
Original Article

Theorizing the obesity epidemic: Health crisis, moral panic and emerging hybrids

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Abstract The academic literature on obesity frequently bifurcates into two poles: a realist pole that treats obesity as a biomedical fact, a health risk and an 'epidemic', and a second, constructionist pole that adopts a critical view of obesity as a moral panic driven by political interests and cultural values. Drawing on a wide range of literature from epidemiology, medical sociology, public health, political economy, cultural studies and popular journalism, this article maps out a realist-constructionist divide within academia and the public sphere, and examines the insights and limitations of these perspectives. After mapping the main 'silos' within obesity studies, we examine two key questions: (1) is the obesity epidemic based on medical fact or political interest, and (2) is obesity a disease or a social identity. Drawing from the metatheoretical principles of critical realism, we argue that obesity scholarship can be advanced by conceptualizing the obesity epidemic as a 'hybrid' construction that arises out of the interaction of biophysical, socio-economic and cultural forces. This analysis demonstrates the useful role of social theory integrating diverse analytic perspectives, and bringing clarity to a heated public debate that characteristically points the finger of blame at obese individuals.

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Introduction

The popular media seem quite certain about, and even obsessed with, the current obesity 'epidemic'. The 'anti-obesity' activist Meme Roth, for instance, receives tremendous media attention (ranging from Fox News to the *New York*



Times) for her anti-fat rants targeting everything from Santa Claus's girth, to Girl Scout cookies, to Jennifer Love Hewitt's cellulite (Konigsberg, 2008). Although her views may be extreme, Roth's anti-obesity message joins increasingly heated public health warnings that have equated obesity with terrorism, warned of a general decline in life-expectancy due to a growing 'epidemic' of fatness, and promoted an equation between thinness and good health (Olshansky *et al*, 2005; Biltekoff, 2007). Fat activists, bloggers and scholars have fought back, arguing that overweight people are being stigmatized by anti-obesity hysteria, and that fat bodies are prejudicially and simplistically equated with unhealthy bodies (Ayuso, 2001; Gaesser, 2002; Campos, 2004; Nash, 2007). While obesity is clearly on the public radar, it is not clear to what extent all this attention signals a deeply entrenched fat phobia versus a serious public health issue threatening society as a whole.

This thorny debate – obesity as moral panic versus a 'real' health risk – is not readily resolved, and often reproduced within academic accounts of obesity and fatness.¹ The widespread attention that obesity has attracted among academics has led to the development of various scholarly perspectives associated with the particular research agendas and methodologies of different academic disciplines. In particular, scholarly perspectives gravitate towards two poles: a realist pole that approaches obesity as a biomedical fact endangering the health of individuals and society in general, and a constructionist pole that treats obesity as a socially constructed scourge based on collective stigma about fatness. The realist literature, particularly within the fields of medicine, epidemiology and public health, has advocated a stronger public awareness of obesity and the risks it poses to both individual and population health (Stevens *et al*, 2006). Scholars influenced by social constructionist theory, often working within cultural studies, corpulence/fat studies, women's studies and sociology, have sought to deconstruct and destabilize the 'obesity epidemic' by connecting it to powerful interests and cultural values about fatness that are historically rooted and socially constructed (Wann, 1998; Campos, 2004; Orbach, 2006; Saguy and Almeling, 2008; Rothblum and Solovay, 2009). While we do not want to overstate these generalizations, we argue that there exists an analytic gap between realist- and constructionist-oriented research and that the possibility of bringing these different perspectives into dialogue with each other has not been sufficiently explored.

Employing an ideal typology, this article maps out a realist-constructionist division in obesity studies and highlights the specific insights and drawbacks of each perspective and their associated literatures. In the first section of the article, we lay out how obesity scholarship can think beyond realist-constructionist divides, drawing from theoretical work in critical realism and environmental



sociology. Second, we map out the realist and constructionist silos of obesity knowledge, tracing the relationship between abstract conceptions of obesity within the academic literature and the positions taken up within the public sphere. Third, we look specifically at two specific theoretical questions: (1) is the obesity epidemic based primarily on medical fact or socio-political interest, and (2), is obesity best understood as a disease or a social identity? Drawing on the insights of recent work within environmental sociology, we present obesity as a 'hybrid' construction with biophysical, socio-environmental and cultural dimensions. We argue that this approach sets the groundwork to integrate the unique processes identified in both perspectives so that focusing on one side does not require 'blackboxing' or rejecting the other side. In concluding this article, we stress that, while realists and constructionists do provide different insights into the study of obesity and fatness, neither of these perspectives is particularly well represented in the excessively individualistic and moralistic portrayal of obesity that is so common in public debate. Thus, we see the promise of a common position among realists and constructionists that rejects a concentration on individual failings, and instead focuses on the collective provision of healthy lifestyle options for all members of the population.

To be clear, our purpose in this article is not to provide *the* definitive theory of obesity. Rather, taking our cue from Max Weber's *Science as a Vocation*, our primary goal is to illustrate how sociological theory can offer *clarity* on contemporary issues of academic and public concern (1946, p. 151). Obesity offers a particularly good opportunity to make this point, as the issue is studied from a variety of methodological standpoints that are not easily integrated (for example clinical research, but also discourse analysis). Furthermore, the divisions in conceptualizing and studying obesity have produced contradictory political positions and an often ferocious public debate. In the face of diverging methodologies and political positions, we see theoretical clarity as an important part of advancing obesity scholarship and public debate, and we hope to build on earlier work in this vein (Crossley, 2004).

Nature versus Culture: Beyond Familiar Dualisms

As Crossley notes, obesity is an important subject to 'explore the interactive relationship between biological and social processes' (2004, p. 223). Crossley's work sheds light on reasons underlying the obesity 'crisis', and begins to explore the 'interdependent complex' that exists between 'natural' corporeal processes (for example, the energy ratio between calories consumed and calories expended) and cultural-social systems (for example, lifestyles that minimize calorie expenditure). Our article is less concerned with identifying causes of



rising obesity rates, and more specifically focussed on identifying specific conceptual tools that allow us to map and think through the complex inter-connections between biophysical processes and complex social systems in the case of obesity. How do studies of nature (that is, bodies with excess adipose tissue) and culture (that is, socially constructed obesity epidemics) become so detached from each other, and how is possible to put them back together in the case of obesity?

The epistemological tensions between studies of nature and studies of culture ground the division between realism and constructionism, and they are not unique to obesity scholarship. Rather, they are a familiar theoretical dilemma in sociology that involves distinguishing between the extra-social existence of natural phenomena (diseases, climate, gravity and so on) on the one hand, and social perceptions of these phenomena on the other. Obesity studies can benefit from drawing on past attempts that have been made at resolving this dilemma. As a starting point we draw attention to the philosophical principles of critical realism, particularly as they have been promoted in the ground breaking work of the British philosopher of science Roy Bhaskar (1975, 1979). Bhaskar's approach to both natural and social science involved making a distinction between what we know, how we know it and what actually exists. Like the realists, Bhaskar acknowledged the existence of a natural world with causal powers independent of the consciousness of people. However, he stressed that these causal powers are only comprehensible through empirical events that are experienced in some way by active and reflective human beings (Archer, 1998, p. 195) – thus we require a critical understanding of how knowledge about the natural world is produced. 'Science is a social product', Bhaskar asserts, 'but the mechanisms it identifies operate prior to and independently of their discovery' (Bhaskar, 1998, p. xii).

Despite the fact that sociologists often wrestle with the relationship between what is real and what is socially constructed, critical realism has had relatively little impact on empirical sociology, particularly in a North American context (Frauley and Pearce, 2007; Murphy, 2007, p. 142). One notable exception has been within the subfield of environmental sociology. Here the work of Bruno Latour (1993, 1999) is particularly relevant. Latour not only envisioned nature as something separate from human consciousness, but as something that *acts* on humans and helps construct social reality. Latour uses the term 'actant' to emphasize the uniquely agentic and dynamic qualities of natural causal forces. He argues that it is misleading to think that human agents socially construct their reality within a stable natural environment. Instead, human agents engage in dynamic interactions with natural actants to produce 'hybrid' constructions. Latour substitutes the word 'hybrid construction' for 'social construction' in order to stress the unavoidable human–nature interaction.



A further elaboration of human–nature interaction is provided by environmental sociologist Raymond Murphy (2002, 2004) who argues that nature often acts on society through natural ‘prompts’ – moments at which natural actants behave in unexpected ways that force humans to rethink their relationship to nature. Natural prompts can range from unexpected observations within scientific laboratories, causing scientists to abandon or readjust existing theories, to powerful natural disasters that disrupt the everyday lives of entire populations. In his analysis of the disastrous 1998 Montréal ice storm, Murphy stresses the importance of building bridges between social science and natural science in order to avoid the myopia or bracketing of nature that occurs within constructionism, and the uncritical acceptance of nature that plagues realist perspectives (Murphy, 2002, p. 44). He critiques social constructionists for failing ‘to appreciate humans as sensory beings living and learning in a world of nature’s autonomous dynamics’ (2002, p. 44). At the same time, however, he argues that these natural dynamics or ‘prompts’ do not occur ‘in a material vacuum. They are socially constructed by sensory beings using observation, experience, and scientific measurements of the material world as building blocks’ (2002, p. 61). Aside from the extreme prompts like natural disasters, Murphy also identifies the importance of ‘*scientific prompts*’ which result from ‘scientists’ imaginative social constructions, and which make nature’s recondite dynamics visible’ (Murphy 2004, p. 254). In sum, Murphy’s work demonstrates critical realism’s usefulness in addressing the realist-constructionist divide by discussing the unique combination of social behaviour and natural dynamics in the construction of a ‘natural disaster’.

The concepts offered by Latour and Murphy – actants, hybrid constructions and prompts – are important theoretical tools that can help us to understand the relationships that exist between the biophysical processes studied by realists and the socio-cultural processes emphasized by constructionists. Obesity is neither a biomedical fact, nor is it reducible to an immaterial social construction – it does not exist outside the mind nor does it exist only in the mind. Rather, obesity and the obesity ‘epidemic’ are hybrid constructions produced through the dynamic interactions between human agents, the body’s biophysical actants and the external socio-environmental conditions within which bodies consume and expend energy. With these theoretical tools in mind, we now consider the independent academic perspectives or ‘silos’ that have developed in obesity studies.

The Academic Silos of Obesity Knowledge

The realist/constructionist divide in academic understandings of obesity is reflective of the wide range of disciplines that have taken up this topic of study.



The study of obesity as an individual health condition within the field of medicine dates back to at least 1950s (Simmons and Wareham, 2006). Today, however, obesity is increasingly studied in aggregate terms by epidemiologists, public health officials and medical sociologists. And more recently, obesity has been studied as an economic issue by political-economists and as a cultural and discursive phenomenon within critical sociology, cultural studies and corpulence/fat studies. The proliferation of scholarship has taken on an unfortunate 'silo' quality: multiple literatures with their own perspectives on obesity, but minimal cross-pollination. These silos are reinforced by the diverse methodological specialization of each of the disciplines, including clinical studies, survey research, historical analysis and cultural studies.

The political divisions between the silos are equally pronounced. William James (1907) famously suggested that philosophical or scientific disputes were only worth settling if some practical difference could be traced from the opposing viewpoints. The debate over obesity certainly fits this condition. While many scholars and commentators fall somewhere in between, the political positions in the obesity debate range from those that seek to raise awareness of obesity as a public health crisis and advocate strong interventions in both the public and private sector in response (Stevens *et al*, 2006), and those that treat obesity discourse as a source of stigma and attempt to foster new understandings of fat bodies as sources of pride and resistance rather than shame (Braziel and LeBesco, 2001; Rothblum and Solovay, 2009). These political differences exist in more extreme variants in the public sphere, where the anti-fat messages of Meme Roth and the best-selling book, *Skinny Bitch*, are pitted against fat activists like Marilyn Wann who celebrate fatness.

The political divisions over obesity necessitate some reconciliation between the various silos and the development of a common understanding over what obesity is before we can decide what to do about it – or at least what political responses will conform to the insights offered by the different academic literatures. For this purpose, we argue that social theory offers a way forward for obesity studies and the public debate over obesity. In order to accomplish this, we begin framing the existing literature on obesity according to an ideal typology that highlights theories, methodologies and political opinions that tend to group together. In particular we examine the medical (in which we include public health, epidemiology and medical sociology), and political-economic perspectives on obesity, which often rely on realist assumptions about obesity. We also examine a constructionist perspective that conceives of obesity and the obesity epidemic as primarily discursive creations driven by socio-political interests and historically contingent cultural values. It is important to emphasize the ideal-type nature of our analysis, as not all scholars fit neatly into this typology. (As a heuristic device, ideal types are not designed to provide



a representative sample or statistical average, but to draw attention to certain critical elements under examination.) For example, some medical researchers do not accept the existence of an obesity epidemic. In general, however, scholars operating within one perspective tend to reject or at least ‘blackbox’ the other perspectives. Our aim is to provide some preliminary theoretical ground work to bring these perspectives into dialogue.

Realism I: Medical, public health and epidemiological approaches to obesity

Medical and public health authorities have provided the dominant perspective on obesity and have been instrumental in raising the notion that obesity is a social issue into the public consciousness in the first place. Medical perspectives offer essential insights into the body’s internal biophysical actants and societal trends in body weight that cannot be summarily dismissed. Yet, this perspective suffers from a tendency to ignore the social implications of labelling obesity as a pathology, disease or social problem, and to reduce the causes of obesity to individual choice.

Theoretically, the medical and epidemiological literature considers overweight and obesity to represent ‘abnormal or excessive’ levels of adipose or fatty tissue within the body that may impact the health of an individual (WHO, 2006). At times, public health organizations have gone as far to define obesity as a disease itself, although this usage has been inconsistent (Heshka and Allison, 2001). Pathological definitions of obesity are bolstered by the causal relationship that is believed to exist between obesity and numerous chronic diseases such as ‘cardiovascular disease, type 2 diabetes and certain types of cancer’ (WHO, 2006, p. 2). While public health organizations like the American Center for Disease Control (CDC) and the World Health Organization (WHO) make strong claims about the health risks associated with overweight and obesity, the underlying medical research presents a more complex picture. The work of Katharine Flegal, which has been influential in highlighting rising levels of obesity (Flegal *et al*, 1998), has also shown that the health risks of obesity may be decreasing over time (Flegal *et al*, 2005), and that being overweight is significantly associated with lower rates of non-cancer, non-cardiovascular mortality (Flegal *et al*, 2007).

In a further complication, it should be noted that while the definition of obesity makes reference to levels of adipose tissue, obesity is usually identified through indirect measurements for both medical diagnoses (OMA, 2009) and health research (WHO, 2006). These measures, which include body mass index (BMI) and hip-waist ratio, are thought to correlate highly with obesity and often represent obesity in theoretical models (Wang, 2001; Khlat *et al*, 2009; Scott *et al*, 2009). There are, however, ongoing debates as to how well these measures represent obesity within particular causal relationships or specific populations



(Flint and Rimm, 2006), and different measures can result in different findings (McAuley *et al.*, 2009).

The medical literature suggests a variety of causes of obesity that range from human behaviour to genetic variation. Some scholarship, for instance, has attempted to draw connections between the body's biological capacity to store fat and signal satiety with the contemporary obesity epidemic, and the genetic variation that shapes differential body sizes (for example the 'hungry' or 'thrifty gene') (Pool, 2001; Crister, 2003; Shell, 2003). For the most part, however, the public health, epidemiological and social scientific literature has focused on the causal roles of diet and physical activity (WHO, 2004). The WHO calls 'the energy imbalance between calories consumed ... and calories expended', which is created through diet and physical activity, the 'fundamental cause of obesity' (WHO, 2006, p. 2). Thus, diet and exercise serve as the basic causal mechanisms in almost all social scientific explanations of obesity that attempt to draw connections between body weight and social and environmental factors.

We argue that a full understanding of obesity requires us to take into account the biophysical processes occurring within the body that make it possible to draw conclusions about the connections between human behaviour, adipose tissue and chronic disease. However, we also must acknowledge that the focus of the medical perspective on obesity as a pathology and as the result of individual choices lends itself to a 'blame the victim' narrative that is commonly replicated in the broader public sphere, often through simplistic caricatures (Guthman, 2007). Such a narrative is evident, for instance, in the best-selling book *Skinny Bitch*, which advises readers that 'Healthy = skinny. Unhealthy = fat' and to make the right eating decisions so as not to become a 'fat pig' (Freedman and Barnouin, 2005, pp. 11–12). Although this message may seem extreme, it is granted legitimacy within a public sphere where the dominant message from the medical establishment is that fat people are sick and that their poor choices caused their sickness.

It is important to note that while popular media may be most receptive of individualistic conceptions of obesity, there is significant attention towards the 'social determinants of health' among public health officials, and recognition that appeals to individual choice should be 'complimented by measures at the societal level that could make healthy choices feasible and preferred by the majority of the population' (Branca and Nikogosian, 2006, p. 117). We see this as a promising perspective as it reflects a recognition that the social processes underlying obesity are more complex than individual choice-making. As part of this trend, medical sociologists have demonstrated how and why obesity rates differ across major social divides such as socioeconomic status, race and ethnicity (Wang, 2001; Fernald, 2007; Kaufman and Karpati, 2007; Khlai



et al, 2009), and how obesity-related behaviours are structured according to socio-environmental factors such as access to affordable healthy foods and opportunities for physical activity (Swinburn *et al*, 1999; Arkes, 2009; Scott *et al*, 2009; Seliske *et al*, 2009).

While the 'social determinants of health' approach deals with the causes of obesity, the consequences of obesity have also been increasingly framed in collective or aggregate terms. One prominent example is in the use of the term 'epidemic' to describe obesity – implying that obesity is a societal problem rather than an individual health condition. Although traditionally referring to infectious disease, use of the term 'epidemic' has been defended by public health officials and epidemiologists who argue that obesity rates have rapidly expanded and are 'clearly in excess of normal expectancy' – making them epidemic in nature (Stevens *et al*, 2006, p. 77). As with the term disease, epidemic carries implicit social assumptions and consequences (Gilman, 2008, pp. 16–22). A dominant feature of popular narratives of the obesity epidemic is the story of a society-wide contagion of gluttony, sloth and decline (Gard and Wright, 2005). The term has also allowed the consequences of obesity to be framed in new ways – including as a financial 'cost' to national economies (Carmona, 2003; Dave and Rashad, 2009), and as a threat to life expectancy in general (Olshansky *et al*, 2005). Most famously (and controversially), former US Attorney General Richard Carmona (2003) called the obesity epidemic a 'terror within' and predicted that it would 'dwarf 9/11' in terms of human suffering. Even though dire predictions about obesity have been contested within scientific circles, they have been remarkably popular topics in the popular press (for example, Brown, 2008; Kluger, 2008; Lochhead, 2009; Pollan, 2009), playing on public fears of obesity as a threat and contagion. This speaks to the limits of an exclusively realist medical framing: obesity is not just any medical condition, but a biophysical phenomenon overlaid with deeply contested values and social fears surrounding body fat.

Realism II: Political-economic approaches to obesity

A second realist perspective on obesity comes out of political-economy literatures. Like the medical perspective, a political-economic approach can be considered realist in that it often presents obesity straightforwardly as a real disease and an epidemic (Winson, 2004; Paarlberg, 2010). Although there is no clear line that can be drawn between this perspective and the 'social determinants of health' approach discussed above, we distinguish a political-economy approach through its focus on macro-level systems and historical pathways underlying the obesity epidemic. Political-economists of obesity have attempted to explain how obesogenic environments have developed historically and how they are maintained by powerful interests. While not as dominant as the



medical perspective in the public sphere, the political-economic approach to obesity has gained significant popular manifestations in, for instance, Morgan Spurlock's 2004 film *Supersize Me*, and popular non-fiction writing by Michael Pollan (2003, 2006) and Eric Schlosser (2001).

Political-economic approaches to food production have demonstrated how the global food economy is oriented towards the production of unhealthy foods for millions (along with food deprivation for millions). The food system disproportionately produces sugar, oil and meat in the North American context, which are precisely the foods that 'should be consumed sparingly according to standard dietary guidelines for health' (O'Brien, 1995; Hamm and Baron, 1999; Young and Kantor, 1999; Bellows and Hamm, 2002, p. 39). This analysis of the global food economy is backed up by studies that trace the historical development of food regimes characterized by corporate control and profit maximization, often at the expense of public health (Friedmann, 2005; McMichael, 2007).

Political economic literatures contend that systems of production unavoidably influence patterns of consumption. Instead of focusing on behavioural choices and issues of what people should and should not eat, political-economists tend to focus on environments or systems of food consumption and how people of different classes fit into these systems. For example, Tarasuk and Eakin (2005) document the 'secondary' food system of food banks, and provide strong evidence on the low-quality of this food. The poor quality of food available to disadvantaged populations can be used to suggest the troubling (albeit complex) connections between poverty, malnutrition, and excessive body fat. Likewise, the concept of a 'food desert' has been used to describe how marginalized urban regions lack access to affordable healthy foods, especially fresh fruits and vegetables (Eisenhauer, 2001; Wrigley, 2002).

Political-economic scholars have also sought to build these analyses of food production and consumption into larger theoretical paradigms – particularly Marxism. David Harvey's essay 'the body as an accumulation strategy' has provided a model for how the body serves as a location for capital accumulation necessary for the reproduction of the capitalist system (Harvey, 1998). Adopting this perspective, Guthman and DuPuis (2006) argue that the obesity epidemic can be analytically linked to neo-liberalism, with the body serving contradictorily as both a conduit for maximizing food consumption, as well as the consumption of thinning and beauty products. As individual responsibility and market-based solutions are increasingly promoted under neoliberalism, this contradiction is reinforced.

Through the political-economic and public health perspectives we start to see the complex interactions between biological and social systems that constitute obesity on both an individual and an aggregate level (Crossley, 2004).



Economic systems driven by the accumulation of capital, class structures that distribute food and recreational facilities unequally, cultural traditions that validate certain behaviours and stigmatize others, and the human body that responds to balance of calories expelled to calories consumed with the production of adipose tissue – all of these are wrapped up in the production of obesity as a hybrid construction. However, realist accounts may conceptualize obesity as a problem that follows straightforwardly from scientific facts (for example, Paarlberg, 2010, p. 91); this means less engagement with the question of how we come to understand obesity and the complex social distinctions between ‘fat’, on the one hand, and ‘thin’, ‘healthy’ or even ‘normal’, on the other.² By contrast, we argue for a ‘reflexive’ understanding of obesity (Bourdieu and Wacquant, 1992), meaning that in addition to considering obesity as a social construct and the object of scientific study, we also take into account our own position as researchers who draw on existing cultural norms, discourses and institutional resources to produce scientific knowledge. This is why we have paid specific attention to the translation of medical and academic knowledge into public discourse. Public conceptions (and even academic conceptions) of obesity are not the same as objective scientific facts. These conceptions are necessarily shaped by the way the knowledge was produced in the first place. To explore this issue further, we now turn to constructionism.

Constructionism

The literature most critical of the concept of the ‘obesity epidemic’ can be considered constructionist in that it sees obesity itself (or at least obesity as conceptualized as a social problem) as primarily a product of discourse and power. Constructionist studies are less interested in pinpointing a cause for (ostensibly) rising body weights, and instead look to problematize the obesity epidemic as a social construct, and identify the power interests, hegemonic beauty norms and feminine ideologies underlying obesity epidemic discourse (for example, Orbach, 2006; Rothblum and Solovay, 2009). These voices argue that fat-hatred and obesity discourse develop a powerful synergy, and resemble a ‘witch hunt’ (Wann, 2009, p. v) justifying the moral judgement and intrusion of government and health authorities into the lives of fat individuals, and contributing to the further stigmatization of those labelled ‘obese’. Constructionist perspectives also contend that a focus on obesity legitimizes the diversion of public resources away from more important public health problems and social issues, like healthy diet and exercise for *all* body types (Campos *et al*, 2006a; Saguy and Almeling, 2008).

It is possible to identify both a strong and weak version of the constructionist perspective on obesity. Within the strong version, the obesity epidemic is understood to have no extra-social existence and is conceptualized as a ‘moral



panic' created through the production of discourse (Campos, 2004; Monaghan, 2005; Campos *et al*, 2006a). Strong constructionist perspectives directly challenge claims made about the relationship between obesity and chronic disease and/or claims made about the rise in aggregate rates of obesity and overweight. For example, the introductory chapter to the *Fat Studies Reader* concludes with a subtle, but vehement rejection of the association between obesity and poor health outcomes (Solovay and Rothblum, 2009, p. 7). The division between strong constructionism and the realism is theoretically irreconcilable, and requires further empirical study to determine whether the claims made about the health effects of obesity have sufficient scientific evidence. Indeed, there are strong constructionists who engage directly with medical research by identifying discrepancies between scientific findings and larger claims made about obesity as a condition and/or epidemic (Campos, 2004; Monaghan, 2005; Campos *et al*, 2006a). This is an important debate, but not the concern of our article.

Our central concern is with a weaker version of the constructionist perspective. Weak constructionists do not necessarily dismiss scientific knowledge of obesity, but point out that it is 'incomplete and uneven' (Boero, 2007, p. 46) and necessarily influenced by existing norms and power structures. Furthermore, they see the dominant discourses and knowledge of obesity as having consequences for the social world (for example Kwan, 2009). These social causes and effects of obesity epidemic discourse are seen as necessary topics of research that cannot be ignored or dismissed as 'only natural' – as Kim and Popkin (2006, p. 64) seem to do. Weak constructionists tend not to make claims about the extra-social existence of the obesity epidemic³, but rather, 'bracket' or 'black box' the biophysical dimensions of bodies (Murphy, 2004), sometimes naturalizing body weight as simply a natural dimension of human variation, like height (for example, Wann, 2009, p. x). Articulating a weak constructionist perspective, LeBesco writes that her objective is to 'move the study of the fat body out of the natural and life sciences and into the realm of social and cultural criticism' (2004, p. 6). This analytic shift into social and cultural criticism has generated important insights into the social origins and consequences of obesity discourse, and serves as a valuable counterpoint to the dominant medical perspective.

In terms of the social origins of obesity discourse, constructionists point to a variety of factors that shed light on the social constitution of obesity. Of particular interest are the political struggles over the authority to produce knowledge of obesity, and frame obesity debates (Saguy and Riley, 2005; Kwan, 2009). Often powerful interest groups are cited as promoting certain ideas about obesity to serve their own interests, such as the media, the diet and weight-loss industry, beauty companies, and public health agencies looking for more



funding and political support (Orbach, 2006; Saguy and Almeling, 2008; Kwan, 2009). Constructionists argue that because these powerful groups are instrumental in producing obesity discourse, popular understandings of obesity are necessarily framed around their own perspective and interests. Other accounts of the social origin of the obesity epidemic point to how obesity discourse has provided a politically correct way of overtly discriminating against racialized minorities and other historically marginalized groups. Campos *et al* (2006a) suggest that 'anxieties about racial integration and immigration may be an underlying cause of some of the concern over obesity'. By implying that '[marginalized] groups are lazy and lack self-control and will power', the production of obesity discourse helps to legitimate existing social inequalities (Campos *et al*, 2006a, p. 58).

In addition to socio-political interest, constructionists also point to existing cultural values that inform our understandings of obesity. Cultural gender norms, for instance, have been identified as being integral to understandings of obesity and weight-management (Monaghan, 2007; Broom and Dixon, 2008; McPhail, 2009). Another commonly cited value is the cultural valuation of thinness in contemporary Western culture (Klein, 2001; Guthman and DuPuis, 2006), which sets up fatness as a source of stigma. It can be argued that the value placed on thinness not only explains why the popular media has jumped on medical and academic studies of obesity, but also why the medical establishment itself has been so centrally focused on bodyweight in the first place, rather than lifestyle (Campos *et al*, 2006b). Medical research dedicated specifically to studying the ill-health effects of overweight and obesity works to justify the pre-existing cultural notion that there must be something wrong with fat people. This would not be the case if the research was more centrally oriented towards the health effects of lifestyle habits, such as diet and exercise, rather than framing fatness as tantamount with ill-health (Campos *et al*, 2006b).

Constructionists see obesity discourse not only as social in origin, but also in consequence. These consequences range from the unjustified redistribution of research funding to obesity, to the intrusion of state and medical authorities into new areas of everyday life (Campos *et al*, 2006a; Saguy and Almeling, 2008), to the denial of economic resources such as health insurance to the obese (Wann, 1998). Following Foucault (1980), some constructionists have focused specifically on the role of obesity epidemic discourse on the production of social identities and human subjectivities (Rich and Evans, 2005; Evans and Colls, 2009). Constructionist perspectives have been particularly critical of the 'obese subject', implicit in realist perspectives on obesity, that unduly emphasize the role of individual behaviour and choice (Saguy and Almeling, 2008), as well as perspectives that treat obese people as a threat to the social whole (Biltekoff, 2007; Guthman, 2007).



In identifying the problematic obese subject implicit within realist perspectives, the theoretical principles of constructionism lend themselves to a growing form of identity politics. In the public sphere, Marilyn Wann (1998) is perhaps the best known figure, particularly for her book *Fat!So?*, which she describes as 'counterpropaganda' against dominant anti-fat views (p. 11). In addition, identity politics have been taken up by fat activists, and bloggers, and have even been reflected in corporate advertising campaigns, like Dove's 'Campaign for Real Beauty', which uses some larger models to market beauty products (Sobal, 1999; Johnston and Taylor, 2008). Identifying the motivation behind their activism, 'fat blogger' Lesley Kinzel commented that 'a lot of fat blogs have popped up to fight against the obesity epidemic hysteria portrayed by the media ... [Fat bloggers] want to speak for ourselves instead of being spoken for' (Friedman, 2008).

Within the academic sphere, fat identity politics are most closely associated with 'corpulence', or 'fat studies'.⁴ Although not representing all constructionists, corpulence studies scholars challenge and deconstruct the dualisms of thin/successful versus fat/oppressed, and to produce 'more celebratory expressions of corpulence' in order to subvert or offset dominant notions of obesity as pathological (Braziel, 2001; Braziel and LeBesco, 2001, p. 8; Hartley, 2001; LeBesco 2001, 2004; Rothblum and Solovay, 2009). Scholars identify agency in fat bodies previously assumed to be monolithically oppressed, depressed and psychologically traumatized, suggesting that not every fat girl wants to be thin, and that fatness is experienced in a variety of ways betwixt stereotypes of the asexual obese woman and the fat femme (Wann, 1998; Braziel and LeBesco, 2001; Mazer, 2001). Other scholars identify agency, 'everyday' forms of resistance and the varied ways gender is constructed in bodies that defy idealized feminine beauty (Johnston and Taylor, 2008). Sometimes, this emphasis on fat agency seems disturbingly voluntaristic, and the problematic tendency to blackbox the materialist and biophysical dimensions of the body becomes clear. For example, LeBesco's (2001) claim that 'we just might be able to talk our way out of anything, even seemingly entrenched fat oppression, because speaking builds subjects' (p. 77), is neglectful of the body's biophysical actants that exist independently of human discourse. Similarly, Wann's focus on fat-phobic belief systems, in contrast to what she describes as 'the simple fact of human weight diversity' (2009, p. x), presents an extremely simple picture of human bodies and their complex relationship with the industrial food system.

We understand the constructionist perspective – particularly in its more public and political role – as contributing to a 'subaltern counterpublic' (Fraser, 1997) of pro-fat identity politics. Subaltern counterpublics, by definition, serve as both 'spaces of withdrawal and groupment' as well as 'bases and training



grounds for agitational activities directed towards wider publics' (Fraser, 1997, p. 82). This is an important conceptualization in the case of obesity, because it suggests that the identity politics employed by pro-fat organizations, activists and some academics are important for creating and affirming a positive identity among those who suffer from fat stigma, and contesting fat stigma within the dominant public sphere.

The constructionist emphasis on the social origins and social consequences of obesity demonstrate the shortfalls of realism, and the need for a 'reflexive' approach to obesity studies that acknowledges the role of the researcher as a social actor situated within and reproducing relationships of power and inequality (Bourdieu and Wacquant, 1992). Constructionism complicates understandings of obesity by forcing scholars to acknowledge that collective understandings of obesity do not follow unproblematically from objective medical facts. Scientific research is directed according to subjective interests, and it takes place within an environment that is partially constructed through economic systems, social hierarchies and cultural values. Once produced, medical knowledge gets absorbed into the public discourse where it is contested by a diversity of parties who may wish to adopt it, criticize it and spin it according to their own interests.

It is important to emphasize, however, that while constructionists may see themselves in opposition to realists (particularly those within the medical perspective), there is nothing about the weak constructionist position (that is that obesity discourse has social origins and consequences) that contradicts the extra-social basis for the existence of obesity. As Bhaskar has argued, science may be social, but it identifies mechanisms that exist before (and are therefore not constituted by) their discovery. This argument has been made repeatedly in discussions of constructionism within the philosophy of science (Hacking, 1999; Doing, 2007). Realizing this fact clears the way for better dialogue between realism and constructionism and allows us to think of obesity as a hybrid construct that arises out of intersecting forces that are both natural and social. Medical science cannot invent medical facts out of nowhere, just as medical facts cannot be known independently of the social institutions that allow knowledge to be produced, disseminated and integrated into daily practices.

Considering Obesity as a Hybrid Construct

The analytical literature review we presented above is aimed at drawing out the unique insights provided by both realism and constructionism and demonstrating that these two perspectives are not necessarily in opposition



theoretically – even if they are often framed that way. Both realism and constructionism must be considered in order to approach obesity as a hybrid construction formed through the interaction between natural actants and human actors, and containing both material and semiotic dimensions that are inextricably intertwined. As we have stated, we do not aim to present one definitive theory of obesity or unite the diverse array of methodologies used to study obesity. Instead we wish to place into dialogue the insights offered in both realism and constructionism, and rebut dominant public sphere conceptualizations that proffer highly individualized, reductionist accounts of obesity. To do so, we now address two questions that divide conventional realist and constructionist accounts of obesity. First, is the discussion of an obesity epidemic primarily based on objective medial facts, or the socio-political interests of powerful elites? Second, is obesity best conceptualized as a disease or a social identity? We address each question by demonstrating how approaching obesity as a hybrid construct helps us move past dichotomous, individualized understandings, and integrate the unique insights of realism and constructionism.

The obesity epidemic: Medical facts or political interests?

This question has been framed in many different ways. Campos *et al* (2006a), for instance, ask whether the obesity epidemic is a ‘public health crisis or moral panic’. Terms like ‘crisis’ and ‘epidemic’ indicate that there is something real at stake – that medical facts show obesity to be a threat to population health. On the other hand ‘moral panic’ implies that the obesity is being constructed by moral entrepreneurs as a way of taking or maintaining power by scapegoating those labelled ‘obese’ (Becker, 1963; Cohen, 1972). This dichotomy encourages an either/or perspective on the issue, and is analytically limited, particularly since a wide variety of political issues can be framed as either epidemics or moral panics depending on one’s political priorities (for example crime, the breakdown of the family). What is more intellectually fruitful is to investigate *how* obesity has come to be seen as an epidemic or moral panic, by taking into account the various relevant processes – biological, political, economic and cultural. While work has been done to answer this question by examining the social construction of obesity as an epidemic (Boero, 2007; Gilman, 2008), these studies have tended to ignore, or bracket historical epidemiological trends. Although this constitutes a separate research project, we will briefly consider this issue using the framework of critical realism.

Behind the medical knowledge of obesity are ‘scientific prompts’ (Murphy, 2002, 2004) – that is, extra-social forces that cause us to rethink our understandings of nature (in this case, the human body). These prompts may manifest themselves in clinical trials, which reveal a correlation between adipose



tissue and diabetes, or epidemiological surveys that show an increase in the rates of BMI at a population level. These prompts are interpreted by the medical establishment, and by extension the rest of society, to develop new understandings of obese bodies as a material phenomenon, and a potential threat to individual and public health. In this understanding, scientific prompts about obesity themselves are not understood as simply the malign byproduct of political motivations, but are knowledge-based events generated by extra-social mechanisms. The medical establishment derives its authority partially from its ability to carry out scientific research. New scientific discoveries allow this authority to be expanded into new spheres of life, at the same time this authority is limited by a reliance on scientific research. When the medical establishment extends its authority, it is often in response to scientific prompts and the biophysical actants within the human body that generate these prompts. Put differently, the medical establishment is both confined to and empowered by the extra-social scientific prompts that they interpret as evidence of an obesity epidemic. Thus, the expansion of medical authority into body weight cannot be seen as being driven purely by fat phobia, even though fat stigma is clearly implicated in the way obesity research filters down into medical practice (see Puhl and Brownell, 2001; Teachman and Brownell, 2001).

The medical establishment is in the privileged position of being able to observe and interpret scientific prompts and present their conclusions to the rest of society as legitimized medical facts. As a result of the process, doctors are able to take institutional ownership over the issue of obesity. In this process, obesity becomes medicalized – subject to the authority of the medical establishment and its attendant discourse. As with other instances of expert knowledge in risk society (Beck, 1992), the public is highly dependent on experts to make sense of the scientific prompts associated with obesity, and to explain research findings to their patients. Obesity is necessarily framed in ways that reflects the perspective of medical professionals – as a pathology caused primarily by individual rather than social factors, and requiring professional monitoring and intervention at an individual and population level. As Heshka and Allison (2001) point out, when obesity becomes defined as a disease, it places a responsibility on the obese to submit themselves to the authority of doctors in order to be cured.

Understanding obesity as a nature-culture hybrid can be extended beyond the medical establishment. As the issue of obesity becomes a topic of widespread public discussion, powerful non-medical interest groups like the food industry, the diet industry and the media adopt and modify the findings of the medical establishment for their own purposes. Understanding obesity as a hybrid bio-physical-social construct allows us to recognize that social institutions like the media do not construct an obesity epidemic out of thin air. Instead, we can



understand the media as drawing from the scientific prompts identified by the medical community, but filtering the understanding of these prompts through their own analytic lens. As constructionist perspectives rightly point out, not only does the mass media and public agencies like the CDC and WHO reduce the complexity of medical research for public consumption, they also frequently sensationalize obesity as a disease to be feared, and a contagion to avoid (Saguy and Almeling, 2008).

It is also worth noting that these institutional constructions are complex, and far from uniform, as equally powerful interest groups, such as the fast food industry, may attempt to downplay or delegitimize the obesity epidemic (Kim and Popkin, 2006; Kwan, 2009). Political and social struggles over the obesity are not an irrelevant sideshow to 'real' scientific data, but help shape the dominant understandings of obesity in the public sphere, and determine the social actions that occur in response to these understandings. The struggles are also consequential for the nature of the obesity epidemic itself, as political and medical actions guided by dominant understandings of the obesity epidemic can potentially lead to changes in the social and biomedical conditions that underlie the phenomena of obesity. Individualistic understandings of obesity will inspire certain responses (for example, food labelling initiatives) while collectivist, or structural interpretations will lead to others (for example, public infrastructure supporting physical activity).

Returning to the original question as to whether the obesity epidemic is based on medical fact or political interest, we can firmly reject this dichotomy as analytically unproductive. Obesity as an epidemic *is* based on medical facts to the extent that extra-social actants or processes are required to produce medical knowledge, but the production of this knowledge cannot be understood outside of its institutional context. Our understanding of obesity highlights patterns of institutional authority and political interest (such as the medicalization of body weight) that are an inexorable part of the story.

Obesity: Disease or social identity?

Another sticking point in the realism/constructionism divide has been the question of whether we should conceptualize obesity as a disease or a social identity. Although the term 'disease' has been used inconsistently to refer to obesity within the medical literature (Heshka and Allison, 2001), it is clear that the realist perspective conceives of obesity as a pathological biophysical condition (obesity is 'abnormal or excessive fat accumulation that may impair health', according to the WHO (2006, p. 1)). In a realist perspective, it is more accurate to talk of people who 'suffer from' obesity, rather obese people. In contrast to this biophysical conception, fat activists and scholars reclaim the word 'fat' as a positive market of identity, and reject the term obesity as



stigmatizing. Fatness is not seen as a disease, but as a basis for social organization and labelling – that is, as a social identity. Biophysical conceptions of obesity cannot explain, for instance, the anger that Wann (1998) felt upon discovering that she had been denied health insurance because of her weight. In spirited defences of ‘fatness’, as well as in anti-fat attacks, we can see how in many ways obesity functions more similarly to sexuality, race and gender than to biomedical conditions like high blood pressure. The social markings of obesity influence how all body types are treated, and the negative stigma associated with fatness are based on a series of moral, social and psychological assumptions that pigeonhole obese people as essentially lazy, greedy or lacking in self-control (Guthman, 2007; Schuster and Tealer, 2009).

The complexity of meanings attached to body weight cannot be bracketed out of the picture, and constructionists are right to question the automatic association between obesity and ill health (along with thinness and good health) so prominent in the dominant public sphere. However, acknowledging the social side of obesity does not necessarily mean that obese bodies carry *no* health risks. It is important to recognize that natural actants within human bodies react to their environment in ways that are relatively independent of the discourses through which we understand fatness. As Guthman and Dupuis (2006) write of cultural interpretations of obesity, ‘there is a remarkable neglect of the nature of the body’ (2006, p. 438). Likewise, we must also acknowledge that due to material inequalities in the social environment, the health risks associated with obesity will also be unequally distributed. Without understanding the interactions between identities, bodies and political-economy, fat bodies can become reified in problematic ways. Presenting the fat body as essentially ‘flabulous’ and fat cells as fundamentally harmless (Wann, 1998, pp. 13–14) can serve to diminish the physical and mental suffering that may accompany the lived experience of obesity.⁵ This tendency may also work to obscure the connections between human bodies, their internal biophysical processes and their socio-economic environment (Guthman and Dupuis, 2006).

We must also take seriously the active role of discourse in forming our understandings of obesity. Naïve realist depictions that present obesity as a disease occurring among individuals who cannot balance food intake and energy expenditure can serve to reproduce and consolidate lines of legitimacy that privilege thin bodies (which are also often white and privileged) as ‘normal’, controlled, healthy and desirable citizens (LeBesco, 2004). In this way, we can see that dominant realist discourse of obesity is not neutral, but creates ‘divisions between active [thin] citizens who can manage their own risks, and “targeted populations”, those who require intervention’, as well as ‘penetration of social and self-disciplinary regimes into the most intimate domains of modern life’ (Guthman and Dupuis, 2006, p. 443). Dominant understandings of



obesity are not simply 'ideas', but have real material affects, impacting who gets a job, who feels good about their body, who is depicted as a good 'citizen', and who requires intervention from medical institutions and the state.

In sum, approaching obesity as a hybrid construction allows us to draw on research that conceives of obesity as a disease and as a social identity. Variation in body size must be attributed to real biophysical processes, and these processes may influence the chances of developing chronic disease or other health conditions. Nonetheless, the social meanings that become attached to body sizes do not follow directly from biophysical properties. These meanings reflect a diversity of political interests, historical cultural values, and increasingly, a sense of common 'fat' identity and community.

Conclusions: Empowerment, Individualism, Moving Forward

Our article provides a map of academic silos in obesity research, and how this has led to diverging understandings of the social and political significance of body weight. While realist perspectives frame obesity as a biomedical condition linked to chronic disease at the individual level, and on the rise historically at the population level, constructionists bracket or dismiss the biophysical realities of obesity, and focus on how obesity is produced through politically motivated discourse and historically specific cultural values. As we see from the literature above, academic approaches to obesity extend into the public realm by suggesting various responses to obesity. Realist perspectives are the most dominant public perspective, and draw attention to individual eating and exercise behaviours, the market's role creating an obesogenic foodscape, and the state's responsibility to promote population health. Constructionist perspectives have shed light on the social stigma of fat bodies, and generated a subversive identity politics of fat resistance and cultural reclamation. Both realist and constructionist perspectives contain important insights about the *collective* nature of obesity that counter the reductionist, individualized perspectives dominating public discourse. Focussing on hybrid perspectives allows us to avoid deadlocked binaries, and fruitfully combine nature and culture to push forward our theorizing and analysis of body weight.

As mentioned in our introduction, our objective was not to provide the definitive or essential theory of the obesity epidemic. Instead our goal was more modest: to offer clarity on an important public issue by adopting a hybrid approach to obesity that puts into dialogue different perspectives often seen as incompatible. Rather than simply being a 'real' epidemic, or dismissed as a moral panic, we have argued that the obesity epidemic is a hybrid construction that has arisen out of the interaction between our



historically specific social environment, the biomedical actants within our bodies, as well as the processes by which we develop and disseminate knowledge of our bodies.

In concluding this article, we want to emphasize two goals that can be seen to unite disparate approaches within obesity studies. First, the empowerment of those disadvantaged by either physical ailments or social stigma can be seen as one potential point of agreement between both realists and constructionists. For some, empowerment means avoiding or overcoming physical disabilities tied to chronic disease. For others, empowerment means fighting against social stigma that heightens social, political and economic inequality. A hybrid approach to obesity does not treat these different goals as being contradictory. The human individual sits at the intersection of variously overlapping systems: socio-cultural, political-economic, psychological and biophysical. Empowerment means coming to terms with the impact that these interacting systems have on the individual. We cannot focus on social stigma to the exclusion of diabetes, or visa versa. Insights offered by each perspective must be integrated in order to fully appreciate how empowerment can be achieved. Our analytic review of the existing literature and adoption of hybrid, critical realist perspectives is intended as a step forward towards this goal. Other, on-the-ground initiatives, such as the 'health at any size' movement offer a similar hybridized approach – resisting the stigmatized cultural ideas around fat, while also promoting physical and emotional well-being (Burgard, 2009).

A second goal that can bring together various perspectives within obesity studies is the need to move beyond overly individualistic, moralistic perspectives on obesity. Too often, body fat and obesity are treated as individual failures, and even worse, as evidence of moral bankruptcy. An individualized, moralistic framing of obesity not only forms the ethical foundation for fat stigma (that is, if individuals are completely responsible for their body weight, then we can cast judgement when people are not thin), but this framing helps perpetuate a billion dollar weight loss and diet industry with dubious implications for population health. Of course, we recognize that human agency makes up one piece of the obesity epidemic puzzle – all social issues involve a complex interrelationship between social structures and human agency. However, the excessively individualistic and moralistic frame that characterizes obesity discourse does a great disservice to the structures that interact dialectically with human behaviours – the political economic structures that differentially enable access to healthy foods, the socio-cultural belief systems that reinforce obsessive and unhealthy mind-body relationships, a physical food environment involving multiple health risks, and finally, our complex corporeal forms involving biophysical actants that often transcend human consciousness.



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Notes

- 1 We acknowledge that significant debate exists over whether academics should be using the term 'obesity' or 'fat' when referring to particular body types (Saguy and Riley, 2005). In this article we have chosen to focus specifically on obesity because of its dominant position within academic and public discourse on body weight. Our choice does not reflect an uncritical acceptance of medical constructions of body weight. As will be discussed, we see obesity as an important 'hybrid' construction that needs to be understood with reference to its biophysical and socio-cultural context.
- 2 Crossley, whose work provides important steps in examining the connection between biophysical and social understandings of obesity, nonetheless self-admittedly limits his analysis to a realist conception of obesity while bracketing out constructionist perspectives of 'obesity' (2004, p. 230).
- 3 It should be noted that studies advancing the weak constructionist perspective often advocate strong constructionism as well (Guthman and Dupuis, 2006; Orbach, 2006; Saguy and Almeling, 2008). Guthman and Dupuis's argument about neoliberalism and obesity (2006), for instance, is not directed towards disproving the existence of the obesity epidemic. Nonetheless, they argue 'at the outset, we are not even willing to concede the epidemic of obesity in a factual sense' (2006, p. 428). Despite this tendency, the core argument of weak constructionism – that understandings of obesity have origins and consequences in the social world – does not prove or necessarily imply that obesity has no extra-social existence.
- 4 A more recent collection uses the term 'fat studies' rather than 'corpulence studies' (Rothblum and Solovay, 2009), although the same constructionist principles still apply. As Wann writes in the book's introduction, 'if you believe being fat is a disease and that fat people cannot possibly enjoy good health or a good life, then you are not doing fat studies' (Wann, 2009, p. ix).

- 5 In a critique of the 'will to innocence' commonly found within the fat acceptance movement, LeBesco recognizes some of the danger of depicting fatness outside of a larger material context (2004, pp. 111–114).

References

- Archer, M. (1998) Introduction: Realism in the social sciences. In: M. Archer, R. Bhaskar, A. Collier, T. Lawson and A. Norrie (eds.) *Critical Realism: Essential Readings*. New York: Routledge, pp. 189–206.
- Arkes, J. (2009) How the economy affects teenage weight. *Social Science & Medicine* 68(11): 1943–1947.
- Ayuso, L. (2001) I look fat in this! In: A. Mitchell, L. Rundle and L. Karaian (eds.) *Turbo Chicks: Talking Young Feminisms*. Toronto: Sumach Press, pp. 155–161.
- Beck, U. (1992) *Risk Society: Towards a New Modernity*. London, UK: Sage Publications.
- Becker, H.S. (1963) *Outsiders: Studies in the Sociology of Deviance*. New York: The Free Press.
- Bellows, A. and Hamm, M. (2002) US-based community food security: Issues, practices, debate. *Journal for the Study of Food and Society* 6(1): 31–44.
- Bhaskar, R. (1975) *A Realist Theory of Science*. Leeds, UK: Leeds Books.
- Bhaskar, R. (1979) *The Possibility of Naturalism*. Brighton, UK: Harvester Press.
- Bhaskar, R. (1998) General introduction. In: M. Archer, R. Bhaskar, A. Collier, T. Lawson and A. Norrie (eds.) *Critical Realism: Essential Readings*. New York: Routledge, pp. ix–xxiv.
- Biltehoff, C. (2007) The terror within: Obesity in post 9/11 US life. *American Studies* 48(3): 27–46.
- Boero, N. (2007) All the news that's fat to print: The American 'obesity epidemic' and the media. *Qualitative Sociology* 30(1): 41–60.
- Bourdieu, P. and Wacquant, L.J.D. (1992) *An Invitation to Reflexive Sociology*. Chicago, IL: University of Chicago Press.
- Branca, F. and Nikogosian, H. (2006) A charter on obesity. *European Journal of Public Health* 17(1): 117–118.
- Braziel, J.E. (2001) Sex and fat chicks: Deterritorializing the fat female body. In: J. Braziel and K. LeBesco (eds.) *Bodies Out of Bounds*. Berkeley, CA: University of California Press, pp. 231–256.
- Braziel, J.E. and LeBesco, K. (eds.) (2001) *Bodies Out of Bounds: Fatness and Transgression*. Berkeley, CA: University of California Press.
- Broom, D.H. and Dixon, J. (2008) The sex of slimming: Mobilizing gender in weight-loss programmes and fat acceptance. *Social Theory & Health* 6(2): 148–166.
- Brown, D. (2008) Life expectancy drops for some US women; Historic reversal, found in 1000 counties, may be result of smoking and obesity. *Washington Post* 22 April: A1.
- Burgard, D. (2009) What is 'Health at every size'? In: E. Rothblum and S. Solovay (eds.) *The Fat Studies Reader*. New York: New York University Press, pp. 42–53.
- Campos, P. (2004) *The Obesity Myth: Why America's Obsession with Weight is Hazardous to Your Health*. New York: Gotham Press.
- Campos, P., Saguy, A., Ernsberger, P., Oliver, E. and Gaesser, G. (2006a) The epidemiology of overweight and obesity: Public health crisis or moral panic? *International Journal of Epidemiology* 35(1): 55–60.
- Campos, P., Saguy, A., Ernsberger, P., Oliver, E. and Gaesser, G. (2006b) Lifestyle not weight should be the primary target. *International Journal of Epidemiology* 35(1): 81–82.
- Carmona, R.H. (2003) The obesity crisis in America. Testimony before the Subcommittee on Education Reform, Committee on Education and the Workforce, United States House of Representatives. Washington DC. Office of the Surgeon General, <http://www.surgeongeneral.gov/news/testimony/obesity07162003.htm>, accessed 12 May 2009.



- Cohen, S. (1972) *Folk Devils and Moral Panics*. London: MacGibbon and Kee.
- Crister, G. (2003) *Fat Land: How Americans Became the Fattest People in the World*. New York: Houghton Mifflin.
- Crossley, N. (2004) Fat is a sociological issue: Obesity rates in late modern, 'Body-conscious' societies. *Social Theory & Health* 2(3): 222–253.
- Dave, D. and Rashad, I. (2009) Overweight status, self-perception, and suicidal behaviours among adolescents. *Social Science & Medicine* 68(9): 1685–1691.
- Doing, P. (2007) Give me a laboratory and I will raise a discipline: the past, present, and future politics of laboratory studies. In: E.J. Hackett, O. Amsterdamska, M. Lynch and J. Wajcman (eds.) *The Handbook for Science and Technology Studies*. Cambridge, MA: MIT Press, pp. 279–295.
- Eisenhauer, E. (2001) In poor health: Supermarket redlining and urban nutrition. *GeoJournal* 53(1): 125–133.
- Evans, B. and Colls, R. (2009) Measuring fatness, governing bodies: The spatialities of the Body Mass Index (BMI) in anti-obesity politics. *Antipode* 41(5): 1051–1083.
- Fernald, L.C.H. (2007) Socio-economic status and body mass index in low-income Mexican adults. *Social Science & Medicine* 64(10): 2030–2042.
- Flegal, K.M., Carroll, M.D., Kuczmarski, R.J. and Johnson, C.L. (1998) Overweight and obesity in the United States: Prevalence and trends, 1960–1994. *International Journal of Obesity* 22(1): 39–47.
- Flegal, K.M., Graubard, B.I., Williamson, D.F. and Gail, M.H. (2005) Excess deaths associated with underweight, overweight, and obesity. *Journal of the American Medical Association* 293(15): 1861–1867.
- Flegal, K.M., Graubard, B.I., Williamson, D.F. and Gail, M.H. (2007) Cause-specific excess deaths associated with underweight, overweight, and obesity. *Journal of the American Medical Association* 298(17): 2028–2037.
- Flint, A.J. and Rimm, E.B. (2006) Obesity and cardiovascular disease risk among the young and old – Is BMI the wrong benchmark? *International Journal of Epidemiology* 35(1): 187–189.
- Foucault, M. (1980) *The History of Sexuality, Volume I*. New York: Vintage Books.
- Fraser, L. (1997) *Losing It: False Hopes and Fat Profits in the Diet Industry*. New York: Plume/Penguin.
- Frauley, J. and Pearce, F. (eds.) (2007) Critical realism and the social sciences: Methodological and epistemological preliminaries. *Critical Realism and the Social Sciences*. Toronto, ON: University of Toronto Press, pp. 3–29.
- Freedman, R. and Barnouin, K. (2005) *Skinny Bitch*. Philadelphia, PA: Running Press.
- Friedman, E. (2008) Bloggers preach 'Fat acceptance'. *ABC News* (January). Posted online at <http://abcnews.go.com/Technology/OnCall/story?id=4173879&page=1>.
- Friedmann, H. (2005) Feeding the empire: The pathologies of globalized agriculture. In: L. Panitch and C. Leys (eds.) *Socialist Register*, pp. 124–143.
- Gaesser, G. (2002) *Big Fat Lies: The Truth about Your Weight and Your Health*. Carlsbad, CA: Gurze Books.
- Gard, M. and Wright, J. (2005) *The Obesity Epidemic: Science, Morality and Ideology*. New York: Routledge.
- Gilman, S.L. (2008) *Fat: A Cultural History of Obesity*. Malden, MA: Polity Press.
- Guthman, J. (2007) Fat ontologies? Toward a political ecology of obesity. Presented to Berkeley Environmental Politics Colloquium, 9 March.
- Guthman, J. and DuPuis, M. (2006) Embodying neoliberalism: Economy, culture, and the politics of fat. *Environment and Planning D: Society and Space* 24(3): 427–448.
- Hacking, I. (1999) *The Social Construction of What?* Cambridge, MA: Harvard University Press.
- Harvey, D. (1998) The body as an accumulation strategy. *Environment and Planning D: Society and Space* 16(4): 401–421.



- Hamm, M. and Baron, M. (1999) Developing an integrated, sustainable food system: The case of New Jersey, United States. In: M. Koc, R. McRae, L. Mougeot and J. Welsh (eds.) *For Hunger Proof Cities*. Ottawa, ON: IDRC.
- Hartley, C. (2001) Letting ourselves go: Making room for the fat body in feminist scholarship. In: J.E. Braziel and K. LeBesco (eds.) *Bodies Out of Bounds: Fatness and Transgression*. Berkeley, CA: University of California Press, pp. 60–73.
- Heshka, S. and Allison, D.B. (2001) Is obesity a disease? *International Journal of Obesity* 25(10): 1401–1404.
- James, W. (1907) *Pragmatism*. New York: Longman Green and Co.
- Johnston, J. and Taylor, J. (2008) Feminist consumerism and fat activists: A comparative study of grassroots activism and the Dove Real Beauty Campaign. *Signs* 33(4): 941–966.
- Kaufman, L. and Karpati, A. (2007) Understanding the sociocultural roots of childhood obesity: Food practices among Latino families of Bushwick, Brooklyn. *Social Science & Medicine* 64(11): 2177–2188.
- Kim, S. and Popkin, B.M. (2006) Understanding the epidemiology of overweight and obesity – A real global public health concern. *International Journal of Epidemiology* 35(1): 72–74.
- Khlat, M., Jusot, F. and Ville, I. (2009) Social origins, early hardship and obesity: A strong association in women but not in men. *Social Science & Medicine* 68(9): 1692–1699.
- Klein, R. (2001) Fat beauty. In: J. Braziel and K. LeBesco (eds.) *Bodies out of Bounds: Fatness and Transgression*. Berkeley, CA: University of California Press, pp. 19–38.
- Kluger, J. (2008) How America's children packed on the pounds. *Time* 171(25): 66–69.
- Konigsberg, R.D. (2008) Meme Roth's war. *Elle* 5 December, <http://www.elle.com/Beauty/Health-Fitness/MeMe-Roth-s-War/MeMe-Roth-s-War6>, accessed 18 June 2009.
- Kwan, S. (2009) Framing the fat body: Contested meanings between government, activists, and industry. *Sociological Inquiry* 79(1): 25–50.
- Latour, B. (1999) *Pandora's Hope*. Cambridge, MA: Harvard University Press.
- Latour, B. (1993) *We Have Never Been Modern*, C. Porter (ed. and trans.). Cambridge, MA: Harvard University Press.
- LeBesco, K. (2001) Queering fat bodies/politics. In: J. Braziel and K. LeBesco (eds.) *Bodies out of Bounds: Fatness and Transgression*. Berkeley, CA: University of California Press, pp. 74–90.
- LeBesco, K. (2004) *Revolting Bodies: The Struggle to Redefine Fat Identity*. Boston, MA: University of Massachusetts Press.
- Lochhead, C. (2009) Obesity's heavy toll on medical expenses. *San Francisco Chronicle* 16 August: A1.
- Mazer, S. (2001) She's so fat...; Facing the fat lady at Coney Island's sideshows by the seashore. In: J. Braziel and K. LeBesco (eds.) *Bodies Out of Bounds: Fatness and Transgression*. Berkeley, CA: University of California Press, pp. 257–276.
- McAuley, P., Sui, X., Church, T.S., Hardin, J.W., Myers, J.N. and Blair, S.N. (2009) The joint effects of cardiorespiratory fitness and adiposity on mortality risk in men with hypertension. *American Journal of Hypertension* 22(10): 1062–1069.
- McPhail, D. (2009) What to do with the 'Tubby Hubby'? 'Obesity,' the crisis of masculinity, and the nuclear family in early Cold War Canada. *Antipode* 41(5): 1021–1050.
- McMichael, P. (2007) Feeding the world: Agriculture, development and ecology. *Socialist Register* 43(1): 170–194.
- Monaghan, L.F. (2005) Discussion piece: A critical take on the obesity debate. *Social Theory & Health* 3(4): 302–314.
- Monaghan, L.F. (2007) McDonaldizing men's bodies? Slimming, associated (Ir)Rationalities and resistances. *Body & Society* 13(2): 67–93.
- Murphy, R. (2002) Extreme weather and the energy metabolism of the city. *Environment and History* 8(1): 43–64.
- Murphy, R. (2004) Disaster or sustainability: The dance of human agents with nature's actants. *The Canadian Review of Sociology and Anthropology* 41(3): 249–266.



- Murphy, R. (2007) Thinking across the culture/nature divide: An empirical study of issues for critical realism and social constructionism. In: Jon Frauley and Frank Pearce (eds.) *Critical Realism and the Social Sciences*. Toronto, ON: University of Toronto Press, pp. 142–161.
- Nash, J. (2007) A fat rant. 17 March 2007, online video clip, YouTube, <http://www.youtube.com/watch?v=yUTJQIB1oA>, accessed 18 June 2009.
- O'Brien, P. (1995) Dietary shifts and implications for US agriculture. *American Journal of Clinical Nutrition* 61(6): 1390S–1396S.
- OMA (Ontario Medical Association). (2009) OMA background paper and policy recommendations on treatment of childhood overweight and obesity. *Ontario Medical Review* 76(2): 19–36.
- Olshansky, S.J. et al (2005) A potential decline in life expectancy in the United States in the 21st century. *New England Journal of Medicine* 352(11): 1138–1145.
- Orbach, S. (2006) There is a public health crisis – It's not fat on the body but fat in the mind and the fat of profits. *International Journal of Epidemiology* 35(1): 67–69.
- Paarlberg, R. (2010) *Food Politics: What Everyone Needs to Know*. New York: Oxford University Press.
- Pollan, M. (2003) The way we live now: The (agri)cultural contradictions of obesity. *New York Times Magazine* Sunday, 12 October.
- Pollan, M. (2006) *The Omnivore's Dilemma*. New York: Penguin.
- Pollan, M. (2009) Big food vs. big insurance. *New York Times* 10 September: A43.
- Pool, R. (2001) *Fat: Fighting the Obesity Epidemic*. New York: Oxford University Press.
- Puhl, R. and Brownell, K. (2001) Bias, discrimination and obesity. *Obesity Research* 9(12): 788–805.
- Rich, E. and Evans, J. (2005) 'Fat ethics' – The obesity discourse and body politics. *Social Theory & Health* 3(4): 341–358.
- Rothblum, E. and Solovay, S. (eds.) (2009) *The Fat Studies Reader*. New York: NYU Press.
- Saguy, A. and Riley, K.W. (2005) Weighing both sides: morality, mortality, and framing contests over obesity. *Journal of Health Politics, Policy and Law* 30(5): 869–923.
- Saguy, A.C. and Almeling, R. (2008) Fat in the fire? Science, the news media, and the 'obesity epidemic'. *Sociological Forum* 23(1): 53–83.
- Schlosser, E. (2001) *Fast Food Nation: The Dark Side of the American Meal*. Boston, MA: Houghton Mifflin.
- Schuster, D. and Tealer, L. (2009) Exorcising the exercise myth: Creating women of substance. In: E. Rothblum and S. Solovay (eds.) *The Fat Studies Reader*. New York: NYU Press, pp. 320–326.
- Scott, M.M., Dubowitz, T. and Cohen, D.A. (2009) Regional differences in walking frequency and BMI: What role does the built environment play for blacks and whites. *Health & Place* 15(3): 882–887.
- Seliske, L.M., Pickett, W., Boyce, W.F. and Janssen, I. (2009) Density and type of food retailers surrounding Canadian schools: Variations across socioeconomic status. *Health & Place* 15(3): 903–907.
- Shell, E. (2003) *The Hungry Gene: The Science of Fat and the Future of Thin*. New York: Atlantic Monthly Press.
- Simmons, R.K. and Wareham, N.J. (2006) Obesity is not a newly recognized public health problem – A commentary of Breslow's 1952 paper on 'public health aspects of weight control'. *International Journal of Epidemiology* 35(1): 14–16.
- Sobal, J. (1999) The size acceptance movement and the social construction of body weight. In: J. Sobal and D. Maurer (eds.) *Weighty Issues: Fatness and Thinness as Social Problems*. New York: Aldine de Gruyter, pp. 231–249.
- Solovay, S. and Rothblum, E. (eds.) (2009) Introduction. *The Fat Studies Reader*. New York: NYU Press, pp. 1–8.
- Stevens, J., McClain, J.E. and Truesdale, K.P. (2006) Obesity claims and controversies. *International Journal of Epidemiology* 35(1): 77–78.
- Swinburn, B., Egger, G. and Raza, F. (1999) Dissecting obesogenic environments: The development and application of a framework for identifying and prioritizing environmental interventions for obesity. *Preventive Medicine* 29(6): 563–570.



- Tarasuk, V. and Eakin, J. (2005) Food assistance through 'surplus' food: Insights from an ethnographic study of food bank work. *Agriculture and Human Values* 22(2): 177–186.
- Teachman, B.A. and Brownell, K. (2001) Implicit anti-fat bias among health professionals: Is anyone immune? *International Journal of Obesity Related Metabolism Disorder* 25(10): 1525–1531.
- Wang, Y. (2001) Cross-national comparison of childhood obesity: The epidemic and the relationship between obesity and socioeconomic status. *International Journal of Epidemiology* 30(5): 1129–1136.
- Wann, M. (1998) *Fat? So! Because You Don't Have to Apologize for Your Size!* Berkley, CA: Ten Speed Press.
- Wann, M. (2009) Foreword. Fat studies: An invitation to revolution. In: E. Rothblum and S. Solovay (eds.) *The Fat Studies Reader*. New York: NYU Press, pp. ix–xxv.
- Weber, M. (1946) Science as a vocation. In: H.H. Gerth and C. Wright Mills (eds.) *From Max Weber: Essays in Sociology*. New York: Oxford University Press, pp. 129–156.
- WHO (World Health Organization). (2004) *Global Strategy on Diet, Physical Activity, and Health*. Geneva: World Health Organization.
- WHO (World Health Organization). (2006) *World Health Organization Fact Sheet*. Geneva: World Health Organization.
- Winson, A. (2004) Bringing political economy into the debate on the obesity epidemic. *Agriculture and Human Values* 21(4): 299–312.
- Wrigley, N. (2002) 'Food deserts' in British cities: Policy context and research priorities. *Urban Studies* 39(11): 2029–2040.
- Young, E. and Kantor, L.S. (1999) Moving toward the food guide pyramid: Implications for US agriculture. Washington DC, USDA Agricultural Report No. 779.