Building upon this understanding the Fat Underground argued that dieting was a form of oppression and genocide. The group engaged with the media and through the aid of former medical librarian Lynn McAffee (Lynn Mabel-Lois), they learned to access medical publications through the library and were able to write about issues of fat and health with greater authority and even win some support from within the medical profession (Fishman, 1998). The Fat Underground (FU) engaged in a number of public protest activity a well. They held a memorial for Mama Cass and accused the medical profession of murdering her (through promotion of diet culture) and genocide against fat people (Fishman, 1998) and harassed weight-loss institutions like Weight Watchers. In 1976, through a relationship with the UC-Long Beach women's studies department the Fat Underground was invited to speak at a hearing of the California State Board of Medical Quality Assurance on the abuses involved in prescribing amphetamines for weight loss. Other similar groups emerged

throughout the country and in Fishman's words, "A network developed that eventually became today's size-acceptance movement"(1998).

Many other feminist consciousness raising groups that were also fighting fat oppression popped up around the United States in the 1970s. Carrie Hemenway founded the fat feminist caucus of NAAFA. In Boston, the The *Boston Area Fat Feminist Liberation* and *Fat Activists Together* (F.A.T.) produced *Shadow On A Tightrope* (1983) which was a collection of position papers from the Fat Underground and other groups like it. *Shadow on a Tightrope* has been the introduction to fat acceptance for many fat activists including Marilyn Wann. F.A.T. was also able to contribute a segment to the 1980s editions of "Our Bodies, Ourselves"(Farrell, 148). Groups also emerged outside of the US, including the Vancouver's Large as Life Action Group (1979 – 1985) and the London Fat Women's Group (Ellison, 2007; Cooper, 2008).

The second wave of fat activism started in the later 1980s and through the 1990s and includes the publication of many books and 'zines. While many of the feminist consciousness raising groups that have popped up during the 1970s and 1980s had fizzled out by the 1990s, NAAFA continued to be an influential actor in fat activism. Thanks to the NAAFA Feminist Caucus NAAFA had increasing female leadership and sexism was increasingly called out within the organization. As argues the 1990s saw an increase in activism centered on a queer fat embodiment in through the medium of 'zines like "Fat Girl" put out by the San Francisco FaT GiRL collective (c. 1994) and Nommy Lamm's "I'm So Fucking Beautiful" (c. 1991-1996) (Bolden, 2018:74-75). As the same time there was emerging backlash in the mainstream culture against the fitness craze of the 1980s and growing concern about increasingly thin and waifish supermodels like Kate Moss, which

allowed aspects of fat activism to find a mainstream audience. Books like Marilyn Wann's *Fat!So?*() and the Magazine *Radiance* (1984 – 2000) had wide-spread success. The 1990s saw the emergence of fat exercise groups, books, and videos, like Lyons and Burgard (1990) *Great Shape*, Haddon and DeMarco's home exercise video series *Yoga For Round Bodies* (1996), and *Making Waves*, a weekly fat swim at the Albany High School Pool in Berkeley (Cooper, 2008). The 1990s also found some celebrity fat bodies and increased interest in fat fashion. Several important social movement organizations were founded in the second wave including: the Council on Size and Weight Discrimination; The Healthy Weight Network and Healthy Weight Journal; The Association for the Health Enrichment of Large People (AHELP), and National Organization of Lesbians of Size Everywhere(NOLOSE). These groups had some key lobbying successes including having Lynn McAfee attended meetings of the Federal Trade Commission in the US and the National Institutes of Health as a lobbyist who testified on weight-loss prescription drugs at Federal Drug Administration hearings and getting height and weight added to antidiscrimination law in San Francisco in 2000, thanks in large part to the work of fat activist and lawyer Solovay(Cooper, 2008).

The third wave of fat activism begins in 2000 and is defined by emerging technologies like the world wide web and email. This also marks the time period when anti-fat sentiment spurred by the war on obesity has increased. This has an agitating effect which increased activism and also made more people aware of fatness as an identity and of themselves as potentially "fat." Fat activism in this period is increasingly visible. It makes use of nascent technologies to expand networks. The HAES movement has increasing support during this period. Many popular press books challenging the obesity epidemic

rhetoric are written and published. In 2004 Amanda Piasecki founded Fatshionista, an online LiveJournal Community which introduced many new people to fat activism (Cooper, 2008). New kinds of social groups based upon fatness also emerge out of connections made online including recreation groups, fat fleas or fat clothing swaps, regional fat groups, fat burlesque, and fat exercise groups. Spaces like Tumblr, Facebook, and Reddit become increasingly central to the building of fat community.

Fat activism is an overwhelmingly female and white endeavor, but it is not exclusively so: particularly since the third wave of fat activism, after the advent of the contemporary war on obesity and with activist networks increasingly include men, people of color, and queer identified activists. In recent years inclusion has become an increasingly important issue within fat acceptance spaces. Queer, gay, and lesbian fat activism has also been a stable sub-world, often closely aligned with fat feminism[112]. Like many social movements, fat activism might be better conceptualized as activisms, rather than one homogenous ongoing movement.

It is important to note that Health at Every Size emerged through collaboration with fat activists and by some fat activist accounts actually emerged out of fat feminism and was taken up by the medical community(Cooper, 2008). The two movements have common roots but are inclined at this moment in time to define themselves as separate movements with very different (though complimentary) goals. Sometimes within the fat activist and HAES movement spaces I observed, HAES and fat activism are treated as if they are the same movement or as if one is a sub-world of the other, other times they are asserted as

[112] Very little attention has been paid to gay, male, fat activism. There are some articles written about subculture (Bears, Girth and Mirth) but this remains an undertheorized section of fat activism. See Monaughan 2005.

distinct and separate. I argue here that HAES and FA have a symbiotic and co-constitutive relationship. The ideas that eventually form HAES emerged out of the same tensions and same thought collectives that produced fat activism. However, it would be a mistake to assign creation of HAES solely to the movement. The crisis of evidence within weight science produced not only sympathetic scientists ready to hear the fat activist's experience and ideas but the very data that they were engaging with. Fat activists from the 80's and 90's took up ideas presented within scientific literature and gave it political weight. HAES emerged out of a collaboration between scientists and activist lay-experts.

When HAES was emerging there was overlap in the leadership between fat activism and HAES thought collectives, the two groups shared a cultivated thought style about fat and fatness (Fleck, 1935). The organization that eventually became ASDAH emerged out of a NAAFA special interest group. Leaders of the second wave of fat activism were influential in the development of a HAES paradigm. With the third wave of fat activism new leadership emerged within both movements and the separation between the two groups became more distinct. Even as leadership became more distinct the liberal Fat Activist message became more and more dependent upon the HAES viewpoint to circumvent the issue of "healthy" or "unhealthy" fat bodies. Most activists have been introduced to HAES through fat activism. As each movement gains notoriety it drags the concerns of the other along with it, bolstering the other. Venues that might be attracted to one message, get exposed to both. As more and more fat identified people find their way to some version of fat acceptance or body positivity through bloggers or "fatshion[113]" they also get exposed to

[113] A fat activism neologism that is a hybrid of "fat" and "fashion"

HAES ideas, which they then take with them into their physician's office. They demand different treatment and this adds urgency and weight to the claims of HAES proponents in the healthcare field. The concordant nature of the movements means that there are significant parallels in development, the way each movement helps to propel the other confirms their symbiosis.

Most of the scholarship on Fat Activism and Health at Every Size activism utilizes the intellectual tool of "framing" to evaluate movement dynamics. Samantha Kwan has proposed three cultural frames of fatness: medical frame, social justice frame, and market choice frame (2009). Saguy and Riley contend that framing contests arise from competition between four groups: anti-obesity researchers, anti-obesity activists, fat activist researchers, and fat acceptance activists (2005). These authors emphasize the way that fat activism "reframes" the dominant narrative about obesity: away from an issue of immorality, disgust, or ill-health and toward a new framing of rights, beauty, or health. Through this analysis HAES looks like it is solely an outcropping of the fat acceptance movement, which seeks to redefine fat and reframe the fat experience as being capable of accessing health. While HAES certainly does this work and has been highly influenced by fat people and fat activism in doing so, the impetus to reconsider and renegotiate "health" for all people under the HAES paradigm came as much from the evolution of theories within the medical arena as it did from influences outside of the medical field. Positioning HAES as solely an offshoot or project of fat acceptance erases its own scientific-reform roots and ignores its own history as an intellectual movement. The goal of HAES is not primarily to reframe fatness. Reframing fatness is an outcome of the goals of HAES, which has made it a

valuable ally of the fat acceptance movement, but the goal of HAES is to reframe *health*. This may seem like an assertion that contradicts the history of HAES, but it is not. Although HAES emerged out of the evaluation of evidence around dieting, it also emerged out of an alliance with researchers and practitioners concerned about eating disorders, and allegiance with feminism which was undertaking its own challenge to ideas of health. The primary objection that HAES has about the weight-dependent paradigm is its reliance upon weight as a definition of health rather than the salugenic model they favor. As I argue at the end of Chapter 4, this focus upon BMI or weight as the determinant of health destabilizes the ability of nutritionists and psychologists to label particular behaviors healthy or unhealthy. The HAES movement certainly has origins within fat activism, and increasingly it is merging with fat activism, but it also emerged out controversy within weight science and undergone an important period of growth where it has been influenced by factors outside of fat activism.

Fat acceptance as micro-activism

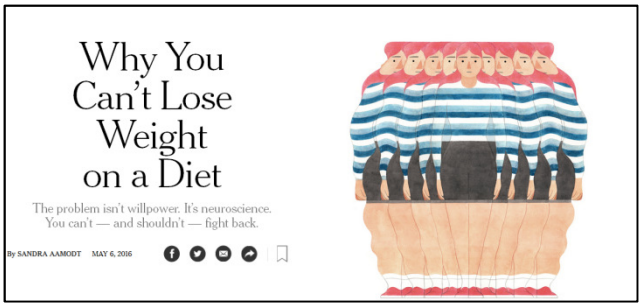

Figure 8: Illustration from New York Times, May 6, 2005 article. Art by Eleni Kalorkoti. This image positions a thin body within a nesting doll of larger bodies demonstrating the commonly held belief that inside each fat person a thin person awaits.

Activism within fat acceptance often begins with the adoption of an identity as fat. This is process that has been studied and written about by multiple social scientists and fat studies scholars. Fat activists undergo a process of "coming out as fat" (Sedgewick and Moon, 2001; Murray,2005; Saguy and Ward, 2011; Pause, 2012). Originating from a chapter written by Eve Kosofsky Sedgwick and Michael Moon, they describe the experience of being a fat-woman in society as akin to walking around in a glass-closet. The closet is glass because although the fat woman herself does not positively assert her identity as fat, it is none-the-less an open secret to which all others are privy. By "coming out as fat" she asserts herself as being in on the open secret of her identity and in on all that other people presume that identity to mean. (See the introduction to section 2 of this dissertation for further discussion.) Here Sedgewick and Moon distinguish between the closeted experience of being gay and the closeted experience of being fat given the highly visible nature of fat. When a person comes out as fat what they are also making three claims: 1) they are rejecting the stigmatized identity that has been imposed by society 2) they are asserting a positive identification with the fatness, and 3) they are affirming the fat state as permanent and genuine rather than transitory. Popular discourse around fatness asserts that inside of every

fat person is a thin person trying to get out (See figures 8). This is an idea that is reinforced by the phenomenon of the "before and after" photo and relates to the idea that the base-state of the human body is one of slender equilibrium. In asserting a fat identity a corpulent person also tacitly announces an intention to stop trying to not be fat. While it may seem strange to the outside observer to "come out" as a clearly visible identity, LeBesco notes that prior to coming out fat people have the option of passing as "on-the-way-to thin" (LeBesco 2004:95). Because of the narrow framing of obesity within our society, some other scholars have associated coming out as fat with a kind of necropolitics or acceptance of slow death (Berlant, 2010). This evolves out of the limiting of options for fat people. Coming out as fat is a radical act, because it stakes out a new discursive and imagined space for the fat body. Fat bodies are normally imagined as always becoming something else; they are becoming thin or they are becoming dead. To assert a stable fat identity that is also a positive, life-affirming identity is a radical act.

The politics around fatness exist at a very micro-social and personal level. While public health policy deals with populations and national crisis, the war on obesity and the oppression it imposes upon fat people is experienced at a deeply personal and invasive level. The message that is received as a result of the "war on obesity" is that for the corpulent, for those with excess adipose tissue, their way of being in their bodies and their way of being embodied in the world is wrong. As one of my fat activist respondents explained,

> "The war on obesity has massively affected my life. I think any time you take a group of people who are identifiable by a single physical characteristic and you say, "well, let's calculate the costs of these people, see if the world would be cheaper without them, and then if it will be, then have the government lobby for their eradication," you have gone down a bad road.

> That's exactly what has happened. … [T]he government tried to engage employers, friends, family, stores, random strangers on the street to give me constant feedback that my body is not socially acceptable. To give me a constant stream of stigma and oppression and bullying. Sometimes that comes as constant messages that my body is wrong and bad. There are many ways the war on obesity has impacted my life because I am an unwilling combatant in a war against me waged by the government" (fat acceptance activist and HAES lay expert, 1).

This quote illustrates the deeply personal experience of stigma and the very public nature of oppression for fat people. When activists take on the identity of fat, they engage with the fat acceptance movement and become an activist even if the kinds of activism they engage in would normally not be seen as a social movement activity.

Much of the activism discussed by fat activists in online spaces is an activism of micro-sociological proportions. Fat activism discuss the radical potential and resistance of showing fat arms, visible belly outlines (VBO) on their clothing, eating fattening food unabashedly in public spaces, rejecting weight loss compliments, "educating" others on the lack of connection between weight and health, or asking for a chair that fits their body. These actions, though small, are claimed as activism because of the way that they are part of an interactive and collective performative embodiment of fatness. These acts of asserting positive identity and membership in the fat community create meaning. Further, these activities rarely happen without a witness. The activism is shared online; the results of the educational interaction are shared. Many of these experiences are made into memes calling others to action. The repertoire of the fat acceptance movement relies heavily upon individuals unabashedly and in a deliberately visible fashion living their lives as fat people. As Tayler, Kimport, Van Dyke, and Anderson observe ideas about what makes up the social movements' repertoire have changed substantively over time. "The core insight is that

social movements often adapt, create, and use culture—ritual, music, street theatre, art, the Internet, and practices of everyday life—to make collective claims"(2009: 866). Much of the current activism around fat acceptance that doesn't take place within the medical field involves cultural tactics.

Changes in tactics over time.

One of my respondents had been a member of the fat activist movement for a very long time. They had at one point held a leadership position within the movement and taken some time off from activism only to recently return to an active role. In the parlance of Catherine Corrigall-Brown this person episodically engaged with fat activism, but their activism had been in abeyance for some time. Upon returning to activism they noticed a shift in the strategies of activism that were being engaged in:

> "It is so much more, because of social media, and the interwebs, which wasn't around. It's not a narrow and deep movement; it's a much broader movement. And the centering of voices that aren't white is wonderful. 'Cause for years I was basically the spokesperson for fat people, period. And to see how fat acceptance is manifesting, not just in media appearances, but in art and in public. You don't see the demonstrations. I mean, I was in front of the White House. I always had the picket sign. … So, we demonstrated against bariatric surgery, you know, and they [the physicians] met in Sacramento and we picketed and we marched over there and I marched up the aisle, you know with all the camera crews and everything else. So, you know, I don't see those kinds of big public actions anymore.

The third wave of the fat activism movement does engage in some large demonstrations, both in person and collective actions online, like "national no-diet day" but a lot of the activism is relational and cultural performance based. It is about contesting the kinds of narratives being imposed upon individuals and shifting the way knowledge is produced

around fatness. Large collective actions usually have to do with managing the way that fat people and fatness is represented in the world.

One way to define a social movements' repertoire is "the forms of claim making that people use in real-life situations"(McAdam et al. 2001:16, cited in Tayler et al) and this is where fat activism focuses its efforts. In part this seems to be a reaction to the failure of previous movements to gain legal protections and rights. When I surveyed fat activists about their goals for the movement, only those who were the most active or older listed legal concessions as their top priority, instead younger activists sought access to quality healthcare from the medical community, an end to the "war on obesity," positive societal representation, and an elimination of stigma. In sum, these activists were seeking out cultural change around fatness first before seeking out legal protections. While my sample was not random and cannot be said to be representative, this is a trend that I observed both in online spaces and in my participant observation at conferences.

Fat acceptance social movement goals.

As part of my research I observed a number of fat activist spaces, attended multiple fat activism related conferences, and interviewed self-identified "fat activists." One aim of my ethnographic analysis of the fat acceptance movement was to understand and categorize the goals of the social movement. To that end, I asked the activists I interviewed how they would define "success" for the fat acceptance movement? The responses I recorded represent a variety of goals with various scales of impact. This is representative of the movement itself which is wide-ranging and varied. One could easily speak of "fat

activisms," much as we speak of "feminisms." Activists often spoke of two separate kinds of success: personal and societal.

Personal goals varied widely and included things like bodily confidence and comfort, clothing choices, management of interpersonal relationships, and mental well-being. These personal goals tended to focus upon shifting the *quality of life* of the fat activist personally and of fat people generally. Societal level goals were more consistent and I coded them into four categories: An end to "the war on obesity" and other *demedicalization* and *medical access* demands, fat-fashion and other *consumer* concerns, increased positive *representation* of fat people, and *legal protections* for fat bodies.

How activists defined success varied along ideological lines. Self-selection in my recruitment process meant that I was more likely to interview highly involved activists[114] and often those who had a leadership role of some kind. I did, however, have some respondents who were more peripheral activists. Some activists identified concessions from specific institutional forces (the NIH, WHO, AMA, or other named professional organizations) while others addressed their appeals more generally to "the government," the "medical-industrial complex," "the media" and/or "corporations."

At the broadest and most basic level fat activists wanted to change the social meaning of fat. They wanted to live in a world where their bodies were not stigmatized and

[114] For the purposes of this dissertation I would define "highly active" as those activists who not only self-identify as "fat" and engage in activist oriented spaces but who do some sort of organization or leadership work on or off-line, or those activists who are more likely to engage with activism in "real life" settings: protests, fat-ins, or even just attending conferences.

where the prevailing discourse did not seek to marginalize or even eliminate them. At a minimum, activists wished to gain the authority necessary to contribute to (if not control) the production of knowledge about fat bodies in order to modify the meaning of fatness in the societies in which they live. This desire was sometimes voiced in terms borrowed from the disability rights movements ("nothing about us without us") or through the proposal of strategies reminiscent of AIDS activism and other patients-rights activist groups. The aim here, particularly with regard to the production of medical knowledge about fat bodies was to "have a seat at the table." There was also a wish to be positively represented in media and to be able to exercise greater influence as consumers. This was particularly salient for aims around beauty and fashion[115]. The effort to shift discourse is one way that fat acceptance seeks protection from oppression the other is through a bid for legislative and judicial protection. It is hard to gain rights without public support and sympathy, in order to gain legal protections fat acceptance must have some kind of public support.

Bodies are disciplined, shaped, and controlled through the discourse that exists around them: fat people are subject to a medicalizing and shaming discourse around their bodies and this limits their life chances and the strategies of their movement. Knowledge production is a form of power and at present fat bodied individuals are the subjects of power from institutional authorities in medicine, public health, and government agencies. The knowledge about fatness that is generated from within public health and medicine is seen as

[115] I do not discuss beauty, media representation of fat bodies, or the "body positive" aspect of fat acceptance in great detail in this dissertation. While these are important aspects of fat activism they are less relevant to the narrow scope of this project. These aspects of fat acceptance have been explored elsewhere in great detail.

more valid than the knowledge that fat people have about their own bodies. Further, the medical discourse around obesity bolsters existing prejudice as it allows discrimination against fat people to be framed as a positive practice that is done for the good of the country and for the person's "own good." The fat person's perception of their needs and bodies is trumped by the institutional conception of their needs. Fat people might think they need rights and protections, but the institutional message is that those rights and protections are unnecessary because fat people ought to lose weight for their own good. Knowledge production is intrinsically linked to power and the ability to label certain ideas as "truth." It is for this reason that fat acceptance activism is so closely tied to Health At Every Size activism. In order to gain the rights and protections that they seek fat activists must first change the discourse around fatness and pathology (*medicalization*) and the discourse around the etiology of fatness (*choice/representation*)

Fat acceptance does experience backlash and attempts at suppression, despite its defuse cultural repertoire of visibility activism. The acceptance of obesity is presented as a risk to the general public; fatness is presented as a potential contagion (Servick, 2017[116]), relaxation of boundaries around what constitutes "normal" body weight might result in the spread of this contagion (Trogdon, Nonnemaker, and Pais 2008) and the harmful lifestyle choices associated with it (Burke and Heiland 2018). It is because of this regulation of fatness as a health crisis that it is so difficult for fat activists to lobby for legal rights. The government they seek concessions from has targeted them for elimination (or at least their fat) and sees their fat as a threat to all bodies and to national security. The Organizations that

[116] http://www.sciencemag.org/news/2017/02/should-we-treat-obesity-contagious-disease

they want concessions from believe that their bodies are not only pathological but dangerous to others. The media and the generalized "public" are constantly bombarded with messages not only about the pathology of the fat body, but a cornucopia of fat-related stereotypes. The message of fat-as-pathology builds upon these stereotypes. These messages and stereotypes are devastating to the fat community because they support anti-fat stigma and they make it possible for people to not only hate fat people, but to hate them for their own good.

Given that two-thirds of the country is now included in the non-normative weight group (overweight or obese) it ought to be easier to gain positive representation, but backlash is still common. Fat activists face an immense battle to change existing discourse and reshape our knowledge about fatness in order to gain the kinds of concessions they want; many of my younger respondents believed that legal protections would be nice but that they would never be granted until cultural change occurred. The primary concern of almost all activists I spoke with was shifting the relationship between fatness and health. Two reasons were given for this: first, that ill-health was so often used as a means to shut-down fat activism, and second, that lack of access to quality healthcare had such a significant impact upon their quality of life.

Having a Not-A-Patient Movement

Most fat acceptance activists that I interviewed, and many of the activists in spaces I observed wanted to see an end to the targeting of obesity by public health officials. They rejected the premise that obesity is a disease or that it was the primary cause of disease. There is controversy within fat acceptance about how the issue of health ought to be

addressed. Some fat acceptance activists do not reject obesity as a disease, but they still want to see an end to stigmatizing and shaming of fat people. They do not want a disease state to be their *primary* identity. Still other activists are very uncomfortable with making fat acceptance about health at all and want to base claims to rights on a foundation not made rocky and narrow by the need to pass some sort of litmus test of "healthiness" first. This is because they perceive that making fat acceptance about redefining health gives into "healthism" and only incrementally introduces rights for fat people.

If fat acceptance becomes about widening the definition of health to include healthy-obesity they argue that some fat people will still be left outside the normative circle. Some fat people are ill. Some fat people do not exercise. Some in fact engage in a lifestyle that is the very picture of slothful abundance that stereotypes about obesity are built upon. Don't those people deserve rights, respect, safety and citizenship as much as any other fat person? There is concern that to make health concerns central to the fat acceptance platform would be to embrace what is referred to as the "good fatty / bad fatty" dynamic (Stacy Bias). Who then gets rights? How much effort do you have to put in to be healthy is required for membership? Must you be a "fat unicorn" as the in-movement term describes it: a fat person who engages in perfect self-care, is physically fit, and precisely healthy? What about "rad fatties" who want to be conspicuously indulgent and engage in all kinds forbidden behaviors that are associated with fatness and excess?

There is significantly more consensus around the medical implication of obesity from within the HAES movement than there is inside the fat acceptance movement. The closest assessment of the fat acceptance stance on medicalization would be, "we don't really

think the disease status of obesity should matter for our civil rights" and "we should have the right to refuse the disease label if we want to." While there is a fairly universal rejection of dieting as compatible with fat acceptance, this has more to do with the perception that the diet culture is about avoiding the horrors of fat identity than it is about a stance on health and fat, and even this is a contested idea within some fat activist spaces[117]. Health at Every Size is deployed within fat acceptance as two concordant entities: a public health initiative for fat people, by fat people and a strategy to manage knowledge production and discourse about obesity in order to facilitate access to rights. HAES is a tool for fat acceptance, not the goal.

This makes it very difficult to categorize fat acceptance. In one way of thinking, fat acceptance appears to be a health social movement, perhaps even a patient's rights movement, however health and health access really aren't the main goals of fat activism. They are important, and they are ever-present, but the main goals of fat activism is freedom from anti-fat bias and the oppression it produces. Health is high on the list because of the way that fatness is hegemonically defined as a disease. This makes the current relationship between fat activism and medicine analogous to the experience of the gay rights movement in the 1950s – 1970s when homosexuality was still commonly considered a disease, highly stigmatized, and targeted for legal action. Freedom from medicalization was far from the groups end-point as far as activism was concerned, but it was a starting point. When an

[117] A number of well-known fat activists have gotten weight loss surgery or intentionally lost weight. A few examples include Samantha Murray, Roxanne Gay and Ashley Nell Tipton. Reactions to these kinds of decisions vary and seem to be dependent on how the individuals frame and justify their decision.

identity is defined as a pathology that becomes a master-narrative for the group and one that has to be dealt with: fat people can either embrace the patient identity and seek rights on the basis of their pathology through a disability frame, or reject the identity and attempt to end medicalization. In the fat activist spaces I have observed the preferred course of action is to end the medicalization of fatness.

In so far as fat activism attempts to control the kinds of medical knowledge that are generated about fatness and reject the imposed patient role, this aspect of fat activism could be framed as a health social movement. Health social movements (HSMs) are social movements which are organized around Health and this is why the identification of fat activism as an HSM is tricky, it isn't defined around health but health is an obstacle in its path. If fat activism self identifies as a health social movement, they end up legitimizing their critics first and most common criticism: fatness isn't healthy. As seen in the vignette at the beginning of this chapter, that means that the discussion becomes defined around health and the ability of fat bodies to achieve or embody that state. This limits fat activism. However, fat activists do care about health and access to healthcare. It is a major issue for them. The division between fat activism and the HAES movement creates a bulwork between fat activism and health. The HAES movement provides a response to the charge that "we can all dismiss the concerns of fat activists because fat is unhealthy, so we can oppress you for your own good!" The fat activist can point this person in the direction of HAES and attempt to move around the objection and on to their important points. If HAES was not separate from fat activism the fat activist would be staking their claims squarely within the "fat can be healthy" camp, but with HAES as a separate movement a division of

labor is created and rhetorically the issue of "fat is bad for you" can be tabled by fat activists as belonging in a different conversation without entirely giving up the claim to health. Under this division of the movements, which is attested to by leadership in both movements, a division of labor occurs between the movements. Fat acceptance does the labor of a civil rights movement and the HAES paradigm does the labor of a health social movement.

Health social movements (HSMs) address concerns like access to health care services, health inequalities based on demographics or identity group, or the experience of disease, illness, or disability and sometimes on contested illness (Brown, Zavestoki, McCormick et al, 2004). All of these are concerned that are addressed by the HAES movement. These are concerns that are important to fat activism as well, but they are outsourced or deligated to the HAES movement and in the process of activism they are rhetorically segregated to "HAES" topics. According to Brown et al (2004) health social movements can be subdivided into three categories:

> "*health access movements* seek equitable access to health care and improved provision of health care services; *constituency based health movements* address health inequality and health inequity based on race, ethnicity, gender, class and/or sexuality differences; and *embodied health movements* (EHMs) address disease, disability or illness experience by challenging science on etiology, diagnosis, treatment and prevention" (Brown, Zavestoki, McCormick et al, 2004:52).

Health At Every Size does all of these things. The HAES movement challenges the science on the etiology, diagnosis, treatment and prevention of obesity. Fat activism does this too, but primarily through rejection of obesity as a disease and the framing of medical intervention into fatness as an expression of anti-fat oppression. FA rejects, HAES reframes. "EHMs include 'contested illnesses' that are either unexplained by current

medical knowledge or have purported environmental explanations that are often disputed. As a result, these groups organize to achieve medical recognition, treatment and/or research"(52). Again, this is something that the HAES movement does: they organize around medical recognition, treatment, and research, but it is primarily to recognize the ill effects of anti-fat stigma. NAAFA, which closely allies itself with HAES, has initiatives to redirect research funding away from efforts to 'cure' obesity and toward research that would help improve the health and quality of lives of fat people at the weights they are now.

Fat activism does engage a in some ways as a "Health Access Movement" which is a movement which "seek[s] equitable access to healthcare and improved provision of healthcare services. These include movements such as those seeking national healthcare reform, increased ability to pick specialists, and extension of health insurance to uninsured people"(52). This is the relationship to health that many fat activists articulate. They reject their patient status for their obesity, butthey do want to access quality, respectful, shame-free care for the other health challenges that they experience. After all, they are human and are going to have to access healthcare at some point. As I will elaborate below and as was discussed in the previous chapter, access to care is a significant challenge for fat patients. In this way fat acceptance mirrors health movements that are classified as constituency-based, which "address health inequality and health inequity based on race, ethnicity, gender, class and/or sexuality differences. These groups address disproportionate outcomes and oversight by the scientific community and/or weak science. They include the women's health movement, gay and lesbian health movement and environmental justice movement"(53). Fat acceptance identifies as a constituency group based upon their collective identity as fat and

they identify anti-fat stigma as the primary barrier to care, as well as an independent factor in creating disparities in health outcomes in fat people. However, they outsource the work on these issues to the HAES movement and switch to HAES rhetoric when discussing these issues.

At the broadest and most basic level fat activists want to change the social meaning of fat. They want to live in a world where their bodies are not stigmatized and where the prevailing discourse does not seek to marginalize or even eliminate them. At a minimum, activists wish to gain the authority necessary to contribute to (if not control) the production of knowledge about fat bodies in order to modify the meaning of fatness in the societies in which they live. This desire was sometimes voiced in terms borrowed from the disability rights movements ("nothing about us without us") or through the proposal of strategies reminiscent of AIDS activism and other patients' rights activist groups. The aim here, particularly with regard to the production of medical knowledge about fat bodies was to "have a seat at the table." There was also a wish to be positively represented in media and to be able to exercise greater influence as consumers. This was particularly salient for aims around beauty and fashion[118]. The effort to shift discourse is one way that fat acceptance seeks protection from oppression, the other is through a bid for legislative and judicial protection. It is hard to gain rights without public support and sympathy; in order to gain legal protections fat acceptance must have some kind of public support.

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Bodies are disciplined, shaped, and controlled through the discourse that exists around them; fat people are subject to a medicalizing and shaming discourse around their bodies and this limits their life chances and the strategies of their movement. Knowledge production is a form of power and at present fat bodied individuals are the subjects of power from institutional authorities in medicine, public health, and government agencies. The knowledge about fatness that is generated from within public health and medicine is seen as more valid than the knowledge that fat people have about their own bodies. Further, the medical discourse around obesity bolsters existing prejudice, as it allows discrimination against fat people to be framed as a positive practice that is done for the good of the country and for the person's "own good." The fat person's perception of their needs and bodies is trumped by the institutional conception of their needs. Fat people might think they need rights and protections, but the institutional message is that those rights and protections are unnecessary because fat people ought to lose weight for their own good. Knowledge production is intrinsically linked to power and the ability to label certain ideas as "truth." It is for this reason that fat acceptance activism is so closely tied to Health at Every Size activism. In order to gain the rights and protections that they seek, fat activists must first change the discourse around fatness and pathology (*medicalization*) and the discourse around the etiology of fatness (*choice/representation*). At a societal level, HAES provides a language and authority base with which to counter arguments dismissing fat rights based upon health status. At a personal level HAES provides a means of wielding authority and expertise in order to negotiate for better healthcare when it is sought or for freedom from "concern trolling" when healthcare is not the goal.

HAES as a Shared Tool of Resistance and Negotiation

On the front page of the NAAFA website[119] there is a large box in the lower right hand corner that says "What is HAES?" If you click on this link a PDF titled "Guidelines for Healthcare Professionals with Fat Clients" is downloaded. Elsewhere on their website there is a section on education, including two links about HAES. In this section it is written,

> "NAAFA supports the principles of Health at Every Size (HAES). These principles are aligned with our mission of protecting the rights and improving the quality of life for fat people. Instead of focusing on weight as a measurement of health, the HAES approach removes weight from the equation and replaces it with a focus on overall well being, which includes the full range of body shapes and sizes" (NAAFA, retrieved June 20, 2018).

NAAFA has aligned HAES with fat acceptance goals by making access to quality healthcare a matter of protecting fat people's rights. It is their hope to instigate institution level changes in the medical definition and treatment of obesity. Health At Every Size is the means to this change. By defining Health At Every Size as a separate entity, and scientifically based movement NAAFA makes a stronger rhetorical move than they would if they were to advocate for HAES principles as the preferred principles generated from within fat activism. By positioning HAES as not only separate, but a scientific movement (rather than an activist movement) NAAFA can act as a social movement advocating or the right care, rather than a social movement generating a new scientific paradigm. While NAAFA as an institution has the ability to lobby the U.S. government or other large institutions like the AMA for change, most fat activists do not have this kind of individual influence. Instead they must advocate for change at a clinical, interpersonal level.

[119] https://www.naafaonline.com/dev2/

Seeking a fat-friendly physician

Fat Activists share tools and strategies for managing encounters with medical professionals. These tools and strategies are created and shared with a dual purpose: to aid activists in accessing adequate care and to advocate for better care for fat patients as a group through education of individual healthcare professionals. These constitute collective action that is carried out on an individual basis. These actions include changing physicians, refusal to be weighed, and "education" of healthcare practitioners.

Fat activists talk a lot about seeking out a fat friendly physician and the problems that arise when they do not have one. When group members bring a problem with a physician who is perceived to be fat-shaming[120] to the group for advice, comfort, and empathy, the common first course of recommended action is to "fire" the physician and seek out one that is "fat friendly." Outside of the community this is referred to, sometimes pejoratively, as "doctor shopping." There is extensive discussion within fat acceptance communities about how to find a "fat friendly" physician and how to ascertain if a particular physician is fat-friendly. There are collective resources devoted to this endeavor including online lists compiled by nominations from within the community[121] and a database of HAES practitioners[122]. More recently an app has been launched to help compile information about

[120] In this instance this can mean anything from speaking disparagingly about the patient's body and recommending weight loss, to withholding care.

[121] www.cat-and-dragon.com/stef/fat/ffp.html, https://plussizebirth.com/size-friendly-care-providers/, http://fatfriendlydocs.com/

[122] https://haescommunity.com/find/, https://www.sizediversityandhealth.org/content.asp?id=32&action=searchResults&do=search

the fat-friendliness of various service providers, included physicians. Requesting a physician recommendation is common practice in almost all fat-positive spaces[123].

Navigating the medical field is much easier if one can find a physician that is at least sympathetic to their beliefs regarding their own bodies and obesity in general. This is one area of obvious alliance between HAES and fat activism, as HAES practitioners are by definition "fat friendly." However, HAES practitioners are concentrated in particular specialties and not available in all areas, so activists must often seek out physicians and other healthcare providers that will provide adequate healthcare without anti-fat bias, shaming, or diet talk. Often this means finding a physician that is part of the weight-dependent paradigm, but elects not to discuss the patient's weight or intentional weight loss with them. This might be because the physician just doesn't think that management of weight is the job of physicians, or that the physician doesn't believe that discussing weight will result in any changes. It might be that the physician is sympathetic to the challenges of fat stigma and makes a conscientious decision to not contribute to that stigma, even if they believe that excess weight is a danger to the patient. Other "fat friendly physicians" treat obesity-related talk in these circumstances as a patient's rights issue, believing in the patient's right to refuse one kind of treatment but still access others.

Collective resources that build collective power.

There are also form letters, scripts, and similar resources devoted to communicating your fat activist, anti-diet, and/or HAES stance to your new physician. One commonly shared resource is an "introductory letter" for fat patients to bring to their physicians when

[123] The natural exception is spaces the forbid off-topic posts.

they are meeting them for the first time (see Appendix C). This letter was created and shared by author and activist Hanne Blank, it can be tailored to the needs of individuals. Some versions of this letter introduce the idea of HAES, others make requests regarding language use or boundaries around weight-loss talk. Similarly, there are a few phrases that are shared again and again in activist spaces to utilize when physicians attempt to refuse care or blame health problems on "overweight" or "obesity". From my own observations, these include:

> "Do thin patients get this ailment? How would you treat this ailment in a thin patient?"
>
> "Can you show me a study of a weight loss method where the majority of patients succeeding in losing and maintaining the amount of weight you are suggesting?"
>
> "Can you show me a study that demonstrates that weight loss successfully treated this illness?"
>
> "Weight loss is a long term endeavor, what can we do for this issue today?"
>
> "In our limited time today I would like to focus on…"

Ragen Chastain, a popular fat activist who runs two blogs with numerous followers, has cards that can be printed out and put in your wallet to bring with you to the physician's office. (See Appendix D) The cards can be used either as a prompt for interactions with the physician or handed over to the physician to describe HAES as an alternative approach to the one they are advocating. Virgie Tovar, another fat activist blogger and author, offers a script to follow at the doctor's office,

> "I'm here today to discuss _____. Before we start, I wanted to tell you that it's really important to me to feel that I have a say in medical care I receive. I want to do my best to ask for the medical care I need, and I can't do that if I feel pressured to lose weight. So, I am not interested in pursuing or discussing weight loss. Can we agree on this?"

Similar to the form letter described above there are shared resources online that list these and other questions to bring to the doctor. Some lists are issue-specific. For instance the fat-friendly blogs "Well Rounded Mama" and "plus size birth" have recommendations and a list of questions to bring when selecting a fat-friendly OB or midwife. "Cat and Dragon" which hosts a size-friendly provider list includes tips of self-advocacy in the physician's office. Variations upon this kind of advice are offered by most bloggers within the fat-o-sphere. Another practice that is commonly recommended is refusing to be weighed at an appointment unless it is necessary for the prescription and administration of medication (such as in the case of anesthesia).

There are several different lists and databases of "fat friendly providers" online. These lists are not limited to physicians and some include medical professionals, gyms, massage therapists, trainers, even nail technicians: any profession that engages in body work. These are separate and distinct from lists of HAES oriented professionals. These lists allow fat activists to engage in a variety of collective consumer activism. A provider that is recommended as being "fat friendly" might find that they have an uptick in business. These strategies engage in a form of consumer advocacy – treating healthcare providers as sellers in a market and rewarding or withholding patronage. They also engage with professional organizations and ethics standards to hold healthcare provider.

Development of lay expertise.

Fat activists also engaged in development of lay expertise and assertion of this expertise in order to negotiate the medical process and to educate fat-hostile practitioners. This is an especially common practice within shared HAES/fat activist spaces. I was able to

see this process unfold many times in the Facebook groups that I observed. In one HAES Facebook group I was fortunate enough to witness a change in the demographics of the space over time, moving from a space populated primarily by HAES practitioner-activists to a mixed HAES/FA space. The initial influx of fat activists caused tension, there was resistance from both sides to this shared space. The fat activists often felt that the practitioners wer "talking down" to them or holding their expertise over the fat activists. The fat activists were also quick to jump upon incidents of healthism on the part of HAES practitioners and to educate them about the lived experience of fatness and the importance of intersectionality within activism. For their own part the Health At Every Size practioners identified anti-healthcare practitioner attitudes and occasional anti-science attitudes within fat activists posts. The resulting dialogues were very interesting for me as an observer, though often very strenuous for the group. Over time I observed the division in labor within these two groups and the exchange of experience and ideas. Fat activists would come into the space with a problem regarding their access to care or with their health. The HAES practitioners would help respond with resources and education. Other, more experienced fat activists would chime in with their own patient experiences which often surprised the HAES practitioners, especially the thin ones. The result was not only the development of lay-expertise about HAES for the fat activist, but a development of lay expertise about the embodied experience of stigma for the HAES practitioner.

While the experience of pushing back in the physicians office is an individual activity, this activity is often discussed and strategized within HAES/fat activism (HAES/FA) and they are facilitated by the development of joint resources. HAES/FA

combination spaces are vital to this kind of activism because the fat activists are able to access knowledge and support from HAES activists and experts. Given the highly politicized nature of fat bodies, these kinds of individual acts of resistance actually have a powerful impact. Strategic, coordinated acts of individual resistance to the obesity narrative force confrontation between the weight-dependent paradigm and Health at Every Size aiding the HAES cause.

One fat activist shared their experience of challenging and changing a healthcare system through utilization of the HAES knowledge which they had developed from within the community.

> "A few years ago I asked to speak to the ortho surgeon after knee pain got diagnosed as OA, and the first barrier was my PCP refusing to even let me talk to him unless I did the weight loss program. I complained on behalf of all patients with a BMI>35 and the Kaiser complaint people could not figure out how to deal with a complaint that wasn't individual - but still told me 'you have no legitimate complaint because you didn't go through the weight loss program recommended to you.' They coded it as me being refused surgery but I just wanted to TALK to him about the lay of the land for this issue. I finally squeaky-wheeled my way in to see him and had to talk him back into his chair three times - I was challenging him about the policy and he denied it was a policy (even though he was the author of it), and the research it was based on – 'Do you have data comparing fat people who lose weight then get knee replacement and fat people who don't lose weight and then get knee replacement or is this the usual always fat vs always thin outcomes?' I walked out of there wrung out and astonished at how f*cked up this whole thing was for me, even as a person with so much privilege"

In the above quote a fat activist has utilized her sense of collective fat identity to bolster herself in engaging with the medical community. She is complaining "on behalf of all patients with a BMI>35" she says. She feels she is capable of doing this because of the shared knowledge within the HAES/FA space that has allowed her to challenge the physicians' authority. She then utilizes the shared scripts of the HAES/FA community to

force the physician to prove the validity of his approach. “I was challenging him about the policy and he denied it was a policy (even though he was the author of it), and the research it was based on – ‘Do you have data comparing fat people who lose weight then get knee replacement and fat people who don't lose weight and then get knee replacement or is this the usual always fat vs always thin outcomes?’ She is able to negotiate with the physician and work her way around the bureaucracy because of the expertise and competence she picked up within the movement. Many such success stories are shared, most are not as dramatic as access to surgery.

Many fat activists who have spent a lot of time within FA and HAES circles have a surprising breadth and depth of knowledge about obesity and obesity related research. When new community members come in and seek out resources they may be overwhelmed at first with the resources offered. These include a mix of primary source documents (peer-reviewed journals) and heavily cited online blogs. There is an extensive community of fat acceptance bloggers, who spend considerable time and resources picking apart medical research publications and outlining what is right and what is wrong about this research for the benefit of their fellow fat activists. These bloggers have developed intricate knowledge of the medical literature. Some, like Regan Chastain, Marian Kirby, and Marilyn Wann have been published in peer-reviewed journals or are paid to speak about Health at Every Size.

Another shared practice is in holding physicians accountable for their actions. This can be as simple as how to push-back against a physician who is refusing care:

> “It takes practice, I used to be very nervous speaking up because I didn't want to be seen as difficult or noncompliant. But I've had plenty of opportunities to

> speak up, and it gets easier each time something dumb happens at the doctor, ha."

Or as complicated as how to file a complaint against a physician who was discriminatory at a bureaucratic level (hospital administration) or an institutional level (insurance companies, physician licensing boards, state medical boards). Activists also engaged in activism surrounding their patient visits to negotiate the medical narrative around their bodies. These strategies included refusing to be weighed, complaining if weight-loss materials were given when they had been explicitly refused, monitoring appropriateness of medical advice given, and monitoring the quality of care they receive.

One of the most commonly shared types of lay-expertise distributed (Two shared in a row) within the fat acceptance community is the medical standard of how to take blood pressure. Accurate blood pressure readings are a recurrent topic of conversation within fat acceptance spaces and long posts ensue that convey in exacting detail: 1) how blood pressure ought to be taken, including positioning of the body, procedure and the changes it can affect in reading, 2) what size cuff ought to be used, and 3) how to advocate for appropriate measurement. Sometimes the kinds of lay-expertise shared are small bits of technical knowledge, like the examples above, other times the kinds of lay-expertise generated are much more sophisticated and include the generation of massive literature reviews to bring to the physicians in order to bolster their requests for a specific kind of treatment or care.

What HAES Gains From Fat Acceptance

The transmission of capital and resources between these two social movements is not one way, nor is the advantage of the division of labor between the movements reserved

solely for fat acceptance. As previously discussed, fat acceptance activists gain an advantage from the ability to outsource questions of health to the HAES movement, the HAES movement also benefits from the construction of fat acceptance as a separate movement. In identifying as separate movements, HAES is kept distinct from fat activism. This aids HAES when it needs to appear credible to the scientific world. While the medical establishment does have examples of social movements that have developed lay-expertise and made significant scientific contributions (AIDS activists), they also have examples of social movements which primarily sow doubt and spread misinformation (anti-vaccination groups). It is helpful for HAES when their interlocutor is within the medical community to emphasis their status as separate from fat activism, but also serving the needs that are loudly articulated by this group. This gives HAES a dual kind of validity: they can evoke scientific credibility and the validity of patient support. Fat activism's grassroots efforts bolster and amplify the message that the HAES movement is sending. There are more voices asking about and advocating for the HAES approach. Anothert obvious advantage for the HAES movement is that fat activists consume the HAES services. Fat activists seek out HAES oriented physicians, nutritionists and other medical experts. They follow HAES blogs; they purchase HAES books. While the HAES movment has a following outside of the fat acceptance community, and a following that is growing, they are indebted to fat activists for their start and for promotion of their point of view.

Fat activism also bolsters the visibility of HAES. When fat activists are interviewed by the *New York Times* or appear on the *Larry Wilmore Show*, or publish a book, they are spreading not only the fat activist message but the HAES paradigm. When fat activists

educate their physicians, human resources workers, neighbors, gym, and that random person who cornered them in a bathroom to preach the wonders of the keto-diet, they are spreading awareness of HAES and making it harder for the medical community to ignore this growing movement. This is what makes the relationship between the two movements symbiotic. They rely upon one another to achieve aims. This is a strategic symbiosis, the division of labor between the movements makes it so that each can more effectively advocate for their aims.

Health At Every Size as a Gateway to a Fat Health Tradition

In 2014 I traveled to Oakland and San Francisco to conduct field research and interviews. While I was in town I made contact with Marilyn Wann[124] to talk to her about her lifetime of work as a fat acceptance activist. Ms. Wann told me a story. It was after I had turned off the recorder so I will have to paraphrase[125]; she told me about speaking with

[124] While all other respondents in this dissertation are anonymized Ms. Wann made it clear to me that it was very important to her that her name be attached to her responses. She told me that this was "her life's work" and so I have honored her request. As she would not be anonymous I did not interview Ms. Wann as a research subject utilizing the same questionnaire that I did for me research respondents. Instead she gave a life-history interview where we talked about her lifetime of activism.

[125] At the time that Ms. Wann told me this story I asked her permission to add it to my notes and use it for my research, to which she consented. When I decided to add it into the dissertation I called her to confirm that she agreed to my relating the story, and she did. She asked that I emphasize however that she does not regard the work she does as "public health" but that others have labeled it as such. This is because health "is really not by first priority" but that "we [fat people] do need and deserve to live and be free from oppression and all the medicalizing we face" she went on to explain that "I like to reclaim all kinds of behaviors from anti-fat oppression" and that these behaviors include health-inducing behaviors like joyful movement and eating vegetables but also encompass a variatey of other behaviors which range the spectrum of human behavior. She cautioned that while others regard some of her work as "public health" as it may allow fat people to access traditionally "health" inducing behaviors she regards public health with intense skepticism due to its

someone who was not familiar with fat activism and telling them about the various kinds of efforts she had been making over time in her own community of Oakland: efforts to create connections in her community, to get fat people access to good food, emotional support and appropriate medical care, to aid their mobility all as part of her fat activism outreach. After speaking with this person for a while they declared, "That isn't activism, you're doing public health! That's public health!" as she told me this story she chuckled and shrugged. While Ms. Wann strenuously objects to the delineation of her work as "public health" as she feels that public health efforts focus too much on promoting "health" as anti-fat oppressive tactic, she does see her work as bringing much needed connection to fat individuals who are too often isolated by the war on obesity. Wann is an "elder statesman" of the contemporary fat activism movement. Her book, *Fat! So?* was published in 1998 just before the start of what Charlotte Cooper identifies as the third wave of fat activism (Cooper, 2008) and just as fat activism was making a shift from a basis in 'zines and email networks to online communities. Many fat activists recall her book as their introduction to the movement. Wann is one of the most widely interviewed and quoted fat activists in the world. When she told me this story I had just started my work on fat activism and I didn't really understand what she was telling me. Looking back however, I find the story striking. In the years since I have wondered what a fat activist public health platform would look like. Some might

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moralizing attitudes and tendency towards "healthism" which she opposes. She went on to state that her primary aim in the activities that were being commented upon was to create community and connection. Fat oppression isolates fat individuals and she sees this work that was being commented upon as being about the importance of "showing up" and "connecting to the community."

respond that this is exactly what Health At Every Size is: a fat activist answer to public health.

When the Fat Underground and the Think Tank began their interactions with weight science in the 1970s a radical redesignation of fatness was their goal. They wanted to reveal the oppressive mechanisms that produced anti-fat sentiment and these effects upon the health and life-experiences of fat people. All these decades later Health At Every Size still struggles with this goal, it is torn between a history that wants it to focus upon behavior not outcomes and other very traditional medical approaches to health and a history that wants it to be a radical retelling of the sources of health and wellness. All the while the fat activist community and Health at Every Size activists have been doing a lot for the health and well-being of both fat and thin people.

One of the repeated refrains within fat activism is that you don't have to wait until you are thin to live your life. Want to travel? Learn a new hobby? Date? Wear cute clothes? You don't have to be thin to do that. Want to learn to run or ride a bike, or go out an hike? You can do that while your fat too, and you don't even have to do it well or with the aim of losing weight. This is such a simple message, but the responses I have witnessed over the last four years of observation have led me to believe that this simple sentiment does more for the health of fat people than any public health campaign I have seen. I don't know what involvement in the fat activist community does to your lipid levels or your blood pressure, but I have seen what it does for fat people's lives and mental health. They come to the community frustrated and often isolated. They have been told again and again that they cannot live their lives until they are done becoming thin people and that they're bodies are

damaged. I have seen so many individuals come to this movement and start doing things for themselves that allow them to be happy, active, and connected. Given that the latest public health buzz is that isolation and loneliness are the next big public health threat, the fat acceptance community may well be engaging in a kind of public health.

Within Health at Every Size I have also seen transformations over the last four years. The movement increasingly considers a materialist analysis of "obesity" and "obesity related illnesses" and this has produced more and more radical activism from within this movement. On the horizon I wonder if Health at Every Size will eventually develop into a "Fat Health Tradition" akin to the Black Health Tradition, that combines rigorous social analysis with medical care that addresses the history of fat oppression, fatness as a complex social identity, fatness as a symptom structural inequality, and the Health at Every Size model.

CONCLUSION

Over the last 100 years adiposity has been transformed into a biomedical identity and major public health concern. The medicalization of adiposity predates epidemiological data about its apparent health dangers. Adiposity has become a contentious concept with multiple social worlds competing for authority over the concept. Obesity is the biomedicalized reconception of adiposity. Obesity is a useful category, it does a lot of work for multiple social worlds and subworlds, it is a boundary object obesity is defined and utilized differently within the various subworlds of the weight science arena. "Obesity" as a concept allows for communication and collaboration across disciplinary boundaries and social movements. Obesity has contested meanings and definitions, but the rise of the "obesity epidemic" in the 1990s has created a hegemonic conception of obesity as a risk factor and disease, defined by BMI, but representational of and best remediated by lifestyle practices. This obesity epidemic theory/methods package allows collaboration between medical disciplines that have differing scopes of medical focus, at the microbiological, clinical/individual, and epidemiologic/public health levels. Currently, epidemiology and public health hold the authoritative position over definition, management, and treatment protocols for obesity, but the arena is constantly shifting with different actors and subgroups vying for dominance. Individuals and groups outside of the weight science arena also compete for authority to create knowledge and meaning around obesity.

Multiple controversies have arisen within the arena of weight science. Since the 1960s a growing body of data questions the viability of lifestyle modification for reduction

in weight. While life-style interventions can produce short-term reductions in body fat over the long term (1- 5 years) these losses are not sustained, the weight returns, and often patients end up at a higher weight that they were when they began the diet. Debate and controversy over the meaning of this data has been ongoing within the weight-science arena for 40 years. While public health promotes a message that the treatment for obesity is well known and simple, the science is far from settled. Disagreements continue about the ability of the human body to lose and maintain fat loss over time.

This debate has resulted in a schism within the weight science arena and the rise of an intellectual movement seeking to overturn the hegemonic theory/methods package constructed around the obesity epidemic (the weight-dependent paradigm). This group identifies their new approach, which they position as a "paradigm shift," as Health at Every Size (HAES). Both sides of the schism have been forced to reconstruct the definition of obesity in the face of the evidence crisis around weight loss maintenance. The weight dependent paradigm has applied increasing technoscientific methods in their research about and treatments for obesity: investigating the microbiological processes by which adiposity is produced and adiposity produces illness, applying pharmacological, technological, and surgical means to the management of obesity, and increasing surveillance of all bodies. For the weight dependent paradigm obesity has a multiplicity of proximal causes, but only one true cause which is caloric imbalance brought on through improper lifestyle.

The Health at Every Size model has also reconceived the category and meaning of obesity. Faced with the inefficacy of lifestyle intervention for reduction in weight the HAES model reorganized the focus of their interventions away from weight as an endpoint and

indicator of risk to a focus upon behaviors, individual well-being, health access, and social determinants of health.

Resulting from the increasing biomedicalization of obesity a new set of debates and controversies have begun within weight science. This cluster of controversies focuses upon the heath impacts of adiposity. Epidemiological research indicating a potential survival benefit from excess adipose tissue has sparked controversy. The results are surprising as it would contravene the hegemonic definition of obesity (which is directly tied to increased risk of disease and death), this made the results difficult to publish and a key term was created that allowed the results to fit into the dominant paradigm: "obesity paradox." Multiple obesity paradoxes have since been explicated in the scientific literature. The overweight all-cause mortality paradox has been the most controversial.

The overweight all-cause mortality controversy focuses upon which BMI category carries the lowest risk of all-cause mortality. The relationship between mortality and weight/BMI as a U- or J-shaped curve has been known since the statistical trend was identified by life-insurance companies in the early decades of the 20th century. When obesity was redefined using BMI cut-off points the original cut-points were chosen to align with the insurance charts so that these epidemiological categories aligned with increased risk. A 2005 CDC study indicated that the nadir of the curve for all-cause mortality was within the "overweight category" and the mild obesity showed no higher risk of mortality than the normal weight category. The ensuing controversy has continued for more than a decade with researchers arguing over the credibility of that and subsequent findings. The controversy has been particularly heated and has been noticed by the lay-public increasing

concerns from public health officials that the obesity paradox research could undermine public health efforts and that the controversy itself might undermine public faith in science.

Obesity paradox research has resulted from and continued the technoscientific trend in obesity research. These researchers increasingly interrogate the definition of obesity, the viability of current methodological practices, and the obesity epidemic toolkit's validity for explaining, researching, and controlling obesity. Research generated from the obesity paradox bandwagon has introduced new phenotypes of obesity (new humankinds). These are the metabolically healthy obese person, the metabolically obese normal weight person, and the fit fatty. The obesity paradox bandwagon has also begun to generate research into questions that the HAES movement had been agitating about for two decades. The HAES movement is invested in keeping the debates around viability of weight loss, healthy obesity, and the obesity paradox ongoing. The HAES approach is allied with fat acceptance and is invested in transforming the public and medical understanding of adiposity.

The increasing surveillance, production of knowledge about the health dangers of fat, and the public health targeting of fatness have solidified fatness as an identity. The fat body is an implicated actor in the weight science arena but fat people as a social world are silenced and the agitating from the fat acceptance subworld is actively suppressed. The intense targeting of fat bodies for modification has increased stigma, prejudice and discrimination against fat people. This has resulted in the transformation of fatness from a simple identity group into socially complex identity (see below for further discussion). HAES is aligned with the fat acceptance movement in efforts to resist the

medicalized identity of fatness. These two concordant and symbiotic social movements have arisen from a shared background but are separate social movements. They benefit from sharing the unique kinds of social capital that each group is able to muster. This shared capital allows these groups to negotiate for credibility of ideas and shared authority over the meaning of adiposity. The resulting collaboration looks something like a social movement and something like a public health initiative for fat people. I propose below that in the near future this ongoing collaboration will increasingly become a fat health tradition after the fashion of the black health tradition.

Definition of Obesity and Impact

Adoption of the technoscientific definition of obesity using the body mass index has had significant impacts upon the arena of weight science, the lives of fat people, and public health policy. Obesity has been constructed as a useful technology within the weight science arena. Defined as a measure of body fat, obesity neatly packages together multiple factors that impact health which are correlated to adiposity. These include physical activity level, cardiovascular fitness, metabolic health, dietary practices, genetics, pharmacology use, poverty, race/racism, gender/sexism, and anti-fat stigma. It then reduces these factors down to a measure of body fat and through application of the "eating in excess" framework reduces a complex set of socially and biologically driven factors to lifestyle. The practice is not malicious, it makes sense from a biomedical individualism standpoint and from the logic of biomedicalization. All of those factors are correlated with body fat and are likely also correlated with or affected by lifestyle factors. Many of those factors are beyond the control of individuals or physicians. Those factors are "black boxed" into the definition of obesity

which is reduced to an input/output device where assumptions about lifestyle go in, lifestyle changes come out and the hope is that improved health results. This has had the effect of hiding these factors, rendering them invisible.

The controversies within weight science have led to questions about best practices in definition obesity. Body Mass Index is the popular target for change. BMI is a poor indicator of adiposity according to these criticisms. There may be more heterogeneity within BMI classifications than was thought. According the HAES BMI is a poor indicator of health and health is what the BMI is tacitly tasked with measuring. As these controversies continue the definition of obesity will change. That change might reinforce the current paradigm by moving to a new definition or protocol that is supposed to more accurately measure adiposity and allow for more accurate categorization of the cut-points for healthy quantities of adipose tissue. It might also be a change the changes the current paradigm by extending the current interest in the heterogeneity of the people who are "obese" multiple categories of obese phenotypes might be created to account for these differences. Some researchers have begun to apply a technoscientific lens to the definition of obesity, proposing that a simple measure of too much or too little fat misunderstands the disease entity underlying obesity, transforming obesity from a simple measure of quantity of fat to a dysfunction of an organ or organ systems. The HAES bid to naturalize fat as a normal bodily variation also redefines fat. One way of interpreting the controversies I have outlined here-in is as an ongoing dispute about the definition of obesity as a contentious boundary object.

Scientific Controversies

In this dissertation I have utilized situated analysis and social worlds theory to evaluate multiple ongoing controversies within weight science. The use of situated analysis has allowed me to interrogate these controversies simultaneously and relationally. This has allowed me to engage in a symmetrical analysis of this ongoing set of debates. I have been able to analyze each debate first in isolation, identifying the relevant actors, technologies, institutions, key ideas, and temporalities that have constituted the debate. I have identified strategies used by different actors to claim credibility and designate science from pseudo-science. Then, I have analyzed these debates as social worlds unto themselves that interact and shape each other. This has created a deeper picture than would have been created by analyzing any one controversy on its own. This strategy has also allowed me to view the rise of Health at Every Size and the influence of fat acceptance in light of ongoing concerns about public opinion of science and the credibility gap currently being experienced by public health and nutrition.

The dispute over overweight and all-cause mortality illuminates the changing role of expertise, credibility, and medical authority in contemporary scientific controversies. The scientific world has been affected by two events: the increase in "science denial" and intentional efforts to sow doubt, and the declining authority of science in the public sphere. These factors impact all of the controversies that I trace, but the mortality paradox was the controversy most visible to the public and this amplified these effects. The scientists on both sides of the all-cause mortality debate are reputable, prestigious, well regarded scientists. They both have a great deal of institutional authority. They are both associated

with highly reputable and powerful institutions. They both have adequate funding. While the controversy was highly technical in the specifics of the debate the tactics utilized treated the obesity paradox data as invalid by virtue of its lack of conformity to existing definition and impacts upon public health message. Both sides in this debate utilized discrediting tactics. Each stated that other was influenced by conflicts of interest.

The conflict was not just a procedural disagreement or a disagreement about the meaning of data, in their record of public comment both Katherine Flegal and Walter Willett have each accused the other of massaging data to get the result that they want. The obesity paradox researchers that I spoke with all reported that their work was treated with hostility because it was believed to undermine public health efforts. The repeated accusation was that this research would "confuse the public" and it was often compared to other past controversies. Pursuing the obesity paradox data was regarded as irresponsible. One of my respondents reacted with disbelief to the attempts to dissuade pursuit of this kind of research, "it's like, 'Why, this is just data?' It's not supposed to be a scientific argument. It's not supposed to be like something that says 'this is my opinion.' These are not opinion pieces, these are scientific data."

Those opposed to obesity paradox research compare it to research that artificially prolonged the debate about the relationship between cancer and smoking. These scientists are accusing their fellow scientists of sowing doubt, motivated by personal agenda, corporate money, or foolishness. This is why some epidemiologists felt comfortable suggesting that researchers suppress data about the obesity paradox by holding it back from publication. Obesity paradox researchers evoked the cultural values of science to defend

their practices and suggested that those who want to suppress obesity paradox data might be allowing their funding and research to cloud their objectivity. These reactions demonstrate a shift in the climate of scientific inquiry in response to recent efforts to discredit science.

Biomedicalization and Human Kinds

The growing biomedicalization of adiposity has had a number of important consequences for public health policy, weight science, and fat people themselves. The progressive identification of adipose tissue as undesirable, an indicator of moral failing, a potential health hazard, a biomedical health risk, a risk identity, and finally, a disease has focused enormous surveillance , control, and regulation upon the fat body. As public health concern about fat bodies rose, biomedical interventions into obesity became increasingly technoscientifc. The resistance of the obesity epidemic to public health control has led to a power struggle between scientists and a population of fat bodies. The implicated actors in this struggle have found an identity of fatness thrust upon them: once a bodily trait or a personality flaw, the surveillance and intervention of the biomedical gaze has transformed adiposity into "fatness" as a human-kind (Hacking, 1995; Hacking, 2007). This biopolitical identity then loops back in conversation with weight-science simultaneously destabilizing the medical definition and lived experience of fatness. The obesity epidemic has fundamentally shifted not only the definition of obesity but the experience of adiposity. Fat people experience more stigma, bias, prejudice and discrimination than they did previously. Their ability to find adequate healthcare has been negatively impacted. The identification of "obesity" as a risk factor and then disease may have had the unintended consequence of creating fatness as a social determinant of health. In turn fat people have resisted their label

either through adoption of the patient role and increased use of diets, bariatric surgery, or pharmacological intervention. These practices may have impacted the overall health of the population. The population who has resisted the patient role has similarly produced new kinds of identities and behavior patterns which likely will impact future epidemiological trends in the health, morbidity, and mortality rates of the various BMI cut-points. How these trends will be interpreted in light of a corporeal reality where fat bodies resist weight change is yet to be seen.

Obesity, a Socially Complex Identity?

The solution to the ongoing debates about obesity paradox and the viability of weight loss might come from a surprising source: fat acceptance. HAES and fat acceptance have provided two strategies that might aid public health if it were to enter into a dialogue with these groups. First, is the recommendation that fatness be treated as a socially complex identity. While this is not the terminology that these groups use, this is I think the most accurate way to categorize their requests concerning obesity research. Fat is real, human bodies have varying levels of adiposity, and that varying level of adiposity is associated with differences in health outcome. Fatness (and obesity) is socially constructed. This is a similar distinction to the sex/gender divide or the way that race as a social construction with real biological impacts is studied. Fat is a measurable physical attribute that dynamically interacts with culture. When scientists use fatness as a variable they ought to be treating it as more than a phenotype. Fat bodies experience the impacts of the social construction of fat – the looping effects mentioned above. Fat is also correlated with other factors that might be the more accurate cause of disease outcomes. If weight science took the recommendation of

HAES and fat activists they might have success in distinguishing the social from the biological, from the biology that was due to the social.

Second, my ethnographic study of fat acceptance has shown me that one of the primary roles that this social movement takes on is as a grassroots public health campaign. Having rejected the dominant public health messages fat acceptance has created its own network of public health messages, resources, and tactics. Fat acceptance encourages fat people not to wait to until they lose weight to be visible and do the things they love. The result is a more active and connected community of fat people. Fat acceptance encourages fat people to accept and love their bodies as they are now. The result is a community of people who are motivated to treat their bodies with compassion, care, and respect. Fat acceptance acknowledges the real material boundaries to care that fat people experience and organize to change that. They have agitated to gain access to appropriate clothing and equipment in order to exercise and be out in the world. They have collectively created tools of resistance that also allow them to access quality medical care. Through their alliance with HAES they have created a network of healthcare providers who respect their socially complex identity and seek out causes of ailments that take their fatness into account without blaming their fatness for their ill-health. If this grassroots public health effort can continue to ally with and agitate alongside the HAES movement a fat health tradition could be created.

APPENDIX A: INTERVIEW GUIDEINTERVIEW GUIDE:

Part 1 – demographic information

What is your preferred gender identity and gender pronoun?

What is your educational background (degree type, subject)

How long have you been a (physician/medical researcher/nutritionist)?

What made you interested in researching Obesity?

Part 2 – Obesity Epidemic

In your own words, what is the obesity epidemic?

Are we still in an obesity epidemic?

Recently the American Medical Association reclassified obesity as a disease. Do you think obesity should be classified as a disease? (Oppose to bodily state, condition, risk factor etc)

What impact does or will the obesity epidemic have upon public and individual health?

What is the cause of the obesity epidemic? Why do people get fat?

How should we address the obesity epidemic?

How do you see the obesity epidemic in your practice (or research)?

Do you think BMI is a good measure of obesity? Should we be using some other measure?

Is BMI a good measure of health? What impact does obesity have upon individual's health outcomes?

How does obesity cause disease?

A lot of obesity research makes use of correlation data. What do you think of this practice?

What kinds of research about Obesity still needs to be done?

Part 3 – Obesity Paradox

Have you heard of the key-term "Obesity Paradox"?

What do you think of the idea of an "Obesity Paradox"?

What do you think the existence of Obesity Paradox data means for the study of obesity?

Can fat ever be "good" or "beneficial" for a patient?

Can you be fat and healthy?

What sort of data would you need to see to believe that overweight/obesity is not harmful?

Part 3 – Social movement interactions

Have you heard the idea that "diets don't work"? What do you think of this statement?

Have you seen data that indicates that weight cycling has negative health impacts? What do you think of that data?

Are you familiar with Health At Every Size (HAES)?

If yes…

Please tell me what you know about Health At Every Size? What is it?

If no… (give brief explanation of HAES)

What do you think about this approach to the obesity epidemic?

Do you think the data supports this approach?

What would you need to see to believe this approach would be worthy?

Are you familiar with the Fat Acceptance Movement?

If yes… What do you know about the Fat Acceptance Movement?

(if no explain Fat Acceptance…)

What do you think about fat acceptance? Body Acceptance?

If you had a patient who was a member of the fat acceptance movement would you be willing to work with them?

What advice would you give them?

What if they were unwilling to lose weight?

APPENDIX B: HAES TRADEMARK GUIDELINES

ASDAH Guidelines for HEALTH AT EVERY SIZE® AND HAES® Usage

The following rules must therefore be followed when referring to the ASDAH trademark(s) in news articles, photo captions, advertising, literature, correspondence, and the like.

(a) You must use the symbol ® the first time the Health At Every Size® phrase or HAES® acronym is used.

(b) Use the trademark(s) only as an adjective (for example: Health At Every Size® approach, Health At Every Size® research, HAES® principles, etc.), never as a noun or verb, and never use in the plural or possessive form.

(c) Use a generic term following the trademark(s). (See b above for examples).

(d) ASDAH's Trademark Notice must be prominently displayed on all publications utilizing the trademarked term/service: "Health At Every Size and HAES are registered trademarks of the Association for Size Diversity and Health and used with permission."

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https://www.sizediversityandhealth.org/content.asp?id=159

APPENDIX C: SAMPLE PHYSICIAN LETTER

Dear Dr. R.....,

I'm Hanne Blank, a new patient of yours. I am fat. You will have noticed this by now. I am here because it is important to me to be a healthy person regardless of my size, and I trust that this is also important to you.

I am aware that being fat is a contributing factor to some diseases, but my weight is not why I am in your office today. I'm here for an annual physical, and to address a few health issues that I have: [I identified the health issues by name here, date of onset/diagnosis, and a little added info about them].

Here is some information that will help you work with me:

-- I prefer not to be weighed. I spent most of my childhood and teenaged years on doctor-administered diets, being weighed weekly. I find, as do many fat people, that being weighed tends to be a traumatic, usually very depressing experience that makes me feel powerless and hopeless. If there is a pressing medical reason that I should be weighed, please talk to me about it. I am not an unreasonable person. However, I see no reason to subject myself to psychological trauma for the sake of gathering statistics.

-- I am well aware of the existence of weight loss diets and weight loss surgery. I have dieted for much of my life, as many lifelong fat people have. You may rest assured that if I ever wish to avail myself of medical assistance for weight loss, I know that you and other experts are available. In the meantime, since weight loss is an elective and largely cosmetic

procedure, I would prefer to be permitted to make my own decisions in this regard, just as I would be with any other elective cosmetic therapy.

If you have any questions for me about fat, fat-acceptance, or anything that comes up during my visit, please feel free to ask. I am not open to harrassment, but I am very open to dialogue.

I do exercise, eat a balanced diet, take my vitamins, brush my teeth, wear my seat belt, vote, call my mother regularly, and seek medical care when appropriate. I am looking forward to enjoying the benefit of your professional expertise in protecting my health and well-being, and trust that you, as a professional, support me in doing so regardless of my size or weight.

Sincerely,

Hanne Blank

APPENDIX D: CARDS FOR USE AT THE PHYSICIANS OFFICE

Research

http://www.ncbi.nlm.nih.gov/sites/entrez/17469900
Almost all dieters regained all the weight, plus more

http://www.nutritionj.com/content/10/1/9
After almost eight years on low-fat diet, almost no weight change

http://www.ncbi.nlm.nih.gov/pubmed/10449014
The data that exist suggest almost complete relapse after 3-5 years

http://www.ncbi.nlm.nih.gov/pubmed/15942543
HAES resulted in improved health risk indicators

http://jama.jamanetwork.com/article.aspx?articleid=192035
Relative risk of all-cause mortality mitigated by fitness

http://www.jabfm.org/content/25/1/9.abstract?etoc
Healthy habits associated with significant decrease in mortality regardless of BMI

I Practice Health at Every Size

HAES is an evidence-based health practice where the focus is on health and healthy habits rather than body size and weight loss.

In order for us to work together for my best health, please:

- Don't prescribe weight loss as a health intervention
- Don't weigh me unless medically necessary (ie: for proper dosage of medication) and don't tell me the number unless I ask
- Consider prescribing the same things that you would to a thin person with the same problem
- Prescribe evidence-based interventions and give me the opportunity to provide informed consent
- Provide me with shame-free health care

Thank you.

Helpful Research for the Doctor's Office

Weight Stigma and Health
http://www.biomedcentral.com/1471-2458/8/128
http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2007.114769

Weight Loss Failure
www.ncbi.nlm.nih.gov/sites/entrez/17469900

Issues with Weight Loss Research
http://www.nutritionj.com/content/9/1/30

Health at Every Size Success
http://www.ncbi.nlm.nih.gov/pubmed/15942543
http://jama.jamanetwork.com/article.aspx?articleid=192035
http://www.jabfm.org/content/25/1/9.abstract?etoc

Dangers of Weight Loss Surgery
www.lindabacon.org/HAESbook/pdf_files/HAES_Bariatric-Surgery.pdf

www.danceswithfat.org

Helpful Phrases at the Doctor's Office

- Show me a study where a majority of subjects succeeded at the amount of weight loss you are suggesting.
- Do thin people get this health problem? What do you recommend for them?
- Due to a low rate of success and serious irreversible side effects, including death, weight loss surgery is not an option.
- The research I've seen shows that the vast majority of people who attempt weight loss fail, and many actually gain weight long term.
- Please provide me with evidence-based medicine and the opportunity for informed consent.
- Shame is bad for my health. I would ask you to first do no harm, and provide me with shame-free healthcare.
- In our limited time, I'd like to focus on [what I came in for.]

www.danceswithfat.org

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