

4. The History of Weight Science

The history of weight science can be traced to the racial sciences of the 19th and 20th centuries.^{4,5,6} At that time, European and United States based scientists and physicians subscribed to eugenic ideas about race, body size, and health. They associated whiteness and thinness with health and non-European features, darker skin, and larger bodies with disease. This reinforced existing discrimination and oppression. It is in this cultural context that Body Mass Index (BMI) was created as a tool to sort bodies into categories purported to be linked to health. The data used to formulate the BMI chart was based entirely on average heights and weights of white men. It is not a coincidence that studies of BMI by demographic often conclude that Black women have the highest rates of obesity. Modern weight science is a direct continuation of the logic of racial science, the idea that some bodies – and thus people – are abnormal and in need of control. Why not eliminate the use of BMI for its problematic history? It's not that simple. Weight science is structurally racist and fatphobic. Science and healthcare must move away from the weight-centric paradigm altogether.

Racial Sciences of the 19th/20th Centuries and Its Precursors

The idea that weight had anything to do with health emerged in Europe and the United States in the late 19th and early 20th centuries. At this time, science was gaining prominence and in many ways competing with the power of the Christian Church. However, a closer look shows that the new scientific ideas were similar to those of the Church (cite Sylvia Wynter). Ideas about morality took on a new form as anxieties about healthiness and fitness took hold of society (cite Metzl and Kirkland *Against Health*, LeBesco chapter in particular). Our current dominant ideas about body size can be best traced through ideas about racial difference and racial purity created during the transatlantic slave trade and European colonization (cite Strings). Ideas of difference in respect to Europeans was used as justification for violence against people outside of the US. At the same time, these differences were used to control women and other groups within the colonial centers. In the case of weight, Sabrina Strings traces changes over 500 years where features of Black and immigrant bodies became seen as undesirable for white women and threats to general public health in Western contexts such as Europe and the US. A perhaps surprising part of this history is that whether fatness or thinness was preferred changed back and forth over time. During the time that thinness was seen as undesirable for white women, Black women were depicted in art as small instead of large bodied. Ideas of morality from the Protestant church changed European thinking about body size.

By the 18th century, fatness was seen as signs of a lack of control, indulgence, irrationality, and a lack of civilization. As medicine and science gained importance, the idea of health became more important. In the early 19th Century Adolphe Quetelet, a French-Belgian astronomer and statistician, played an important role in remaking older christian moral frames into new more “scientific” ones focused on health. While Quetelet is famous for his work in criminology, he also developed the equation that would later become the Body Mass Index (more below). In particular, Quetelet is known for his work on l’homme moyen or the average man. For Quetelet, the average man represented the ideal man. This framing challenged older frames which idealized “exceptional” people (such as royalty) over “commoners.” Quetelet’s new way of thinking also reflected the ideals of the European Enlightenment which rejected the “divine right of kings” and embraced (a limited) democracy. The valorization of the average man was in keeping with these political changes. However, Quetelet made another move in his thinking, and that was to establish the average as “normal.” By equating average, normal, and ideal, Quetelet established that deviations from the average ought to be seen as abnormal, deviant, and even monstrous. In his book, *A Treatise on Man and the Development of His Faculties*, he referred to the average man as a “type of perfection.” Those who deviate from the average, “would constitute a monstrosity.”⁷ Quetelet’s thinking about l’homme moyen influenced many people, especially Francis Galton, a British scientist, who is considered one of the key originators of the Eugenics movement. Critically, the sample from which Quetelet determined this “perfect” man came from cis, European white men, forever institutionalizing racism and sexism in his work.

During the 19th century we can see medical practitioners being more concerned with thinness as a possible danger to health. However, the scientific community came in line with the moral underpinnings of the temperance movement by the beginning of the 20th century when Eastern and Southern European along with Irish immigrants became seen as threats to “white” people in the United States. The threat is based on the science and politics of eugenics which was born during this time. Eugenics theories begin with the idea that certain traits can be passed down through reproduction. Eugenecist scientists and politicians argued that physical traits and behavioral traits were grouped together to form distinct racial groupings. This followed from previous Christian religious ideas of racial difference and hierarchy.

The convergence of moral ideas of purity and self-discipline along with new scientific ideas of racial differences created the strong association between weight and health that we have today by creating an “every body knows” belief that weight and health are synonymous. In the “everybody knows” construct no amount of evidence is required, for example, for the statement “being higher-weight is unhealthy” and no amount of evidence that refutes the claim can challenge it because “everybody knows” it is true. The weight loss industry seized upon this and bolstered it and soon the conflation of body size and health became something that is taken for granted and not open to scrutiny or critique regardless of the actual evidence. This set the stage for the creation of a system that could be used to deem individuals, racial groupings, and the whole of society as “healthy” or “unhealthy,” or “normal” and “abnormal,” based on weight as we will see next.

Understanding BMI

Body Mass Index (BMI) is defined as a person's weight in kilograms divided by the square of their height in meters. BMI is divided into categories that have been labeled "underweight," "normal weight," "overweight," and "obese." BMI has significant limitations in that it is a simple ratio of weight and height that fails to take into account body composition or any aspect of metabolic health. Despite these important limitations, it is routinely used as a measure of health or of whether or not a body is the "correct" size. On the surface, it may seem as though body mass index is a neutral tool being misused in the clinical setting. To understand why this is not the case, we need to contextualize BMI in relation to historical racial science and weight science.

The idea behind body mass index can be traced to the medico-actuarial tables formulated by the Metropolitan Life Insurance Company to gauge insurance risk. Statisticians employed by the company based the tables on white male policyholders' heights and weights. While these tables purported to gauge risk, they relied on biased data sets and flawed statistical analysis. Medico-actuarial tables influenced medical literature, with journals increasingly publishing articles decrying obesity as a disease. Authors also linked higher weight to racialized assumptions of physical and social unfitness.

A critic of medico-actuarial tables, physician and researcher Ancel Keys, set out to create a new tool. Keys is also infamous for conducting the ethically questionable Minnesota Starvation Study, 1944-45. In 1972, Keys published a paper in the *Journal of Chronic Diseases* which described his formulation of the Body Mass Index and compared other metrics to characterize bodies based on size. The paper showed BMI was the easiest to use and was not too different from results from the other methods - e.g. water displacement tests which would be much harder to do in doctor's offices. Keys based his BMI formula and chart on earlier work by Adolphe Quetelet. Quetelet's formula, the Quetelet Index, was derived from data on European men, and was not intended to be applied to individuals, but to populations. The measure was intended to be a description of average human proportions. It was not related to health in Quetelet's writing. Quetelet's Index did not consider the diversity of human body shapes and sizes. It did, however, rely on the idea that bodies should be judged by their similarity to an imagined statistically average white male. Nonetheless, Keys insisted that his BMI chart was at least better than the insurance tables. Is it, though?

Replacing BMI Without Changing the Weight-Centric Health Paradigm Does Not Solve the Problem

Both the insurance tables and Body Mass Index were created using prejudiced assumptions about race, weight, and health. In this context, it is not a fair assessment to say that BMI is a neutral but misused tool. In fact, it works as intended. Using BMI, modern weight science directly continues the logic of racial science that deems some bodies - and thus people - as abnormal and in need of control or disposable. This was expanded as the weight loss industry pushed to have a BMI at or above 30 first labeled as "obesity" and then to have "obesity" made into a disease, pathologizing bodies based on shared size rather than shared symptoms as we would see in a true disease diagnosis.

Weight-neutral advocates and anti-racism activists have been speaking out against the use of BMI as a health measurement and, subsequently, as a way to pathologize bodies, since its inception.

Recently, more mainstream organizations have responded, creating confusion. For example, when the American Medical Association (AMA) acknowledged “issues with using BMI as a measurement due to its historical harm, its use for racist exclusions, and because BMI is based primarily on data collected from previous generations of non-Hispanic white populations,” many people erroneously celebrated the AMA coming out against BMI. In truth, while they acknowledged some of the issues with BMI, their “solution” was simply to add additional measurements [such as waist circumference and body composition](#). That is, instead of acknowledge the fact that weight is not a proxy for health, and that BMI is just one expression of the fact that pathologizing higher-weight bodies is, in and of itself, rooted in racism and anti-Blackness, the AMA simply added additional methods by which higher-weight bodies can be pathologized.

4. <https://nyupress.org/9780814795934/against-health/>

5. <https://www.sabrinastings.com/books>

6. <https://dashaunharrison.com/shop/belly-of-the-beast/>

7.
<https://ia903106.us.archive.org/13/items/treatiseonmandev00quet/treatiseonmandev00quet.pdf>