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The body mass index: What's the use?

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ABSTRACT

The body mass index (BMI) is a ubiquitous metric frequently used in body image research: as a correlate, covariate, descriptor, and more. However, the racist history of the measure is often unknown or unacknowledged. BMI was coined by Ancel Keys who used Adolphe Quetelet's statistics of weight and height, later becoming a measurement of so-called "health." Eugenics founder Francis Galton used Quetelet's statistics to determine the abnormal, in a concerted effort to eliminate bodies seen as "unfit." The BMI has been used to compare bodies to white masculinist ideals for decades (e.g., in insurance coverage, healthcare access), which is something body image scholars must reckon with if our collective goal is to subvert unrealistic, harmful, and damaging beauty ideals—not inadvertently validate them. In body image research to date, BMI use/usefulness helped unpack the complex relationship between negative and positive body image(s): BMI is consistently related to both. However, it has also been overused, and we argue—uncritically and inappropriately used—since it misses the root issue: fat discrimination and weight stigma. Thinking with critical race theorist Sara Ahmed's (2019) work on "use," we open a conversation on the potential implications of use/disuse of BMI. We outline the use, usefulness, and used-upness of BMI and offer reflections on what it means to be a critical user or outright refuser of this metric.

1. Introduction

News headlines and magazine articles (e.g., Del Rosario, 2024; Sarner, 2024) share the heartbreaking news about the untimely death of singer and American Idol alum, Mandisa, who "died of complications of class III obesity… in which a person has a body mass index (BMI) of 40 or higher…" (Irvin & DeSantis, 2024, para. 5). Another tragedy reduced to a simple formula—weight in kilograms divided by height in metres squared—infamously known as the BMI. Across these media outlets, there is no commentary offered about the health complications that come with living in a thin-centric world that glorifies dieting (Kelly et al., 2011; Rinaldi et al., 2019); or the harms of weight cycling (Kim et al., 2018; Montani et al., 2015; Tylka et al., 2014); or the dangers of being a plus-sized Black woman living in a white supremacist world that centres white colonial notions of beauty and health, and where "Black people… are always already unhealthy because [they] are always already unsafe" (Harrison, 2021, p. 33; Strings, 2019); or the subpar healthcare larger bodies receive in a fatphobic bio-medicalized system (e.g., Friedman et al., 2019, 2020; LaMarre et al., 2020). Instead, the headlines focus on her "obesity"[1]; and BMI, without any critical nuance, implying that if only she was thin—and could stay thin—perhaps she would still be alive.

In this article, we outline how we got here: where BMI is swiftly made the main topic of discussion on someone's life and death. We do this by offering dialogue on the many historical and current uses of the BMI via critical race and queer phenomenologist Sara Ahmed's (2019) theorizing on "use." Drawing on Ahmed, we think through BMI's use, usefulness, and used-upness in body image research and beyond. We begin by exposing the racist origins of the measure and its weaponization as a tool of past and ongoing eugenics. Then, we echo and build on arguments made by other scholars (e.g., Anderson, 2012; Burgard, 2009; Evans & Colls, 2009; Tylka et al., 2014; Strings, 2023; Warin et al., 2008;

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[1] We align with other fat studies scholars who problematize the term obesity for its stigmatizing and medicalizing nature; "obesity" is derived from the Latin word obesus, which means "having eaten itself fat." We typically avoid this language because it medicalizes human diversity (Wann, 2009), using the term "fat" instead as a reclamation of that language as a political identity. However, due to the nature of this paper, we do occasionally use the word "obesity" but only ever in scare quotes to denote our rejection and problematization of the word.

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Webb et al., 2014) who already question the very use and validity of BMI at its foundation. And lastly, we offer insights on ways forward on the (critical) use or disuse of BMI.

1.1. About the authors

We are all white settler scholars living on the Northern part of what many Indigenous Peoples call Turtle Island (or so-called "Canada"). With scrupulous care and in response to the violent history of our unearned privilege(s), it is our job and responsibility to push for anti-racist and anti-oppressive discourse, scholarship, and praxis which we offer in this critical dialogue on the use of BMI. We come together with our own embodied differences, some of us queer, one nonbinary, one neurodivergent, with thin and thick body sizes, and take pride in our differences and strive to centre and prioritize body diversity in our work. We also critically reflect on our previous use(s) of BMI in our research or careers (e.g., Bailey et al., 2015; Lamarche et al., 2012, 2016) while encouraging other body image researchers to do the same.

We intentionally draw from a broad range of sources, including traditional academic articles, podcasts, essays, archives, books, encyclopedias, and scholar-activist work to ensure this conversation privileges multiple worldviews and lived/ing experiences beyond objective science—sources that helped us with our critical unpacking of the BMI. We are in a time where the future of decolonizing, equity, diversity, inclusion, and anti-racism work is uncertain, as government policies and changes to higher education across North America threaten this effort (Edmonton Journal, 2025; Jaffe, 2023; Watson, 2025). Erasure of equity initiatives operate to re-write histories (Stanley, 2024); thus, we must prioritize critical reflection and demand that varying perspectives and lived/ing experiences still "count" as knowledge. Critical reflection is especially needed if we are to fully confront the racist origins of a ubiquitous measure like the BMI, whereby "objectivity" was, and in some contexts continues to be, weaponized against certain racialized, disabled, poor, fat, trans, and queer bodies (Jackson et al., 2005; Lind et al., 2023; Slorach, 2020).

1.2. The frequency of use of BMI in body image research

To get an idea of how frequently BMI is still used in body image research, we conducted a search in February 2025 exploring published research on BMI in the journal *Body Image*. We searched the exact phrase "body mass index" in any field with the ISSN identifiers (print and online) within *Body Image* since its inception, resulting in 283 records. We searched and categorized how BMI was used in each record. Categories included: a variable to make groups, investigated as a covariate, used in psychometric testing, investigated as a correlate or predictor variable, controlled for in analyses, investigated as a moderator, eligibility criterion, a sample descriptor, or used in experimental manipulation. To provide a snapshot of the most recent 50 records, we found that the three most common uses of BMI were controlling for it in analyses (n = 15), used in psychometric testing (n = 9) and investigated as a correlate or predictor variable (n = 8).

Then, to broaden our search, we entered "body image" into PubMed (a database dominated by the field of medicine) with body mass index ([Title/Abstract]) AND body image [Title/Abstract]) as our search. A total of 1577 records were found (since 1997), with a time series pattern of a peak of 150 articles in 2020, followed by a plateau between 98 and 126 articles in subsequent years. In 2024 there were 104 articles; that is about 8–9 articles per month that meet standards of the peer review process.

Investigating even more broadly, we conducted a brief search in PubMed using the term "body mass index" limited to the title or abstract (without body image), and a whopping 265,300 records appeared (since 1975). Time series data showed a steady increase in records from 1975, which peak in 2021 (at 21,269 records), and reach a sustained plateau close to 20,000 records in the years 2022–2024—demonstrating continued use. Having a snapshot of use in research was important to ground our theorizing of BMI use—indeed BMI has been and continues to be frequently and widely used despite its problematic history.

2. Theorizing on use: what's the use of BMI?

In her recent book, Sara Ahmed (2019) follows a single word—use—"in and out of [its] intellectual histor[*y*]" in an exploration of how we determine purpose, utility, and belonging (p. 3). She says, "use gives us a sense of things: how they are; what they are like… use can even involve heightening our awareness of things" (Ahmed, 2019, p. 21). Thus, we trace the use of BMI to heighten our awareness on the implications of BMI use/disuse in body image scholarship. Ahmed theorizes by asking the question "what's the use?" which is a *feminist killjoy* moment—an interruption, pause, critical reflection, rejection, or refusal of the norm. Using Ahmed's phenomenology on 'use'—that is, how tracing the use of something through time reveals what something is *for*, what it *does*, and how it *is* in relation to the socio-material-political world—we trace the historical and current use of BMI. In this process of tracing BMI use, we reveal its racist past and fat stigmatizing present and conclude by encouraging future disuse of this metric in body image research.

2.1. The emergence of BMI use as a tool of eugenics

Ahmed (2019) asserts that, "Before you can dismantle a house, you need to know how it is built, which means learning about use, learning from how those tools have been used" (p. 19). Since we are making a call to critically reflect on BMI use, and consider disuse, we must first provide context on how BMI emerged. We can trace the invention of BMI back to mathematician Lambert Adolphe Jacques Quetelet, who is thought to be the first to develop height and weight tables and who sought to find the "average man" in the 1830s (Eknoyan, 2008; Grue & Heiberg, 2006). He found that when plotting large population survey data (based on western European men), that weight typically increases in relation to height in a non-proportional way, such that dividing the weight by height squared lends to the "best" representation of the relationship between body mass and height (Eknoyan, 2008; Nuttall, 2015). Although Quetelet was a world-renowned statistician, he was not a medical professional, and his measure was not designed to determine health status as he was never interested in "obesity" (Eknoyan, 2008). His research was about population averages and the distribution of human characteristics along a bell-shaped curve in search of the "ideal" or average man, which he measured through what was then called the Quetelet's Index (Eknoyan, 2008; Nuttall, 2015). In his work, Quetelet explicitly and arbitrarily linked the average man to beauty, health, and moral goodness, while associating vice, illness, and ugliness with persons who deviated from the mean (Davis, 2013).

Quetelet's studies were recognized by Charles Darwin as having scientific merit, but it was Darwin's cousin, eugenics founder Francis Galton who fully embraced, extensively cited, and enthusiastically applied Quetelet's work and the bell-shaped curve (Bailey et al., 2024; Eknoyan, 2008; Gallagher, 2020). He dreamed of improving the "human race" by controlling human reproduction so that only the "healthiest" and most "intelligent" would carry the (white) race[2] forward (Kelly, Manning, et al., 2021). Galton and Quetelet both shared fascination in finding the "ideal man"; however, Quetelet considered the "average man" the "ideal man" whereas Galton classified the average man as merely "mediocre" (Cryle & Stephens, 2017). Thus, Galton went so far to apply Quetelet's statistics, not to find the average (or normal curve), but rather to find the *abnormal* (Eknoyan, 2008; Kelly & Rice, 2024), in

[2] Whenever Galton (and other eugenicists) refers to the "human race," he is specifically referring to the *white*-able human race, as to him, superior "humans" were white, as well as able-bodied/minded (Bailey et al., 2024; Turda & Balogun, 2023).

search of characteristics to be etched out for elimination from society. To eradicate so-called "bad" genes, eugenicists, like Galton, embarked on swift and radical practices such as forced institutionalization, harsh immigration laws, strict marriage laws, forced or coerced sterilization, and even so-called "ugly" laws (preventing those deemed "unfit" from entering public space during certain hours of the day; Cullen, 2007; Kelly, Boye, et al., 2021; Kelly, Manning, et al., 2021). These practices and policies only further bolstered existing prejudices, particularly racism (Slorach, 2020). Thus, Galton's application of Quetelet's work was a process aimed to eliminate bodies seen as "unfit" for the nation (Bailey et al., 2024; Holt, 2005; Slorach, 2020; Kelly & Rice, 2024).

In the 1890s, the eugenics movement was initiated primarily in Britain and the United States (US), then spread throughout the West and became a global movement to control human breeding to eliminate the "unfit" (Bashford & Levine, 2010). The category of "unfit" varied based on geographical location and associated politics, but in North America it included people with physical and mental disabilities, racialized and Indigenous People(s), queer people, people in poverty, and essentially all people diverging from the white-colonial-able "norm" (Bashford & Levine, 2010; Baynton, 2001; Dyck, 2013; Saxton, 2018). Thus, Galton used Quetelet's statistics to compare entire populations with certain white, masculinist, conventionally embodied, and normatively minded ideals of the human, and those labelled as disabled, or "unhealthy" (assessed via body size), queer, or racialized to be regarded as less than fully human (Saxton, 2018).

One common global eugenics practice was the *use* of anthropometrics and measuring bodies in an attempt to bolster eugenic claims and prejudices. Referred to now as scientific racism (Jackson et al., 2005; Slorach, 2020), this process included measuring height, weight, and head (and supposedly brain) size (Cryle & Stephens, 2017; Holt, 2005). Ahmed (2019) considers use as not just simply an idea with a history, but rather as an apparatus, "…a series of technologies that worked together for specified ends" (p. 104). Anthropometrics—as an apparatus—were invented with the intention of targeting people based on perceived deviations (e.g., appearance; Kelly, Boye, et al., 2021; Kelly, Manning, et al., 2021; Strange & Stephen, 2010) with the specified end goal of reinforcing white superiority and justifying racial, colonial, and other oppressions. For example, eugenicists argued that racialized peoples were less biologically evolved as they were less physically or mentally capable (supposedly demonstrated via height, weight, and head/brain measurements) and less socially or culturally evolved (demonstrated via so-called less "civilized" behaviour) than their white-euro counterparts (for more details, see McClintock, 2001).

By the early twentieth century, Galton's ideas about human betterment, or race-betterment, via the use of reproductive (pseudo)science and anthropometric practice, were taken up and fully endorsed by physicians, psychologists, and politicians (Levine, 2016). Those who conformed to normativity and Galton's ideology of a "fit" white-able nation were rewarded; for instance, county fairs in the US awarded the "fitter families" with blue ribbons for their "good" genes, ostensibly revealed via their diligent appearance-based conformity (Kevles, 1985). Indeed, the very word "unfit" became a shorthand way to categorize large groups of people diverging from a "white corporeal supremacist ideal" (Bailey et al., 2024, p. 3)—or Galton's mythical standard body ideal that centres whiteness. Additionally, accusations of unfitness have since been weaponized against anyone judged unworthy of rights afforded to more favoured citizens (Kelly, Boye, et al., 2021; Kelly, Manning, et al., 2021; Strange & Stephen, 2010). People outside this mythical supremacist ideal continue to feel the stealthy force of eugenic thinking today (Bailey et al., 2024).

2.1.1. Ongoing eugenics and the uses of BMI

Although popularity in eugenics waned after the atrocities of World War II, we and many others (e.g., Bailey et al., 2024; Cowan et al., 2012; Garland-Thomson, 2012; Kelly, Manning, et al., 2021; McPhail et al., 2016; Lind et al., 2023) lament that eugenic logic has continued, but often in more insidious ways than its blunter version of the past. For example, advances in fertility medicine to screen and prevent the births of babies with disabilities, which critical disability theorist Rosemarie Garland-Thomson calls "velvet eugenics" (Garland-Thomson, 2024, p. 153); or the ways in which eugenics is practiced on fat bodies within current medical practice through discourses of "risk" that articulate large bodies as unhealthy vessels of reproduction which can result in outright refusal of care (see Lind et al., 2023); or recent and ongoing policy changes in Medical Assistance in Dying (MAiD) in Canada which grants easier access to MAiD for people with disabilities—on track to open to people with mental illness by March 2027 (Atkins, 2023); or the banning of 2SLGBTQAI+ books in schools and libraries which attempts to erase those experiences and knowledges (Tylenda, 2024).

Another example of ongoing (stealthy) eugenics stems from the formulation and continued use of the BMI. In the 1970s, after explicit popularity in eugenics faded, American physiologist and nutrition researcher Ancel Keys took up Quetelet's Index, which he renamed the BMI, as a simple way to screen for "obesity" (Eknoyan, 2008). Keys is claimed to have been overtly fat phobic, as he believed that fat on bodies (adiposity) and dietary fat were both a public health crisis (Rasmussen, 2019) and is alleged to have called "obesity" a "disgusting," "health hazard," that is "ethically repugnant" (Strings, 2023, p. 538). He endorsed the BMI as the *best* index for "obesity," despite it being unsubstantiated by scientific evidence (Rasmussen, 2019). In fact, much of Keys' own research was flawed, as it too included only data from mostly White men (Hobbes & Gordon, 2021; Rasmussen, 2019).

Since the early 20th century, the insurance industry began to document the increased health risks related to "obesity," prompting the need for an index of "normal relative body weight" (Eknoyan, 2008, p. 47). Health insurance companies linked "excessive" body fat with an increased risk of heart disease (and still do) and then would refuse to cover the "overweight" (Strings, 2019). This type of discrimination began with the development of height and weight tables by the Metropolitan Life Insurance Company (now MetLife) in the mid-20th century; average weights for each of small, medium, and large-framed people were described as first "ideal," and later "desirable," weights (Eknoyan, 2008, p. 47). These tables were based on white cis-male data and were even taken up and endorsed by doctors (who were paid for their involvement, demonstrating a conflict of interest; Strings, 2019). Eventually, because of Keys' influence as a well-known physiologist, use of these tables shifted to the use of the BMI, once it was established as a measure in the 1970s (Eknoyan, 2006; Nuttall, 2015). BMI, despite being dubbed an unscientifically sound measure of health (Rasmussen, 2019), remains a key feature in determining eligibility and rates for life and health insurance (Boyer-Kassem & Duchêne, 2020; Protect Your Wealth, 2024) which continues to preclude certain types of bodies, particularly those at multiple intersecting oppressed identities, from accessing insurance.

Today, the BMI is widely included in medical education and used in medical practice, often to determine eligibility for certain procedures, including knee replacement surgeries, gender affirming procedures (e.g., top surgery), and fertility care (e.g., Baker et al., 2012; Brownstone et al., 2021; Riggan et al., 2023). BMI is also related to treatment delay for people with eating disorders, whereby fat phobia[3] negatively impacts the experience of people in larger bodies seeking care, in part because their eating disorder is not taken seriously due to assumptions made based on their body size (e.g., Harrop, 2020). It is important to also reckon with the fact that people with BMIs over a certain threshold

[3] We use the term fat phobia because it is a common and well-known word denoting widespread fear of fatness (e.g., fear of gaining weight/fat, preoccupation with losing fat, avoidance of fat people in society). However, this term is rightfully critiqued since it suggests the issue is an individual (mental health) problem rather than a complex structural-level issue. Some fat activists prefer the term anti-fatness (Gordon, 2021).

have been denied ventilators while in hospital during certain points of the ongoing COVID-19 pandemic (McPhail, 2024). This medical neglect prompted a fat and disability activist movement—#NoBodyIsDisposable—early in the pandemic (Tidgwell & Shanouda, 2023) to call out this mistreatment as a blatant form of ongoing eugenics.

The formulation and ongoing use of the BMI is a central example of the continuing existence of eugenics, in the ways in which this measure continues to determine how people coded as "obese" are treated within healthcare, including the provision of health insurance. This mistreatment based on body size also intersects with other forms of exclusion, such as race and ability, as described next.

2.2. BMI as a system of exclusion

What is also crucial to note about the BMI is that fat phobia is indivisibly tied to racism (Bailey et al., 2024; Strings, 2019). In her book, *Fearing the Black Body: The Racial Origins of Fat Phobia,* Sabrina Strings (2019) stressed that "the phobia about fat 'always already' had a racial element. And, because women are typically reduced to their bodies, fat stigma has commonly targeted racial/ethnic Other women" (Strings, 2019, p. 210). Fat phobia has never been about the "health" of fat individuals since it did not originate in the medical community; rather it began as a racist project of social and societal control to uplift lean, white cis-women as future carriers of the white race (Strings, 2019; Redpath, 2022). It was a method of *using* the body to justify racist, classist, and ableist policies (Strings, 2019). Theorist and abolitionist, Harrison (2021) agrees that anti-fatness is not about health, as it is rooted in disgust and repulsiveness towards fatness. They also argue that it "*is* about health to some extent," whereby fat phobia is predicated on creating "health" as an unobtainable achievement for fat Black people in a racist, anti-fat society (p. 36), in part via the use of metrics like the BMI. And thus, we align with other critical feminist thinkers who argue that fat phobia has always been and will always be tied to white supremacy, because anti-fatness buttresses anti-Blackness (Bailey et al., 2024; Harrison, 2021; Strings, 2019). As Harrison (2021) notes, "because fatness had become blackened (and Blackened), it could only ever be impure and beastly" (pp. 35–36) and thus placed at the bottom of a mythical human hierarchy. The BMI is a tool used to uphold this hierarchy and "to maintain whiteness as superior" (Harrison, 2021, p. 81).

In addition to the racial and fat phobic injustices the BMI poses, people with disabilities have also faced overt discrimination based on their BMI. For example, in people with achondroplasia (the most common cause of dwarfism) and Down syndrome, BMI use contributed to clinical ostracization (Jacobs, 2023). Specifically, in people with achondroplasia, which is associated with increased adiposity and metabolic dysregulation, a shorter stature results in lower BMIs than would be expected if taller. Thus, the BMI is an erroneous measure of health in this case and has resulted in failure to recognize diabetes or provide diabetes care when needed (Jacobs, 2023).

As Ahmed (2019) helpfully points out, critical disability studies scholars have developed important insights about "how the world has been designed for a body with assumed capabilities" (p. 59). Critical access and disability justice scholar Hamraie (2017) says, "Examine any doorway, window, toilet, chair, or desk … and you will find the outline of the body meant to use it" (p. 19). Hamraie names this outline "the normate template" (p. 19). Such a template or outline tells us "…for whom something is supposed to function" (Ahmed, 2019, p. 59). Ahmed (2019) explains further,

> An outline is an enabling or a disenabling of somebody. If an outline of a person is intended, then those who are outlined can use something; those who are not cannot. Usability can thus be reframed as a question of accessibility: it is not just *whether* an object or environment can be used but *who* can use an object or environment given how it has been designed and who cannot (p. 59, original emphasis).

What outline, or normate template, was created via the BMI? We know that Quetelet was searching for the ideal man (Cryle & Stephens, 2017) and that Galton shared a similar interest but took it further to find abnormality in people he deemed should be exterminated to preserve the future white-able race (Davis, 2013). We also know that the invention of this formula was by use of (only) male and predominately white cis data. This exclusionary foundation forms the normate template of the BMI—for which all other bodies are pushed out by its (unethical) use.

Ahmed (2019) also teases out the temporalities of use when she says,

> Use can be treated as a record of a life: use as a recorder… we learn about something by considering how it *is* being used, *has* been used, or *can* be used. But what seems to point to the future (can be used) can just as easily refer back to the past (has been used) (pp. 22–23; original emphasis).

Here, Ahmed suggests that use is a temporal phenomenon, and that current and future use(s) always already hold vestiges of past use(s) within them, making it crucial to reflect deeply on previous use of BMI. If BMI has been used in the past as a tool of eugenics, and later, as a strategy by insurance companies to refuse coverage to certain bodies (Strings, 2019; Strings & Bell, 2024), then what does its current use do? Ahmed (2019) further explains that "Use is a relation as well as an activity that often points beyond something even when use is about something: to use something points to what something is for" (p. 23). Then what is the BMI *for* in body image research?

2.3. Current uses and usefulness of BMI in body image research

In body image scholarship, BMI has been used in a variety of ways (see previous 1.2.), including as a descriptor for both qualitative (e.g., Lamarche et al., 2012) and quantitative studies or as inclusion/exclusion criteria (e.g., Delinsky & Wilson, 2006; Fogelkvist et al., 2016), as a grouping variable (e.g., Wilfley et al., 2000), a correlate (e.g., Tylka & Kroon Van Diest, 2013; Tylka & Wood-Barcalow, 2015a), covariate (e.g., Holsen et al., 2012), and as a predictor variable (e.g., Clark & Tiggemann, 2008; Webb et al., 2014).

Spanning decades of research, BMI use explained the relationship between body size and negative body image. Consistently, as one's BMI increases, so does body dissatisfaction (e.g., Schwartz & Brownell, 2004; Watkins et al., 2008); however, this relationship is better unpacked when examining weight stigma and weight bias internalization (not BMI). Weight stigma is the devaluation of and prejudice towards individuals based on body weight (Romano et al., 2021) and has deleterious effects on psychological and physical health (Alimoradi et al., 2020) and is associated with disordered eating (Vartanian & Porter, 2016). Weight bias internalization is when negative weight-based attitudes are endorsed by the individual experiencing weight stigma (Romano et al., 2021). Studies on weight bias and body image convincingly demonstrate that weight stigma—and the internalization of weight bias—is perhaps a much more important and relevant variable to investigate than BMI (Tylka et al., 2014). This is because it is unlikely that BMI would be related to body image if it were not for weight stigma (or other exclusionary intersecting systems such as ableism).

As a move away from a sole focus on body dissatisfaction, the exciting turn to positive body image research was launched (Tylka & Wood-Barcalow, 2015b). In seeking to conceptualize and define positive body image characteristics (e.g., acceptance, appreciation, media literacy; Bailey et al., 2015; Tylka & Wood-Barcalow, 2015b), BMI use contributed to the understanding of body appreciation and other positive body image components. Consistently, an inverse relationship between body appreciation and BMI was found in many diverse groups, including samples of predominantly white US women and men, Black US

women, Malaysian women, Brazilian women and men, Indonesian women and men, and Chinese women from Hong Kong (He et al., 2020; Swami & Jaafar, 2012; Tylka & Kroon Van Diest, 2013; Tylka & Wood-Barcalow, 2015a; Webb et al., 2014). Again, it is thought that external and internalized weight biases—pervasive within many cultures (Tylka et al., 2014)—explains this link. For instance, body appreciation was unrelated to BMI among women from Zimbabwe, likely due to cultural acceptance of large body sizes and shapes (Swami et al., 2012).

In more recent research, functionality appreciation (i.e., appreciation for what the body can do) was found to be only weakly associated with BMI (Linardon et al., 2023). The authors speculate that experiences of weight stigma or pressures to strive for the idealized body likely has less of an impact on appreciation for important bodily functions. Thus, regardless of BMI, it is possible for individuals to appreciate the many things that their body can do—an exciting revelation and contribution to the positive body image literature.

Irrespective of BMI's use or usefulness in body image research, one question body image scholars must face is whether any use of the BMI inadvertently reifies beauty ideals. Galton found "usefulness" in Quetelet's index in determining the abnormal. He glorified higher height as he believed taller people were superior to short people (Smith, 2020). Eugenicists consistently used statistics, such as height and weight, to divide humans into groups according to supposedly civic and/or genetic value (Grue & Heiberg, 2006). These facts leave body image scholars with an interesting conundrum, since the mission of much of our collective work is to subvert unrealistic, harmful, and damaging beauty ideals—not inadvertently validate them. But the BMI was predicated on the very idea that there is such a thing as an "ideal" height and "ideal" weight: contradicting the goals of most positive body image programs which is to reject, reframe, challenge, or critique ideals (Guest et al., 2019).

Additionally, the experience of having your BMI assessed can be traumatizing (Redpath, 2022). The consequences of being categorized based on your weight/height can include severe discrimination and medical neglect, further entrenching weight stigma in society, and potentially increasing the likelihood of someone internalizing weight bias (McPhail et al., 2016; Redpath, 2022). If the field of body image shares the goal of supporting and promoting positive body image, then we argue that the collection of BMI data seriously risks compromising this objective. Ahmed (2019) asserts, "when we are absorbed in a task at hand and things are working, we can indeed stop noticing things (p. 21)." While we acknowledge that the BMI has played a role to expand understandings of some people's relationships with their bodies, we also argue that in doing so, researchers may have become absorbed in BMI use and thus stopped noticing things, such as the potential negative impacts of such continued BMI use. We ask body image scholars to pause and consider whether the very use of BMI is unintentionally undercutting the shared values in the field.

2.4. The critical user of BMI

There are many reasons to be critical of BMI use, even beyond reasons listed above regarding its racist and eugenic history. For instance, there is growing evidence that the BMI is invalid on many fronts. The most common example of the ineffectiveness of BMI is with athletes, as the formula does not account for the difference between muscle mass, bone density, and body fat. Thus, athletes are often misclassified as overweight based on BMI (Millard Mathews & Wagner, 2008; Rogers et al., 2023). However, an even greater flaw is the simplicity of the measure, causing it to lose considerable nuance, such as differences in race, gender, and age. For example, research has repeatedly demonstrated that this measure, built by and for white (male) people, is even less accurate for people of colour; the BMI overestimates fatness and health risks for Black people while underestimating health risks for Asian communities, which may contribute to underdiagnosis of certain conditions (e.g., Dagogo-Jack & Dagogo-Jack, 2011; Racette et al., 2003). Additionally, studies using BMI demonstrate significant sex-based differences in the relationship between body fat and BMI, also leading to inaccurate classifications of "obesity" especially (ironically) in men (e.g., Burkhauser & Cawley, 2008; Jackson et al., 2002). Research also shows that the "optimal" BMI range for older adults is higher than the range typically used to classify normal weight (Kiskaç et al., 2022), though this discrepancy is not reflected in the criteria for "obesity" and overweight. And BMI is a much weaker predictor of a type 2 diabetes diagnosis in Black women than it is among White men (or even other women of colour; see Strings, 2023). Thus, a critical user would be wary of BMI use, thinking thoroughly about the context of the research, the evidence to support use, and implications of future research using this measure (e.g., perpetuating racism and weight-based prejudice).

In her concluding chapter in *What's the Use?,* Ahmed (2019) describes the possibilities of *queer* use. She uses the discursive example of the very word—queer—as an example of how use of something can change through time. Historically, "queer" was a derogatory word used to denote something as "odd, strange, unseemly, disturbed, disturbing," a word "…that has been flung like a stone, picked up and hurled…" (Ahmed, 2019, p. 197). It was weaponized against 2SLGBTQAI+ people for decades and used as a slur to imply inferiority. To be labeled as "queer," particularly during the explicit eugenics era, meant you were at high risk of being hospitalized, imprisoned, or ostracized by family and friends (Ordover, 2003). Fast forward to the 21st century and the word "queer" has been reclaimed by many 2SLGBQTAI+ communities through years of activism and human rights campaigns as a signal of resistance, celebration of diversity, and to call out and disarm compulsory heteronormativity (Kafer, 2003).

We wonder, is it possible to queer BMI use? Ahmed (2019) explains, "…queer use [is] when you use something for a purpose that is 'very different' from that which was 'originally intended'" (p. 199). We think perhaps not, because when a system is rooted in white supremacy and eugenics aimed at eliminating entire groups of people, "it cannot be reformed. It cannot be worked against or changed from within. Thus, the BMI cannot be reformed or modified" (Redpath, 2022, p. 2). The fact that the BMI is rooted in eugenic logic (Eknoyan, 2008) means any attempt to reform such a measure would not only fail but would obscure understanding that it is immoral to deny individuals high-quality care, regardless of how their fatness is determined (Redpath, 2022).

While we feel confident in the fact that most body image scholars do not use BMI in the way it was historically envisioned, we do wonder if BMI has been overused, and thus critical use would include considering disuse. Ahmed (2019) says, "When something is overused, we have reached a tipping point" (p. 49). This tipping point might mean entering a new moment where we must be *explicitly* critical about its use/disuse. We encourage body image scholars to think critically about whether BMI is truly useful in each individual circumstance: does it add meaning to the data? Does it help to answer your research question? Is BMI a relevant variable or is it extraneous information that misses the mark (i.e., rooted in weight stigma)? What role does it play in relation to theories on body image? Explicit critical use could also include acknowledging how BMI emerged as a tool of eugenics with racist intent (e.g., via a footnote or disclaimer in manuscripts); or entail educating this fact during peer review of studies that use BMI uncritically; or teaching on this history anytime the BMI is brought into conversation (e.g., at conferences, in the classroom, or when mentoring students). The field of medicine has already begun this process of critical reflection. A group of 58 experts representing multiple medical specialities alongside people with lived experience of "obesity" created diagnostic criteria for "clinical obesity," which exclude the BMI (see Rubino et al., 2025). These experts go further to say that BMI should not be used as an individual measure of health (Rubino et al., 2025). We suggest that this shift away from BMI use signals to other fields, like body image, to do the same.

2.5. The refuser of BMI use

Ahmed (2019) also suggests that "something can be taken out of use. Maybe the sign on the toilet door says vacant. It is empty. But there is another handwritten sign pasted on the door: out of use. This sign is a command: do not use the toilet! (p. 31)"

Ahmed (2019) explains further,

> A breakage can also be a transition moment: why something is taken out of use; how it is taken out of use… When an object breaks, it can no longer be of use. It can take up its place by becoming memorial: a holder of memories…the fragments are put back together, not swept away. (pp. 31–32)

Intrigued by the possible implications of something being taken out of use, we wonder then, what does absolute *refusal* to use something do? Refusal is a political act of resistance that demands change and rejects the very oppressive structures that limit agency or diminish the lives of marginalized people by unmasking seemingly innocuous systems, relations, and objects (Tuck & Yang, 2014, 2018). In our work, we enact political refusal and have stopped any use of BMI in our research. Ahmed (2019) warns "if we proceed on a path in order to disrupt it, we can end up not disrupting it in order to proceed" (p. 195). For us, this is the risk of continuing along the path of BMI use, and points to the limits of being a critical user rather than outright refuser. We worry about perpetuating BMI's historical (and racist) use. By refusing to use BMI, we are rejecting the very idea at the foundation of its use—that there is such a thing as an "ideal man" or "race betterment."

To us, it is important to outright refuse the use of metrics that are weaponized against certain bodies, even as a descriptive statistic, and to thus refuse to use a tool that is invalid and called out as racist (e.g., Harrison, 2021; Nuttall, 2015; Redpath, 2022; Russell, 2024; Strings & Bell, 2024; Strings, 2023). Creating and embracing a culture of political refusal resists racist passivism (Roberts & Rizzo, 2021) and normative violence (Ingala, 2018; McGranahan, 2016; Tuck & Yang, 2014, 2018). Where might refusal take place? We see it as happening in research, when reviewing other manuscripts during peer review, developing curriculum, providing mentorship, offering service, and when reviewing grants, among other scholarly activities. Refusal in review activities can include: 1) requesting that authors reanalyze quantitative data after removing BMI; 2) rejecting manuscripts that fail to acknowledge the racist history of BMI or inappropriately use BMI when weight stigma is a more relevant variable (considered a design flaw); and 3) providing lower scores during the adjudication process for the inappropriate/uncritical use of BMI in grant proposals. Both manuscript and grant reviewers should also provide written feedback to authors/applicants on the flaws and harms of BMI.

By refusing to engage in (racist) practices ourselves—such as refusing the use of BMI—we open space for others to do the same and to disrupt taken-for-granted norms (of violence) in academia. Two of the co-authors of this paper have used BMI in previous research but we recognize that we, like all researchers, are always in a state of becoming. We cannot unknow the truth that the BMI is a tool of eugenics with a racist-infused history. Thus, we enter a state of political refusal and invite others to consider doing the same. "What is of use changes in time" (Ahmed, 2019, p. 9), and it feels as though we are at a tipping point when it comes to the use of BMI in body image research and other settings. This measure has been critiqued and called into question for many years and yet is still being widely used—to the point that one's life, and death/tragedy (like Mandisa's), can be boiled down to that basic number.

For us, refusal makes sense because we are critical embodiment scholars who draw from fat and critical disability studies, queer theory, and critical race and abolitionist theorists, and thus to use a fraught measure like the BMI would be incommensurate with our research aims. We acknowledge that access to refusal is not the same for everyone. Some early career researchers and students face the risk of not having their research published in certain journals that require the collection of BMI data (e.g., as a covariate). Being a critical user might be the best option in that moment in time. For readers who are interested in exploring the refusal or critical use of BMI in their own work, we have provided a reading list in Table 1.

2.5.1. Replacing the BMI?

For people who find themselves in the liminal space between critical user and refuser, we offer dialogue on ways the BMI can be replaced. How one substitutes the BMI depends greatly on the research question, design, objectives, and analyses. This is not an exhaustive list; instead, we provide a few options to spark conversation on the implications of use.

2.5.1.1. Solicit participants' self-descriptions. When reference to body shape or size is important because of the research topic, we suggest asking participants to self-describe. We offer this suggestion first because it supports people's agency, is nuanced and specific, and reduces the risk of categorizing people based on historically racist or eugenic norms. Participants may use reclaimed words such as "fat," or "thick," and thus, those self-descriptions should be honoured. This approach bodes well for qualitative designs with smaller samples and one-on-one participant interactions and is the approach we use since our work is almost entirely qualitative, orienting to critical feminist theories, and centres participant stories and subjectivity. In fact, we reject all weight- and shape-based measurements (i.e., anthropometrics) because of the problematic and pathologizing history of those tools in relation to eugenics and scientific racism.

2.5.1.2. Use self-reported weight or clothing size. In research that requires a quantitative value because of the research question and design, one option is to use self-reported weight or typical clothing size. In research projects that assume or strive for objectivity, this option comes with notable shortcomings since it relies on memory and honesty by participants. However, although the experience of reporting weight or clothing size can be distressing, especially for fat people facing daily stigma, it does not involve direct measuring of body parts (akin to what eugenicists would do in the 19th-20th century). Thus, this approach comes with less risk of (re)traumatizing participants than other more objective and hands-on measures.

Table 1
Recommended reading list.

Readings	Notes
1. Bashford, A., & Levine, P. (Eds.). (2010). *The Oxford handbook of the history of eugenics*. OUP USA.	Provides a thorough overview of the global impact and history of the eugenics movement.
2. Cooper, C. (2021). *Fat activism: A radical social movement* (2nd ed.). Intellect Books.	Charlotte Cooper, a fat activist, traces the roots of fat activism as a feminist and queer movement.
3. Gordon, A. (2023). *"You just need to lose weight" and 19 other myths about fat people.* Penguin Random House.	Clearly and succinctly breaks down myths related to fatness and health, including about the BMI.
4. Harrison, D. (2021). *Belly of the beast: The politics of anti-fatness as anti-Blackness*. North Atlantic Books.	Explores the intersections of Blackness, gender, fatness, health, and the violence of policing; extends upon the work of Sabrina Strings.
5. Rothblum, E., & Solovay, S. (2009). *The fat studies reader.* New York University Press.	Explores the field of fat studies from a diversity of perspectives on body weight discrimination.
6. Strings, S. (2019). *Fearing the black body: The racial origins of fat phobia*. New York University Press.	Traces the racist history of fat phobia across the globe including the racist use of height and weight tables.
7. Wilson, J. (2023). *It's always been ours: Rewriting the story of Black women's bodies.* Hachette Books.	Centres the bodies of Black women in an exploration of body image, food, health, and wellness to reimagine the ways we care for our bodies.

2.5.1.3. Measure waist circumference[4]. Although this is not an approach we would advocate for, we understand that some research questions and designs require reducing subjectivity. In fact, because the BMI has well-established and acknowledged validity issues, the American Medical Association made a statement that other measures (beyond the BMI) that are better linked to health should be considered (e.g., waist-to-hip ratio; see Berg, 2023). One option is using waist circumference. There are a few approaches that can be taken: 1) participants self-measure on their own (e.g., at home); 2) participants self-measure in the research lab space; or 3) the researcher measures the participant. These options are listed in order of level of potential subjectivity and error (high--medium-low), but also of low to high risk of unintentional research induced body shame (Berg, 2023).

2.5.1.4. Measure internalized weight bias. Since internalized weight bias is likely a more important variable than body size metrics when it comes to body image (e.g., Tylka et al., 2014), we suggest using the Weight Bias Internalization Scale (WBIS; Durso & Latner, 2008; WBIS-M; Pearl & Puhl, 2014) to measure participants' levels of internalized weight stigma. The WBIS contains 11 items that are rated on a 7-point Likert scale ranging from *strongly disagree* (scored as 1) to *strongly agree* (scored as 7). Items are averaged, with higher scores indicating higher internalized weight bias. This quantitative measure does not have the same risk of (re)traumatizing or shaming people based on body size, is scientifically valid, demonstrates strong internal consistency (Mensinger et al., 2016), and taps into the core reason BMI is related to body image: weight stigma and discrimination.

Overall, we encourage body image scholars to think critically about the implications of use when it comes to the different ways we discuss, research, and analyze bodies. What are the risks and possibilities of using the BMI? What are the risks and possibilities of replacing it? What are the risks and possibilities of refusing the BMI and other weight-based measures and instead focusing on socio-structural impacts like weight stigma?

3. Concluding remarks

The BMI is a ubiquitous metric in body image research; however, its pervasive presence and liberal use has not come without consequences. In the wake of the medical field very recently rethinking and redefining BMI use (see Rubino et al., 2025), as body image scholars, we too have entered a tipping point in BMI's use. BMI is a racist and eugenic height and weight metric used to compare bodies to white masculinist ideals, and which plays a significant role in determining access to healthcare, insurance, and more, despite considerable limitations and lack of empirical evidence. We must confront the racist history of this measure, think critically on its use, and consider the option of refusing use (and in some circumstances, consider use of an alternate measure like internalized weight bias). In this article, we have offered reflections on being a critical user or refuser of this measure and discussed the implications of each when it comes to research, theory, and practice. We hope this sparks future dialogue—in light of ongoing struggles in equity, diversity, and inclusion calls to action within the academy, body image research, and beyond—on the use of BMI and other potentially harmful or racist measures.

Author statement

- the work described has not been published previously.
- the article is not under consideration for publication elsewhere.
- the article's publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out.
- if accepted, the article will not be published elsewhere in the same form, in English or in any other language, including electronically, without the written consent of the copyright-holder.

CRediT authorship contribution statement

Meredith Bessey: Writing – review & editing. **K. Aly Bailey:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Meridith Griffin:** Writing – review & editing. **Larkin Lamarche:** Writing – review & editing.

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The authors declare no conflict on interest.

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The authors have nothing to declare.

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No data was used for the research described in the article.

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[4] Note that fat activists and researchers like Chastain (2024) argue that replacing the BMI with another similar tool continues to risk the pathologization of bodies based on size and (inadvertently) maintains the idea of a human hierarchy. In some ways, these measures do the same thing as the BMI; the forness of their use(s) overlaps (Ahmed, 2019).

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