Discussion Piece: A Critical Take on the Obesity Debate

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This paper critically engages with dominant obesity discourses, making particular reference to the perceived epidemic of 'excess' weight among men in England. It expands upon arguments written for the Men's Health Forum during the run up to their recent conference on 'tackling male weight problems'. The science legitimating the war against fat is questioned as well as arguments offered by those playing a key role in constructing this as a massive public health problem. A sociologically imaginative approach to the obesity debate is encouraged in line with a critical realist appreciation of health and its determinants.

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BACKGROUND

In April 2005, I was invited by the Men's Health Forum (MHF) to contribute to a written debate on 'male obesity' for their magazine. The magazine is mainly distributed to health professionals, politicians and policy makers in England and Wales. Publication was to coincide with the MHF's June conference, sponsored by the Department of Health, on 'tackling male weight problems' (MHF, 2005). The aim of the conference was to arrive at a consensus statement that would inform policy and practice. Following an earlier meeting with the director of the MHF, where I expressed my reservations about the well-publicized 'fight against fat', I was asked to write on why I thought the case against obesity was overstated. The magazine editor also told me that they would run a piece from somebody else (probably a medical doctor) 'who thinks it [obesity] really is a time bomb waiting to explode'. The MHF subsequently recruited Dr David Haslam, a General Practitioner and chair of the National Obesity Forum, to reiterate the dominant view (Haslam, 2005).

I welcomed the MHF invitation. The highly publicized 'obesity debate' often focuses upon proposed 'solutions' to a taken-for-granted 'problem' (or apocalyptic problem in the making) rather than questioning the construction of fatness as a massive public health problem that should be tackled. However, I also had some apprehensions given, among other things, the magazine's highly restrictive word count and its 'taking sides' format. I wanted to write more and hopefully stimulate further debate, especially among social theorists of health. While drafting my contribution, I contacted the editors of this journal and asked if they would be willing to publish an expanded version. Paul Higgs and Graham Scambler agreed and this is presented below. Primarily drawing from medical and other relevant literature, it questions dominant understandings of 'overweight' and 'obesity', that is biomedical weight-for-height categories, which are associated with risk and which often get conflated in societies where alarmist claims about 'the obesity epidemic' are routine (Rich, 2005). Where appropriate, I also briefly cite understandings from my current sociological research in order to place the discussion in a broader social context. This is an Economic and Social Research Council (ESRC) funded project on everyday male embodiment and weight-related issues. The study is largely, though not exclusively, being undertaken in Northeast England. Research comprises in-depth interviews and other qualitative methods (see, for example, Monaghan, 2005a).

I will first clarify my position, intentions and offer some caveats. Importantly, I am not 'taking sides' and claiming 'being fat' is beneficial to health though some readers of my MHF piece may have inferred this because the magazine's editor titled the article along those lines (see Monaghan, 2005b). Even highly critical contributors to the obesity debate (eg Campos, 2004) accept that extremes of weight, at either end of the light-heavy continuum, are associated with increased health risk. Space exists here for productive dialogue without being forced to adopt an essentialist either/or position that is intertwined with other questionable dichotomies. As stated by Labinger and Collins (2001, p. ix) when discussing the quarrelsome 'science wars' between those working in the borderlands between the natural and social sciences, being critical does not preclude some form of conciliation. Rather than claiming fat is intrinsically good (or bad), and throwing punches at others who disagree, I take a different position and I have other intentions. In short, I want to question dominant understandings and highlight various sociological concerns in line with a 'critical realist' approach (Williams, 2003). There are many critical arguments that need to be considered as part of this debate (more often lack of debate; Aphramor, personal communication). Yet, as commented by Gard and Wright (2001), dominant obesity discourses

unjustifiably seek to erase uncertainty and they could be considered ethically irresponsible (see Rich and Evans, this issue). Even medical journals undermine dominant understandings on their own terms, with editors warning about iatrogenesis amidst scientific uncertainty (Kassirer and Angell, 1998). The serious health problems associated with the diet drug dexfenfluramine is an obvious example of why there is a need for debate rather than 'taking sides' in a war on obesity.

In my original piece, I wanted to bring critical scientific evidence to the attention of health professionals and policy makers and encourage them to question dominant understandings. I am definitely not in the business of name-calling, but I am writing in a historical context where well-meaning people uncritically aligned with obesity industries have been disparaged as docile, unquestioning dupes (Mann, 1971, p. 1492). Critical scientific literature is readily available and while this debate cannot be separated from political-economic concerns (*cf.* Gard and Wright, 2005, pp. 151–152), science provides a socially credited basis, and useful starting point, for questioning 'the evil view of obesity' (Mann, 1971, p. 1492). Referring to a major US consensus conference on obesity in the mid-1980s, Ernsberger and Haskew (1987) challenged its claims that obesity is a 'major killer' after offering a detailed review of the medical literature. Given the current moral panic about a global obesity epidemic, and the potentially harmful calls to action it legitimates, alternative views need reiterating. As an expanded piece for this journal, I also hope this underscores the relevance of medical sociology and critical social theory when engaging with public health debates. If fatness is discredited on a massive scale despite highly equivocal science, then this speaks volumes about social values, vested interests and power! Of course, I recognize that consensus conferences, alongside media coverage, may provide space for contestation but more often they confirm and spread the effects of dominant discourses (Gard and Wright, 2001, p. 357).

Finally, questioning dominant understandings sometimes annoys 'right thinking' people who 'know' obesity is a serious problem. The crusade against fat is aligned with the powerful secular religion of health and my critical take could be considered blasphemous. I will therefore make clear that I am not trivializing the health risks, problems and deaths commonly *attributed* to 'excess' weight or adiposity. However, like 'obesity epidemic thinking' more generally, such attributions cannot be taken at face value (Gard and Wright, 2005). Indeed, the actual extent of risks and deaths assumed to be due to fatness is scientifically indeterminable and, like any currency, subject to potentially massive inflation. Furthermore, population risks do not translate to individual risks and it is problematic to claim, for

example, that obesity causes ischaemic heart disease or non-insulin-dependent diabetes mellitus (Ross, 2005). In qualifying my discussion, I will also stress that I do not dismiss various benefits that certain people, in certain circumstances, derive from physical activity and a nutritious diet – benefits which may actually be independent of weight loss (Gaesser, 1998) or reaching a medically defined ‘healthy’ weight. Rather, I question the very public degradation of fatness and, in suggesting possible ways forward, accord due weight to the social body concerning matters of health and illness. Throughout my work, I remain respectful to my ethnographic contacts, recognizing that many good people have good reasons for endorsing healthism and slenderness. However, these endorsements from everyday people are primarily about embodied social fitness or acceptability in a society where fat may as well be a four-letter word.

EXPANDED VERSION OF MHF ARTICLE (JUNE 2005)

What are we to make of authoritative claims that almost two-thirds of men in England are ‘overweight’ (Body Mass Index (BMI) 25 to $\leq 29.9 \text{ kg/m}^2$) or ‘obese’ ($\text{BMI} \geq 30 \text{ kg/m}^2$), and this is a massive and growing public health problem (National Audit Office, 2001; UK Parliament, 2004)? Weight or ‘fatness’ is certainly problematic for many people (or it is made problematic for and by many people) but should it be? Anthropologically speaking, I appreciated that corpulence is adored not disdained in many cultures, but I assumed that the scientific case against overweight/obesity/fatness was solid. That was a naïve assumption. Indeed, while I initially accepted dominant medicalized definitions, which discredit fatness on health grounds, the more I learnt the more I realized that such definitions are themselves problematic.

Dominant understandings are equivocal at best, both within and outside of medicine. If reference is made to scientific literature, and interpretations of that literature, then the publicized war against fat rests on shaky foundations. The basic idea of ‘over’ or ‘excess’ weight – where ‘weight’ serves as an inexpensive proxy for adiposity – does not correspond with epidemiologic evidence. In a recent US study in the *Journal of the American Medical Association*, ‘overweight’ was not associated with excess mortality (Flegal *et al.*, 2005). This observation is not new or atypical: international epidemiological studies conducted over two decades ago maintain that overweight *and* obesity were not major risk factors for death (Keys, 1980). Moreover, there are documented health benefits associated with ‘excess’ weight, which leads Ernsberger and Haskew (1987) to challenge the social

construction of obesity as a disease (also, see Cogan, 1999). Nonetheless, millions of people in England, and throughout the world, are currently defined as overweight or excessively overweight in the case of obesity (WHO, 1998). This pariah-mongering is not based on accepted scientific fact. Indeed, contributors to medical journals reject the concept of 'ideal (optimal, desirable) weight' (Knapp, 1983). Height-weight tables have also been dismissed as 'arbitrary, random, and meaningless' (Gaesser, 2002, p. 106). More favourably, the BMI has been described as the 'gold standard' of the obesity industry (Ruppel Shell, 2003, p. 33). However, in the light of the above, is the BMI fools' gold or, more lucratively, a way of obtaining gold from those who have been fooled and dazzled by uncertain and contested science?

Studies are also misrepresented. Epidemiological work that does not claim obesity causes 300,000 excess annual deaths in the USA gets misquoted and re-presented as if it did make this claim, with original authors subsequently writing to medical journals to correct those who wrongly cite their work (McGinnis and Foege, 1993, 1998). Another well-cited epidemiological study by Allison *et al.* (1999) explicitly states that their calculations *assume* all excess mortality in obese people is due to obesity. Yet, this is a problematic assumption. Many things affect health, as expressed, for example, in an editorial on obesity in the *New England Journal of Medicine* (Kassirer and Angell, 1998). Editors of other prestigious medical journals also highlight problems with constructing this as a massive health problem (eg calculations of deaths attributable to obesity vary widely between studies, attributing deaths to obesity requires many assumptions that often remain implicit) (Mark, 2005). As a medical sociologist, I would go further and ask: what about social inequalities, psychosocial stress and various forms of discrimination, which have a massive and demonstrable impact upon health? Indeed, given the Whitehall studies (eg Marmot *et al.*, 1997), which show mortality risk is primarily determined by social factors, alarmist claims about overweight and obesity need to be seriously questioned.

Obviously, I am not suggesting individuals labelled overweight/obese/fat are always healthy. Indeed, such labelling may itself be a source of poor health, especially for those experiencing material inequalities and discrimination in healthcare. Nor am I saying people do not have good reasons for wanting to lose weight: in the war against fat, it often makes sense to become a smaller target. This is especially pertinent for people labelled 'morbidly obese' who experience mobility difficulties and display a high level of abdominal fat, which is associated with increased health risk (and discrimination depending upon social location and hierarchy). In engaging with the obesity debate, I would not dismiss the materiality of heterogeneous

bodies and biological arguments concerning, for example, the pathophysiology of adipocytokins (Haslam, 2005). Nonetheless, biology and biomedical arguments must be treated in non-reductionist terms (Williams *et al.*, 2003; also, see Bury and Wadsworth, 2003, p. 113). Furthermore, it is worth acknowledging scientific evidence that challenges the wholesale pathologization of fatness or obesity.

Consider a study with almost 22,000 male participants from middle to upper socio-economic groups (Lee *et al.*, 1999). Men who were obese (measured by body fat and waist girth rather than the crude BMI) and fit (measured by treadmill exercise) had cardiovascular and all-cause mortality rates that were similar to those who were lean and fit. They also had mortality rates that were significantly lower than those who were lean and unfit (also, see Barlow *et al.*, 1995; Miller, 1999). Cardiorespiratory fitness, not fatness, appears to be central in these studies and people deemed fat may be fit despite negative cultural stereotypes. People may, of course, be particularly fit and healthy if their 'lifestyles' are embedded in better social circumstances (Townsend and Davidson, 1982). Physical bodies are also social bodies (lived body-subjects) who accumulate advantages and disadvantages throughout the life course and who therefore benefit unequally from the 'healthy choices' they exercise.

Few scientific studies actually measure adiposity and cardiorespiratory fitness and adequately account for the confounding effects of physical activity on health. Nonetheless, in order to consider the effects of physical inactivity and obesity on morbidity and mortality, Blair and Brodney (1999) undertook a systematic literature review. They identified and summarized 24 studies, including the research cited above (Lee *et al.*, 1999). One of their conclusions was that 'active obese individuals actually have lower morbidity and mortality than normal weight individuals who are sedentary' (Blair and Brodney, 1999, p. S646). These authors are cautious in their claims given, for example, the limited research base (eg there is a need to study diverse population groups, including minorities) and gradations of obesity (ie they are unwilling to extend their conclusions to individuals with a BMI ≥ 35 kg/m²). Nonetheless, such literature provides interesting food for thought. It also provides ammunition for those firing back in the war on obesity. Indeed, it has been argued that adiposity is no more than a 'crude proxy' or 'imprecise marker' for factors that have a more direct impact upon health, and the fight against fat is off target (Campos, 2004; Gaesser, 1998, 2005).

Other medical evidence casts a critical light on the 'thin is in' mindset or the idea that the developed world is facing imminent death by fat. For example, BMI is reportedly increasing in the USA but so too is life expectancy, and people classed as 'obese' have better cardiovascular disease risk profiles

than their leaner counterparts did 20–30 years ago (Gregg *et al.*, 2005). Also, while excess deaths in the USA are not associated with ‘overweight’, they are associated with ‘underweight’ (Flegal *et al.*, 2005). Epidemiology is an inexact science, and, as indicated above, measurements such as BMI are problematic. However, it cannot be denied that ‘underweight’ is a massive problem in an iniquitous world where millions of people are starving to death. Unfortunately, this extends beyond absolute poverty and famine in the ‘third’ or ‘majority’ world: the Western culture of slenderness is especially harmful to women and girls (Bordo, 1993; Rich, 2005; Wolf, 1993). This cannot be divorced from talk of a global obesity epidemic, which discredits body fat on the basis of highly questionable science (or is that cultural prejudice?). As discussed by Cogan (1999), eating disorders and obesity are interdependent and obesity researchers should consider how their recommendations contribute to anorexia and bulimia.

Campos (2004) offers accessible critical commentary on the obesity debate for a wider audience. Aimed at the educated public rather than social theorists of health, this is a good place to start for anybody interested in this issue. Besides reviewing scientific literature and challenging common claims (eg in relation to diabetes, heart disease, etc), critical social commentary is offered. For example, Campos (2004) states that ‘the obesity myth’ in the USA re-admits and legitimates white, middleclass prejudices towards the poor and racialized minorities. Academic work presented at a recent seminar at Bath University, England, is convergent. Such work discusses the intersections between biology and social structure and the inadequacies of current clinical guidelines. Aphramor from Coventry University, who also works as a dietician in the National Health Service, reviewed medical and dietetic literature and stated: ‘clinical guidelines for obesity are derived not from a rigorous evidence base but from unfounded assumptions about weight, morbidity and metabolic fitness. And they overlook extensive research linking physiological responses to stress/discrimination with central adiposity, hyperphagia and hypertension’ (Aphramor, 2005). And yet governments and health organizations talk about ‘tackling weight problems’, while more expansive and intimately connected problems associated with social injustice get hidden and suffocated by fat.

This is a big, complex issue, which is often simplified into bite-size chunks. This simplicity has an obvious appeal to health organizations, professionals and policy makers in an increasingly rationalized society (Ritzer, 2004). For example, measures like BMI provide easily determined efficiency indicators at a time when health initiatives are subject to quantification and evaluation (an instance of what I would call McObesity). The promised panacea of slimming also offers transient comfort, and a sense

of embodied agency, to many everyday people for whom fat is a personal issue. However, this largely unsuccessful act of faith (Aphramor, this issue) and associated 'dividing practices' (Foucault, 1983) perpetuate the current negativity of fatness. This negativity is unpalatable when, for example, parents tell me about their boy's suicidal tendencies after being publicly shamed for their weight. Note, this is in a society where 'caring' institutions are complicit in reproducing the perceived wrongfulness of adiposity despite highly equivocal science and largely ineffective 'remedies'. Bite-size chunks may be tempting but when discussing health and illness they are unsatisfying. They always leave room for more.

In line with other critical contributors, I would suggest a more rounded and fitting take on the obesity 'debate' would read like this: the highly publicized war against fat is about moral judgements and panic (manufactured fear and loathing). It is about social inequality (class, gender, generational and racial bias), political expediency and organizational and economic interests. For many everyday people, including men and boys (but more often women), it is about striving to be considered good or just plain acceptable in a body-oriented culture. I have also learnt from some men that it is about occupational identity and relationships: for example, a middleclass health professional working on obesity told me that he felt he needed to lose weight to physically 'fit in' and be taken seriously by his peers (similarly, see Joannisse and Synnott, 1999, p. 56). All of this is independent of (potential) health problems commonly attributed to adiposity rather than highly consequential socio-economic factors that impact upon and through differentially endowed biological and social bodies. As stated by Gard and Wright (2005, p. 151), seeking a resolution to these issues is not likely to be advanced by more 'hard' science. However, an important step in the right direction entails recognizing that 'obesity epidemic talk' is inseparable from social, cultural, political and economic concerns and therefore the exercise of power.

Those playing a key role in the medicalization of obesity no doubt have numerous rejoinders. For example, the chair of the National Obesity Forum, who reiterated the dominant view in the MHF magazine, wrote '[t]elling an active individual that it is okay to be obese is exactly the same as telling him its [*sic*] okay to smoke, or have high blood pressure' (Haslam, 2005, p. 9). Is it? I recognize Haslam's (2005) piece was written under the same constraints as my MHF submission, and he may want to expand upon or qualify this statement, but it does give concrete expression and authority to many of the questionable 'obesity epidemic' claims made in the media. Scepticism is necessary, however, not least because scientific literature undermines such arguments. Yet, this literature is often ignored or dismissed

because it contradicts moral and ideological, rather than 'pure' scientific, commitments (Gard and Wright, 2005). Aside from the observation that 'obese people' have the lowest prevalence of smoking (Gregg *et al.*, 2005), epidemiologic evidence indicates that 'cigarette smoking is more dangerous than even the most extreme adiposity' (Ernsberger and Haskew, 1987, p. 60; also, see Campos, 2004, pp. 25–26). Moreover, if, after controlling for smoking and other variables, physically fit people have similar mortality risk independent of body composition (Lee *et al.*, 1999), why should clinicians tell a physically active person with a relatively high body fat percentage that this is unacceptable? Is it because body fat has become a highly visible, often enduring, deeply personalized corporeal marker for inferior social status in a way that smoking and hypertension are not? Haslam's (2005) words coexist with research on 'fat bigotry' in the medical profession and how this may compromise patient health (*cf.* Joannis and Synnott, 1999, p. 58). Furthermore, weight-loss practices have been associated with increased mortality and morbidity (including hypertension) (Gaesser, 2002) and medical journal editors state the cure for obesity may be worse than the condition (Kassirer and Angell, 1998). Now, what did Hippocrates say with regard to medical ethics? I do not want to appear as if I am sniping. To reiterate, this should be a debate, not a war. However, if claims about the 'time bomb' scenario have any validity, then it could be argued that this will have less to do with adiposity and more to do with medical and commercial practices that regulate and profit from bodies.

Obesity entrepreneurs and claims makers may rejoin that we should be worried because this is an epidemic of global proportions (WHO, 1998). Reported increases in the prevalence of overweight and obesity from 1980 onwards, alongside dire warnings of disease, death and deformity (eg future amputees), mean that this issue is being imposed upon the collective conscience. Routinely presented as a 'life-threatening' disruption to everyday life, these unusual trends and authoritative interpretations give expression to an epidemic of a different and potentially more corrosive kind. In his Schutzian informed approach to the panic surrounding AIDS, Strong (1990) proposes an 'ideal-typical' model, which is also used in everyday life: namely, epidemic psychology. This refers to conceptual schema employed to make sense of the fragile social world. It also refers to plagues of unjustified fear, moralizing action and intense forms of stigmatization. Epidemic psychology extends beyond AIDS to the very public degradation of fatness, associated reactions and interpretations. The negative consequences of epidemic psychology are spread by stories such as obesity causes 300,000 annual deaths in the USA.

Intertwined with the ideology of healthism (Crawford, 1980), this media-fuelled epidemic perpetuates a misleading, or at best oversimplified, understanding of what determines morbidity and mortality: Aphramor (this issue) calls it an 'epidemic of truncated theorising'. Presented as the 'correct' view, this epidemic has the potential to discredit everybody who apparently fails to regulate their weight and embody 'the imperative of health' (Lupton, 1995). Moreover, this is legitimated under the fiction of unquestionable scientific fact, with biomedicine's limited focus on the divisible, physical body supporting supposedly certain epidemic thinking. After describing the pathophysiology of abdominal obesity, the chair of the National Obesity Forum wrote '[t]he facts are indisputable. The medical profession's obsession with obesity is not a moral nor [*sic*] a social judgement, purely a clinical one' (Haslam, 2005, p. 9). However, to put it mildly, this is not an empirically warranted assertion (also, see Rich and Evans, in this issue, on moralizing health). Such assertions mean that fat is not only a feminist issue (see Gard and Wright, 2005, pp. 153–167): it is also being made into a public health issue and an increasingly male-relevant issue. This does not mean parity exists in gendered (largely aestheticized) body norms, but it does mean men and boys are less able to escape fat prejudice in epidemic times. That said, and regardless of their own body composition and appearance, I know everyday people may be resistant to dominant obesity discourses and exercise healthy scepticism: there is immunity to epidemic psychology. This alternative display of social fitness is a gendered practical accomplishment rather than an inherent or acquired biological advantage.

There are policy and practical implications, at population and more individual levels, for those interested in promoting health in a supposedly fat nation. One is to avoid making claims that pathologize most of the adult population (eg almost two-thirds of men in England are overweight or obese and this is a major public health problem). Although largely respectful of science, the public often know a 'daft idea' when they hear it (Gregory and Miller, 2001, p. 61) and organizations engaged in pariah-mongering risk undermining their own credibility. Another is to avoid reproducing negative stereotypes in health promotion campaigns and at highly publicized conferences: the MHF conference flyer, for example, featured a photograph of a man's large stomach and bursting shirt. Similar to the tendency of racism (Porter, 1993), sizism may be 'exercised unrealized' by health professionals and organizations but it draws from and reproduces a social environment that degrades and ineffectively seeks to 'cure' bodily diversity. More positively, medical evidence suggests that people's metabolic health (eg blood pressure, insulin sensitivity, cholesterol levels) may be significantly improved through diet and moderate physical activity without weight loss (Gaesser, 1998). This

is the thinking behind the Health at Every Size Paradigm (Robison, 2005), and is important because people should not feel discouraged if they take steps to improve their health yet notice little change on the weighing scales. However, if policy makers wish to significantly improve public health under the rubric of ethically responsible science, then the weight of evidence underscores the importance of tackling social inequalities (Acheson, 1998). I would urge health professionals and policy makers not to be blinded by fat. To be so means that we may fail to recognize or prioritize threats to health, such as social and economic marginalization, which are less open to individualistic interventions. Of course, this is a deeply political and personal issue characterized by vested interests and (quasi-religious) investments. It is not a free-floating exchange of ideas among social equals. Finally, because the war against obesity cannot be divorced from economics (there are obviously big fat profits to be made), it is legitimate to ask interested parties on which side is their bread buttered and whether they can afford to leave it without fear of going hungry?

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REFERENCES

- Acheson Sir D (chair) (1998). *Independent Inquiry into Inequalities in Health*. The Stationary Office: London.
- Allison DB, Fontaine KR, Manson JE, VanItallie TB (1999). Annual deaths attributable to obesity in the United States. *Journal of the American Medical Association* **282**: 1530–1537.
- Aphramor L (2005). Who says size matters? *Weighty Issues: Representation, Identity and Practice in the Areas of Eating Disorders, Obesity and Body Management* <<http://staff.bath.ac.uk/psssr/weightyissues-spkr.htm>> Accessed 27 April 2005.

- Barlow CE, Kohl HW, Gibbons LW, Blair SW (1995). Physical fitness, mortality and obesity. *International Journal of Obesity* **19**(Suppl): S41–S44.
- Blair SN, Brodney S (1999). Effects of physical inactivity and obesity on morbidity and mortality: current evidence and research issues. *Medicine and Science in Sports and Exercise* **31**(Suppl): S646–S662.
- Bordo S (1993). *Unbearable Weight: Feminism, Western Culture and the Body*. University of California Press: Berkeley, CA.
- Bury M, Wadsworth M (2003). The ‘Biological Clock’? Ageing, health and the body across the lifecourse. In: Williams SJ, Birke L, Bendelow GA (eds). *Debating Biology: Sociological Reflections on Health, Medicine and Society*. Routledge: London.
- Campos P (2004). *The Obesity Myth: Why America’s Obsession with Weight is Hazardous to your Health*. Gotham Books: New York.
- Cogan J (1999). Re-evaluating the weight-centred approach toward health: the need for a paradigm shift. In: Sobal J, Maurer D (eds). *Interpreting Weight: The Social Management of Fatness and Thinness*. Aldine de Gruyter: New York.
- Crawford R (1980). Healthism and the medicalization of everyday life. *International Journal of Health Services* **10**: 365–389.
- Ernsberger P, Haskew P (1987). Health implications of obesity: an alternative view. *Journal of Obesity and Weight Regulation* **6**: 58–137.
- Flegal KM, Graubard BI, Williamson DF, Gail MH (2005). Excess deaths associated with underweight, overweight, and obesity. *Journal of the American Medical Association* **293**: 1861–1867.
- Foucault M (1983). The subject and power. In: Dreyfus H, Rabinow Michel P (eds). *Foucault: Beyond Structuralism and Hermeneutics*, 2nd edn. University of Chicago Press: Chicago.
- Gaesser G (1998). The obesity problem (Correspondence). *The New England Journal of Medicine* **338**: 1156–1158.
- Gaesser G (2002). *Big Fat Lies: The Truth About Your Weight and Your Health*. Gurze Books: Carlsbad, CA.
- Gaesser G (2005). Fit and fat, still a solid concept despite recent challenges. *Health at Every Size Journal* **19**: 54–61.
- Gard M, Wright J (2001). Managing uncertainty: obesity discourses and physical education in a risk society. *Studies in Philosophy and Education* **20**: 535–549.
- Gard M, Wright J (2005). *The Obesity Epidemic*. Routledge: London.
- Gregory J, Miller S (2001). Caught in the crossfire? The public’s role in the science wars. In: Labinger JA, Collins H (eds). *The One Culture? A Conversation About Science*. University Of Chicago Press: Chicago.
- Gregg EW, Cheng YJ, Cadwell BL, Imperatore G, Williams DE, Flegal KM, Narayan KM, Williamson DF (2005). Secular trends in cardiovascular disease risk factors according to body mass index in US adults. *Journal of the American Medical Association* **293**: 1868–1874.
- Haslam D (2005). Taking sides: can being fat be good for you? No. *MHF* **7**: 8–9.
- Joanisse L, Synnott A (1999). Fighting back: reactions and resistance to the stigma of obesity. In: Sobal J, Maurer D (eds). *Interpreting Weight: The Social Management of Fatness and Thinness*. Aldine de Gruyter: New York.
- Kassirer J, Angell M (1998). The obesity problem (Correspondence). *The New England Journal of Medicine* **338**: 1156–1158.
- Keys A (1980). *Seven Countries: A Multivariate Analysis of Death and Coronary Heart Disease*. Harvard University: Cambridge.
- Knapp TR (1983). A methodological critique of the ‘Ideal Weight’ concept. *Journal of the American Medical Association* **250**: 506–510.
- Labinger JA, Collins H (eds) (2001). *The One Culture? A Conversation About Science*. University Of Chicago Press: Chicago.

- Lee CD, Blair SN, Jackson AS (1999). Cardiorespiratory fitness, body composition, and all-cause and cardiovascular disease mortality in men. *American Journal of Clinical Nutrition* **69**: 373–380.
- Lupton D (1995). *The Imperative of Health: Public Health and the Regulated Body*. Sage: London.
- Mann GV (1971). Obesity, the nutritional spook. *American Journal of Public Health* **61**: 1491–1498.
- Mark D (2005). Editorial: deaths attributable to obesity. *Journal of the American Medical Association* **293**: 1918–1919.
- Marmot MG, Bosma H, Hemingway H, Brunner E, Stansfeld S (1997). Contribution of job control and other risk factors to social variations in coronary heart disease incidence. *The Lancet* **350**: 235–239.
- McGinnis JM, Foege WH (1993). Actual causes of death in the United States. *Journal of the American Medical Association* **270**: 2207–2212.
- McGinnis JM, Foege WH (1998). The obesity problem (Correspondence). *New England Journal of Medicine* **338**: 1156–1158.
- MHF (2005). *Hazardous Waist? New Approaches to Tackling Male Weight Problems*. Conference, London, 13 June.
- Miller W (1999). Fitness and fatness in relation to health: implications for a paradigm shift. *Journal of Social Issues* **55**: 207–219.
- Monaghan LF (2005a). Big handsome men, bears and others: virtual construction of ‘Fat Male Embodiment’. *Body and Society* **11**: 81–111.
- Monaghan LF (2005b). Taking sides: can being fat be good for you? Yes. *MHF* **7**: 8–9.
- National Audit Office (2001). *Tackling Obesity in England*. The Stationary Office: London.
- Porter S (1993). Critical realist ethnography: the case of racism and professionalism in a medical setting. *Sociology* **27**: 591–609.
- Rich E (2005). Obesity, eating disorders and the role of physical education. *British Sociological Association Sport Study Group Conference*, Leicester University, 6th May.
- Ritzer G (2004). *The McDonaldization of Society: Revised New Century Edition*. Sage: London.
- Robison J (2005). Editorial: health at every size: antidote for the ‘Obesity Epidemic’. *Health at Every Size Journal* **19**: 3–10.
- Ross B (2005). Fat or fiction: weighing the ‘Obesity Epidemic’. In: Gard M, Wright J (eds). *The Obesity Epidemic*. Routledge: London.
- Ruppel Shell E (2003). *Fat Wars: The Inside Story of the Obesity Industry*. Atlantic Books: London.
- Strong P (1990). Epidemic psychology: a model. *Sociology of Health and Illness* **12**: 249–259.
- Townsend P, Davidson N (1982). *Inequalities in Health: The Black Report*. Harmondsworth: Penguin.
- UK Parliament (2004). *House of Commons Health Select Committee: Health, Third Report* <<http://www.publications.parliament.uk/pa/cm200304/cmselect/cmhealth/23/2302.htm>> Accessed 8 September 2004.
- WHO (1998). *World Health Organization. Obesity: Preventing and Managing the Global Epidemic*. Geneva: World Health Organization.
- Williams SJ (2003). Beyond meaning, discourse and the empirical world: critical realist reflections on health. *Social Theory and Health* **1**: 42–71.
- Williams SJ, Birke L, Bendelow GA (eds) (2003). *Debating Biology: Sociological Reflections on Health, Medicine and Society*. Routledge: London.
- Wolf N (1993). *The Beauty Myth*. Vintage: London.