

REVIEW

Associations Between Weight Discrimination and Health Outcomes by Racial and Ethnic Groups: A Scoping Review

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ABSTRACT

Weight discrimination refers to bias against individuals whose body weight and shape do not align with predominant social norms. Weight discrimination is prevalent and negatively impacts health outcomes. The prevalence and impact of weight discrimination vary by race; however, there is a dearth of research describing the potential health effects across racial and ethnic groups. This scoping review aimed to assess the literature for associations between weight discrimination and health outcomes, with a focus on racial and ethnic differences. A literature search was conducted across five databases for original studies that examined health outcomes associated with weight discrimination and delineated results by race. After quality assessment, thematic analysis was performed to generate themes, and consensus was reached. Twenty articles met the selected inclusion criteria, revealing racial differences in several health outcomes and disease management linked to weight-based discrimination. Social determinants of health and cultural beliefs about body size emerged as potential modifiers of these disparities. Although most studies investigated unique populations and variables, complicating comparisons, the review highlighted racial variances in the prevalence of weight discrimination. Additionally, 25 physical and mental health outcomes were associated with weight discrimination, with body mass index (BMI) being the most common. Future research should further explore the intersection of weight discrimination and race and ethnicity, identifying contributing factors and incorporating personal narratives. Clinicians must consider the influence of culture and social determinants of health to provide equitable care across body size spectrums.

1 | Introduction

Weight discrimination, also referred to as weight bias or weight stigma, involves the devaluation of those whose body weight and shape do not comply with prevailing social norms [1]. More than 50% of people report experiencing weight discrimination at some point [2]. Weight discrimination aligns those with weight status not congruent with social norms to harmful stereotypes [1, 2]. Patients report experiencing weight stereotyping and weight discrimination from a variety of clinicians in many clinical settings, including from both physicians and nurses in a weight loss clinic, and many

providers within a national survey evaluating primary care practice [3, 4]. In 2016, nurse practitioners perceived people with obesity as not as good, or as successful as others, unsuitable for marriage, untidy, and unhealthy [5]. Biases like these are harmful to physical and psychological health. In Wu and Berry's 2018 review of 33 studies, they found weight stigma to be positively correlated with the risk of diabetes, cortisol level, oxidative stress level, C-reactive protein level, eating disturbances, depression, anxiety, and body image dissatisfaction and negatively associated with self-esteem among adults living with obesity and who were overweight [6]. In addition to poor health outcomes, weight discrimination has been

associated with increased mortality risk. Sutin and colleagues reported that weight bias was associated with nearly a 60% increased chance of dying in two longitudinal study databases [7]. They also found weight discrimination and mortality to have a stronger association generally than mortality with other forms of discrimination [7]. Although a myriad of evidence supports weight discrimination's influence on health outcomes, it is unclear if this influence varies by racial or ethnic groups.

Non-White adults are more likely to experience racial discrimination and may also be more vulnerable to weight discrimination compared with White adults [8]. Beliefs about weight are influenced by cultural context [8]. For example, some African and Arab cultures value heavier body types, whereas European American culture tends to idealize thinness [9–13]. Despite these unique characteristics, there is a lack of clarity on whether race or ethnicity mediates the associations between weight discrimination and health outcomes. To address these gaps, a scoping review was conducted to summarize existing research and identify gaps in knowledge. A preliminary search was conducted in EMBASE and PubMed on June 14, 2022, which revealed no prior systematic or scoping reviews on the associations between weight discrimination and health outcomes, with a focus on racial and ethnic differences. The following research question was formulated based on the Population, Intervention, Comparator, and Outcome (PICO) framework: What is known from the literature about associations between weight discrimination and health outcomes for persons with different racial or ethnic backgrounds?

2 | Materials and Methods

This protocol was drafted using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) extension for scoping reviews [14]. The research team revised the protocol, and the project was registered prospectively with Open Science Framework.

To be included in the review, papers needed to measure the physical and psychological variables associated with weight discrimination and delineate results by race. Studies that assessed weight-bias internalization alone were excluded. Published articles were included if written in English and reported on randomized controlled trials, nonrandomized controlled trials, quasiexperimental, before and after studies, prospective and retrospective cohort studies, case-control studies, qualitative studies, or analytical cross-sectional studies. Conference abstracts, dissertations, and reviews were excluded.

A preliminary search was conducted on June 17, 2022, with the following search input: (Race OR Ethnicity OR Black OR Hispanic OR Asian) AND (“Weight Discrimination” OR “Weight Bias” OR “Fat Bias”) AND (“metabolic outcomes” OR “health outcomes” OR “mental health”) in CENTRAL and EMBASE. Titles and abstracts were analyzed to extract additional search terms and remove unnecessary search terms. The search terminology was updated to include “weight stigma.” The search strategy was reviewed by the college librarian and adjusted to include mesh terms and encapsulate a wide breadth of races,

ethnicities, nomenclature for weight bias, and health outcomes. For example, when mesh terms are applied to the word Black, descriptors such as African American, African Continental Ancestry Group, Afro-American, and Black American would be included. The final search was conducted on August 5, 2022, in CENTRAL, EMBASE, PubMed, PsycINFO, CINAHL, and Web of Science. The search strategy was adjusted based on the appropriate formatting for each database. The search strategy for CINAHL is provided below.

“race” OR “ethnicity” OR “black” OR “Hispanic” OR “Asian” OR “Native American” OR “Pacific Islander” OR “South Asian” OR “African descent”) AND (“weight discrimination” OR “fat bias” OR “weight bias” OR “weight stigma”) AND (“metabolic syndrome” OR “hypertension” OR “mental health” OR “diabetes” OR “hyperlipidemia” “cardiometabolic outcomes” OR “health outcomes” OR “metabolic outcomes”).

The results of each search were exported into Covidence [15], and duplicates were removed. Two reviewers screened article titles and abstracts before the full text was assessed. Any inconsistencies were reviewed by both team members; all disagreements were resolved through discussions, and consensus was reached. With the final list of included studies, the reference list from each report was searched for any additional resources. No resources were added to the reference lists.

The principal investigator and two reviewers determined the variables to be extracted from the studies. Both reviewers independently extracted and input the data into the extraction chart before verifying and discussing the results. Any inconsistencies were first discussed between the two reviewers and, if not resolved, brought to the rest of the team to reach a consensus. Study characteristics (e.g., study location, study type, number of subjects, and racial delineation) were extracted alongside measures of weight discrimination (e.g., self-reported weight discrimination) and measures of physical and psychological health (e.g., A1C, cortisol levels, self-reported anxiety, and depression).

Quality assessment was completed to validate the current surrounding literature using the National Heart, Lung, and Blood Institute Quality Assessment Tools [16]. Two reviewers independently assessed the quality of each study, rating them “good, fair, or poor.” Studies were grouped by reported health outcomes. The team then summarized the types of health outcomes reported, population descriptions, and study designs for each group, along with broad findings.

3 | Results

Two hundred eighty-five records were uploaded into Covidence [15], six from CENTRAL, 50 from CINAHL, 98 from PsycINFO, 98 from Web of Science, 25 from EMBASE, and eight from PubMed. One hundred forty-seven records were automatically removed as duplicates. Eighty-seven records were excluded during the title abstract screening. One report was not retrieved as it was a book. Fifty full-text articles were assessed for eligibility, and 30 were excluded for a variety of reasons, including no weight discrimination ($n = 10$), no racial/ethnic delineation

($n=6$), conference abstracts ($n=5$), no health measures ($n=4$), dissertations (3), and focus on weight bias internalization ($n=2$). The final sample included 20 articles (Figure 1).

Sixteen of the studies were cross-sectional/observational, three of the studies were longitudinal, and one of the studies was a randomized control trial. All the studies were conducted in the United States. Weight discrimination was measured using a variety of surveys, both validated and single-item questions. Health measures assessed included waist circumference, body weight, height, body mass index (BMI), body composition, weight loss, physical activity, blood pressure, total cholesterol, oral glucose tolerance test, self-reported diabetes, metabolic syndrome diagnosis, psychological well-being, mental disorders, depressive symptoms, diabetes medication usage, emotions, disordered eating, pain, cognitive function, and C-reactive protein.

In the quality assessment, 13 studies were considered good, 7 were considered fair, and 0 were considered poor. The most common items lacking from the included articles were an absence of sample size justification, the short time frame from exposure to outcome to see the correlation, and exposures being assessed only once. Most of the missing items were related to the nature

of cross-sectional and observational studies. Study characteristics and quality assessment results are available in Table 1.

Two major themes were identified: racial/ethnic variations in health outcomes associated with discrimination [17–21] and modifying factors associated with race/ethnicity [19, 22, 23]. In addition to the main themes connected to this review's aims, two other common threads were summarized: studies that assessed racial differences in the prevalence of weight discrimination rather than racial differences in the associated health outcomes [18, 19, 21, 22] and positive associations between weight discrimination and health outcomes regardless of race or ethnicity [17, 19, 20, 22–34]. The results are summarized in Table 2.

3.1 | Physical and Mental Health Measures

One study identified a difference in a physical health measure by race/ethnicity. Adil [17] found a significant increase in hemoglobin A1C (HbA1c) in White participants with high-stress weight discrimination compared with low-stress ($p < 0.05$). This was not seen in Black participants despite similar sample sizes between groups [17].

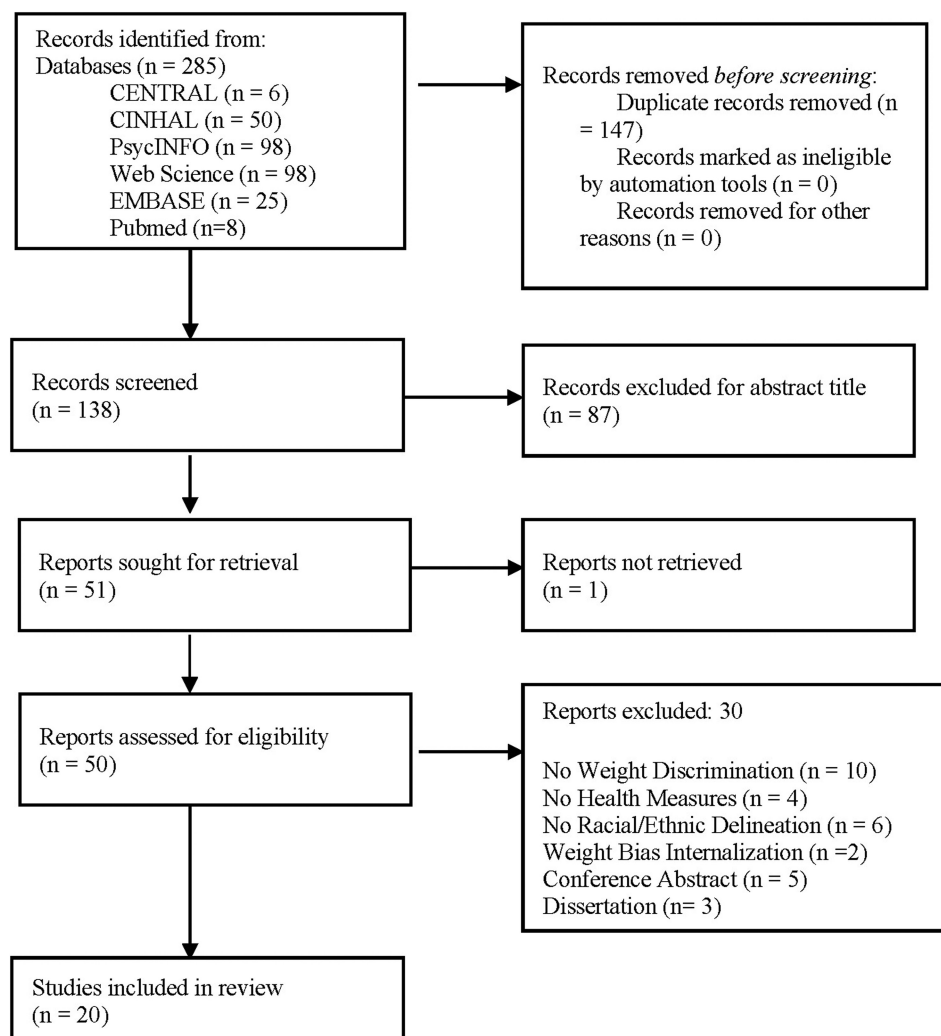


FIGURE 1 | Prisma Flow Diagram. This diagram illustrates the study selection process, detailing the number of records identified, screened, excluded, and included in the final analysis.

TABLE 1 | Characteristics of included studies and quality assessment.

Citation (author, year)	Title	Location	Sample description	Study design	Weight discrimination measures	Health measures	Sample size	Average BMI (if available)	Average age: <i>M</i> (<i>SD</i>)	Ethnic breakdown	Limitations	Quality assessment
Adil et al., 2022	Associations between weight discrimination and metabolic health: A cross-sectional analysis of middle- aged adults	United States	Participants from four United States urban centers	Cross-sectional	Nondescript survey	Waist circumference, body weight, BMI, BP, insulin levels, total cholesterol, OGTT, self-reported diabetes (diabetes medication use, elevated plasma glucose or H _{1c}), MetS (self-report), physical activity (self-report)	3473	32.3	50.2 (0.10)	White: 52.8% Black: 47.2%	Sample is equivalent by race but not representative of general United States population. Limited weight discrimination data available	Good
Ciciurkaite et al., 2018	Body weight, perceived weight stigma and mental health among women at the intersection of race/ethnicity and socioeconomic status: insights from the modified labelling approach.	United States	National health measurement study (2005–2006)	Cross-sectional	Day-to-day discrimination: “what was the reason for the discrimination you experienced?”	Psychologic well- being: Mental health component of 12-item short form health survey	2203	NR	53.55 (13.19)	White: 80.65% Black American: 11.5% Hispanic: 3.6%	Small number of women experienced discrimination (5%), sample of Hispanic women was small.	Fair
Dutton et al., 2014	Perceived Weight Discrimination in the CARDIA Study: Differences by Race, Sex, and Weight Status	United States	From Coronary Artery Risk Development in Young Adults (CARDIA) study	Cross-sectional	Modified version of experiences of discrimination index	Center for epidemiologic studies depression scales, self- reported use of diabetes medication medical history questionnaire	3466	NR	50	African Americans: 1622 (45.8%) Whites: 1844 (53.2%)	No other racial/ ethnic groups. Participants from urban areas only. Dichotomous weight discrimination variable	Fair

(Continues)

TABLE 1 | (Continued)

Citation (author, year)	Title	Location	Sample description	Study design	Weight discrimination measures	Health measures	Sample size	Average BMI (if available)	Average age: <i>M</i> (SD)	Ethnic breakdown	Limitations	Quality assessment
Himmelstein et al. 2017	Intersectionality: An understudied framework for addressing weight stigma	United States	Chronic disease	Cross-sectional	3 yes/no questions tasting, unfair treatment, discrimination based on weight bias. Coping scale for weight discrimination	Disordered eating, negative emotions, eating, avoidance	3088	26.65 (5.74)	44.09 (16.82)	White: 64.70% Latino/Hispanic: 16.4% Black or African American: 13% Asian or Pacific Islander: 5.9%	Participants not asked about other forms of discrimination, which may impact answers; more research required to understand racial differences and protective mechanisms	Good
Crockett et al., 2022	Weight Discrimination Experienced Prior to Enrolling in a Behavioral Obesity Intervention is Associated with Treatment Response Among Black and White Adults in the Southeastern United States	Southeastern United States	Chronic disease	Cross-sectional	Modified version of experiences of discrimination index	Depressive Symptom: Centers for Epidemiologic Studies Depression Scales (CES-D), weight loss; objective weighing	165	35.7	48.6	Black/African American: 50%	Participant attrition, weight discrimination dichotomous variable. Only 2 racial groups	Good
Himmelstein et al., 2021	At multiple fronts: Diabetes stigma and weight stigma in adults with type 2 diabetes	United States	Adults with Type 2 diabetes living in the United States, at least 18years old	Cross- sectional/ observational	Three yes/ no questions on teasing due to weight; three questions weight stigma experienced in a healthcare setting	Height weight	1212	31.61 (8.86)	52.12 (14.98)	Asian: 4.1% Black: 12% Latino/ Hispanic: 7.5% White: 76%	Variables were self-reported by participants, sample was 75% White and represented majority of middle-income, college-educated; market-research firm collected results	Good

(Continues)

TABLE 1 | (Continued)

Citation (author, year)	Title	Location	Sample description	Weight discrimination			Health measures	Sample size	Average BMI (if available)	Average age: <i>M</i> (<i>SD</i>)	Ethnic breakdown	Limitations	Quality assessment
				Study design	measures	discrimination							
Pearl et al., 2018	Everyday discrimination in a racially diverse sample of patients with obesity	United States (Philadelphia)	Participants in Philadelphia recruited to participate in weight-loss trial	Cross-sectional	Scale (everyday discrimination scale [EDS])	Height, weight, BMI	122	38.5 (6.2)	46.3 (10.5)	Black: 66.4% White: 26.2% Other: 7.4% Hispanic and/or Latino/a: 4.1%	Sample majority female, limited “other” category, EDS not given at same time point for all participants (did not find any evidence that this effected perception of weight discrimination)	Fair	
Lee et al., 2021	Weight stigma and health behaviors: Evidence from the Eating in America study	United States	Eating in America study	Cross-sectional	2-item measure of daily anticipated and experienced weight discrimination. 4-point response scale	Physical activity: single-item Stanford leisure- time activity categorical item. Sleep disturbance: 6-item sleep disturbance short form. Disordered eating: 12-item eating disorder examination questionnaire short, comfort eating	2202	28.0 (7.4)	47.7 (17.2)	White: 64.1% Black, African American: 12.2% Native American, Eskimo, Aleut: 1.4% Hispanic, Latino/a: 15.1% Asian, Asian American: 5.4% Naive Hawaiian or Pacific Islander: 0.1% Biracial/ Multiracial: 1.3% Other: 0.4%	Weight stigma score was composite score; weight was self-reported; data collection timeframe was during Winter holiday and people may have based their answers on New Year’s resolutions	Fair	
Gee et al., 2008	Disentangling the effects of racial and weight discrimination on body mass index and obesity among Asian Americans	United States	Asian Americans from the National Latino and Asian American Study (NLAAS)	Cross-sectional	Adaptation of the everyday discrimination scale	Mental disorders (binary variable from DSM), “how would you rate your overall physical health?”	1956	24.2 (4.4)	41.1 (15.6)	Asian American: 100%	Self-report, not controlled for mental illness and social desirability bias. Binary variables for race	Good	

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TABLE 1 | (Continued)

Citation (author, year)	Title	Location	Sample description	Study design	Weight discrimination measures	Health measures	Sample size	Average BMI (if available)	Average age: <i>M</i> (<i>SD</i>)	Ethnic breakdown	Limitations	Quality assessment
Incollingo et al., 2019	Association of weight discrimination during pregnancy and postpartum with maternal postpartum health.	United States	People pregnancy and postpartum	Longitudinal	Everyday discrimination scale: "you are treated with less courtesy than others," "you are threatened or harassed." Frequency of discrimination	Postpartum depression with EPDS, pregnancy weight gain, excess gestational weight gain, weight retention, BP, cortisol	214	NR	25.24 (5.55)	Black: 50.5% Latina: 23.4% White: 26.2%	Small sample size: participants used height and weight when reporting everyday discrimination; this was a retrospective report	Fair
Merriwether et al., 2021	Racial and weight discrimination associations with pain intensity and pain interference in an ethnically diverse sample of adults with obesity: a baseline analysis of the clustered randomized- controlled clinical trial the goals for eating and moving (GEM)	United States	Chronic disease	RCT	Type and frequency survey	Pain behaviors self-report (PaB-SR) survey	483	34.83 (6.18)	49.66 (12.07)	Non-Hispanic Black: 43.6% Non-Hispanic White: 9.9% Non-Hispanic Other: 5.4% Hispanic/Latino/ a/x: 40.7%	Recall biases, no assessment of anticipatory or enacted discrimination	Fair
Rice et al., 2021	Weight-Based Teasing and Metabolic Syndrome Components among Adolescent Military Dependents at Risk for Adult Obesity.	United States	12–17 years old, English speaking	Cross-sectional	WBT	Body composition, loss of control (LOC) eating, anxiety, perception of teasing scale, metabolic syndrome	142	BMIz 1.9 (0.4)	14.4 (1.6)	Non-Hispanic White: 51.2% Non-Hispanic Black: 20.9%	Sample was military-dependent, not necessarily transferable to general population	Fair

(Continues)

TABLE 1 | (Continued)

Citation (author, year)	Title	Location	Sample description	Study design	Weight discrimination measures	Health measures	Sample size	Average BMI (if available)	Average age: <i>M</i> (<i>SD</i>)	Ethnic breakdown	Limitations	Quality assessment
Schvey et al., 2021	Weight-based teasing in youth: Associations with metabolic and inflammatory markers	United States	Two studies conducted at the National Institutes of Health Hatfield Clinical Research Center	Cross- sectional; secondary analysis	WBT	Body composition, metabolic syndrome components, inflammation	201/111	BMIz 0.6 (1)	13.1 (2.8)/14 (1.4)	Non-Hispanic White: 44.8% Non-Hispanic Black: 28.9% Hispanic: 9% Other/multiple races/unknown: 17.4%/non- Hispanic Black: 62.2% Non-Hispanic White: 37.8%	Assessing WBT was not primary aim of either original study or cross- sectional study	Good
Sutin et al., 2014	Perceived weight discrimination and C-reactive protein	United States	Participants drawn from the Health and Retirement Study (HRS)— longitudinal study	Cross-sectional	Perceived discrimination	High sensitivity C-reactive protein, BMI	7394	31.43 (5.04)	67.23 (9.74)	Black: 12% Other: 3%	Study primarily older adults, data were cross-sectional	Good
Sutin et al., 2019	Perceived weight discrimination and risk of incident dementia	United States	Health and Retirement Study	Longitudinal	WD	Cognitive status, BMI, depressive symptoms, weight, demographic discrimination factors	12,053		67.31 (10.05)	Black: 12% Other: 4% White: 84% Hispanic: 8%	Performance- based measure of dementia used, BMI not from measured height and weight	Good
Sutin et al., 2020	Perceived weight discrimination and performance in five domains of cognitive function	United States	Subsample of participants in the Health and Retirement Study selected	Cross-sectional	Perceived discrimination (attributing unfair treatment to personal attributes)	Cognitive function, covariates like demographic data and disease burden	2593	29.59 (5.92)	75.59 (7.29)	Black: 14% Other: 4% White: 82% Latinx: 9%	Cognitive data assessed only once; more work needed on why WD, but not other forms of discrimination is associated with worse cognitive performance	Good

(Continues)

TABLE 1 | (Continued)

Citation (author, year)	Title	Location	Sample description	Study design	Weight discrimination measures	Health measures	Sample size	Average BMI (if available)	Average age: <i>M</i> (<i>SD</i>)	Ethnic breakdown	Limitations	Quality assessment
Sutin et al., 2013	Perceived weight discrimination and obesity	United States	Health and Retirement Study (HRS)— longitudinal study of Americans aged 50 and older	Longitudinal	Discrimination (weight discrimination specifically also)	BMI, other personal characteristics	6157		66.51 (10.04)	White: 84.7% Black: 12.8% Other: 2.5%	Weight discrimination assessed with single-item measures, sample of older population, no testing of potential mechanisms that may lead from discrimination to obesity; no association moderated by demographic factors (likely indication that WD and risk of obesity not varying by age, sex, ethnicity, education)	Good
Wilson et al., 2011	Brief Report: The Relationship between Multiple Forms of Oppression and Subjective Health among Black Lesbian and Bisexual Women	United States (annual event in California)	Attendees of an annual conference in California	Cross-sectional	Discrimination asked about	Health status/ current health, health behavior, health beliefs, health care access, demographics	85		48 (9)	Back: 84% Caribbean: 2.5% African: 2.5% Black biracial/ multiracial: 4.9% Other: 6.2%	Cross-sectional design used, need to use longitudinal design in future; need further work to measure oppression	Good

(Continues)

TABLE 1 | (Continued)

Citation (author, year)	Title	Location	Sample description	Study design	Weight discrimination measures	Health measures	Sample size	Average BMI (if available)	Average age: <i>M</i> (SD)	Ethnic breakdown	Limitations	Quality assessment
Puhl et al., 2019	Weight Stigma Among Sexual Minority Adults: Findings from a Matched Sample of Adults Engaged in Weight Management	United States	Weight Watchers members (membership maintained > 3 months, 18 years or older, living in the United States)	Cross-sectional	Weight stigma (three yes/ no questions indicating if they had been subjected to discrimination because of weight)	Weight-related health behaviors, physical and mental health- related quality of life	18,769	32.99 (7.49)	48.42 (13.78)	White: 89.4% Black: 2.9% Asian: 0.9% Hispanic/ Latino: 4.1% Other: 2.7%	Results are not reported by race	Good
Puhl et al., 2020	Weight stigma and diabetes stigma in United States adults with type 2 diabetes: Associations with diabetes self-care behaviors and perceptions of health care.	United States	Recruited from ISA-national market research company; participants were at least 18 years old, residing in the United States, and self-reported diagnosis of Type 2 diabetes	Cross-sectional	3 yes/no items from prior national studies; single question for weight discrimination in healthcare	Demographics and anthropometrics, weight stigma (experience, internal, healthcare), diabetes stigma, diabetes self- management, diabetes self- efficacy, diabetes- specific distress, clinician-patient communication, quality of clinician-patient collaboration, frequency of diabetes-specific health care	1227	31.64 (8.86)	52.04 (14.96)	White: 75.1% Black: 12.4% Hispanic/ Latino: 7.3% Asian: 4.1% Other: 1%	Results are not reported by race.	Good

Note: This table provides an overview of the included studies, summarizing their location, sample characteristics, study design, weight discrimination measures, health measures, and key findings. Studies are assessed for quality based on criteria such as sample representation and methodological rigor.
Abbreviations: BMI = body mass index; BMIZ = body mass index Z-score; BP = blood pressure; EPDS = Edinburgh postnatal depression scale; HA1C = hemoglobin A1c; MetS = metabolic syndrome; NR = not recorded; OGTT = oral glucose tolerance test; RCT = randomized control trial; WBT = weight-based testing; WD = weight discrimination.

TABLE 2 | Summary of results.

Major findings	Subsections	Key points and references
Health outcomes	Physical and mental health	• HbA1c increased in White participants with weight discrimination; not seen in Black participants [17] • Mental health scores decreased in Hispanic women; remained consistent in White women [18] • Depressive symptoms positively associated with weight discrimination in African American and White women [19] • Coping with eating more commonly reported in Black men than in White men [20] • Disordered eating more likely in White women than Black women [20] • Mental health scores of White women remained constant [18] • Four studies reported no significant association between weight discrimination and physical and mental health outcomes by race [27, 29, 31, 33]
	Disease management	• Weight loss efforts were significantly undermined by weight discrimination in Black and White adults [21] • Treatment session attendance decreased in Black participants with a history of weight discrimination; this was absent in White individuals [21]. • Diabetes medication use was associated with increased weight discrimination in White men and decreased discrimination in White women [21].
Race and ethnicity	Weight discrimination	• Perceiving body size as too thin increased weight discrimination in African American women [19] • Perceiving body size as too heavy increased weight discrimination in White men [19]
	Racial discrimination	• Multiple impactful forms of discrimination were common in those with obesity [23]. • Weight discrimination and racial discrimination were experienced together more than half the time [19, 22].
	Industry-specific discrimination	• Low levels of weight discrimination were found in seeking housing; higher prevalence in African Americans than in White individuals [19]. • The highest judgment from physicians was experienced by White women in comparison with Black or Asian women; no difference between White, Asian, and Black men [22]
Weight discrimination	Prevalence by race	• Weight discrimination more prevalent among White than Black individuals [21] • Weight discrimination had an interaction with Hispanic ethnicity but not White or Black ethnicity [18] • Weight discrimination reporting was most prevalent in White women [19].
	Health outcomes	• BMI associated with weight discrimination [17, 19, 20, 22, 23, 25–34] • Multiple other health outcomes associated with weight discrimination, including metabolic, mental health, pain, and mental acuity measures [17, 19, 20, 22, 23, 25–34]

Note: This table represents a synthesis of key findings across studies, organized into major themes including health outcomes, disease management, weight discrimination, and industry-specific discrimination.

Abbreviations: BMI = body mass index; HbA1c = hemoglobin A1C.

There were associations between mental health and weight discrimination in racial/ethnic groups in three studies [18–20]. These measures were moderated by sex as well. One study

reported that Hispanic women had decreased mental health scores related to discriminatory experiences, whereas White women's mental health scores remained constant regardless of

weight discrimination [18]. Another study found a positive association between depressive symptoms and weight discrimination in African American and White women [19].

Responses to weight discrimination varied between Black and White participants in Himmelstein and the team's 2017 work [20]. In this study, Black participants were more likely than White participants to cope with the stigma associated with eating, moderated by gender [20]. Black men were more likely to cope with eating than White men [20]. Black women were less likely to engage in disordered eating relative to White women [20]. This contrasts with [18], who found that White women's mental health scores remained constant regardless of weight discrimination.

Four studies found no significant association between weight discrimination and physical and mental health outcomes by race [27, 29, 31, 33].

3.2 | Disease Management

Disease management was associated with both race and weight discrimination. There was an interaction between race, weight discrimination, and weight intervention outcome [21]. In a secondary analysis of a behavioral weight loss intervention, there were differences in race participation results based on participants experiencing weight discrimination. In their analysis, weight discrimination significantly undermined the weight loss efforts of Black and White adults undergoing behavioral therapy for obesity. Black participants attended 0.80 times fewer treatment sessions if they had a history of weight discrimination. This relationship was absent in White individuals [21]. There was also an effect of weight discrimination on diabetes medication use. Dutton and colleagues found that diabetes medication use was associated with increased weight discrimination for White men and decreased discrimination for White women [19].

3.3 | Modifying Factors Associated With Race/Ethnicity

Three studies suggested factors that could have modified weight discrimination experiences by race or ethnicity [19, 22, 23]. In Dutton et al. [19], African American women with a body size perceived as too thin reported experiencing increased weight discrimination, which differed from White men who experienced more weight discrimination with a body size perceived as too heavy. They suggested that cultural beliefs may have played into this relationship.

Social determinants of health, including exposure to multiple forms of discrimination and discrimination in varying industries, were discussed in three studies as potential modifying factors [19, 22, 23]. Pearl et al. found that those with obesity may face multiple forms of impactful discrimination, most commonly racial and weight discrimination [23]. More than half of those who experienced weight discrimination experienced racial discrimination. In two studies, the amount of weight discrimination varied by industry [19, 22]. Dutton et al. identified low levels of weight discrimination in seeking housing but a higher

prevalence in African Americans than White individuals [19]. Himmelstein and Puhl found that participants' experiences with judgment due to weight by physicians varied by race [22]. White women had the highest judgment from doctors compared with Black or Asian women [22]. No difference was found between White, Asian, and Black men [22].

Eleven of the studies had findings on weight discrimination. However, they did not modify them by race or ethnicity [22–26, 28, 30, 32, 34–36]. Four studies assessed racial differences in the prevalence of weight discrimination rather than racial differences in the associated health outcomes [18, 19, 21, 22]. In Crockett's 2022 analysis, weight discrimination was more prevalent among White than Black individuals ($p = 0.035$) [21]. In a 2018 multiethnic population, Ciciurkaite and Perry identified an interaction between Hispanic ethnicity and weight discrimination, but not White or Black ethnicity [18]. Dutton and team found that White women reported the highest prevalence of weight-based discrimination compared with others ($p < 0.0001$) [19].

3.4 | Generalized Weight Discrimination Health Outcomes

Sixteen studies found positive associations between weight discrimination and health outcomes regardless of race [17, 19, 20, 22–34]. Most commonly, BMI was associated with weight discrimination. Other associations with weight discrimination included obesity, abdominal obesity, waist circumference, metabolic syndrome, C-reactive protein, Type 2 diabetes, diabetes stress, lower plasma glucose in youth, sleep disturbance, anxiety, depression in youth, mental health outcomes, disordered eating, postpartum depression, pain interference, pain intensity, poor performance of episodic memory, speed of attention, visuospatial ability, numeric reasoning, and dementia [17, 19, 20, 22, 23, 25–34].

4 | Discussion

This review highlights racial differences in several health outcomes and disease management variations associated with weight discrimination influenced by sex, and it suggests two potential modifying factors: cultural beliefs and social determinants of health. Of those experiencing weight discrimination, Hispanics had decreased mental health compared with Whites, Whites had a higher average HbA1c compared with Blacks, Blacks were more likely to cope with weight stigma by eating, and they were less likely to participate in weight loss treatment programs compared with Whites [17, 18, 20, 21]. Although several studies demonstrated that health outcomes related to weight discrimination varied by race, the overall findings were limited by small sample sizes and inconsistent variables across studies. To our knowledge, the papers included in this study are the only literature assessing the health outcomes associated with weight discrimination by race/ethnicity.

Sex modified these results as Black men were more likely to cope with eating. In contrast, Black women were more likely to engage in disordered eating and experience weight discrimination

[20], and White men were more likely to experience weight discrimination if they used diabetes medication than White women [19]. In the work of Sattler and colleagues [37] as well as Scott-Johnson et al. [38], sex has been documented as a modifying factor in the prevalence and impact of weight discrimination, with women experiencing higher rates of discrimination than men in multiple racial/ethnic groupings [37, 38]. This review also supported the work of the Obesity Action Coalition [39] and Papadopolous and Brennan [40] in confirming ethnic variances in the prevalence of weight discrimination [39, 40].

4.1 | Cultural Beliefs

Differing cultural beliefs about the acceptability of weight may contribute to the differences in physical health, mental health, and disease management. One study in this review found that weight discrimination in African American women was more common in those with a body size perceived as too thin. At the same time, White men were more likely to experience weight discrimination with a body size perceived as too heavy [19]. The finding highlights a potential cultural component to weight discrimination regarding weight beliefs. Reece identified variations in the penalty associated with body size in the racial binary and across the spectrum of skin color [41]. Reece found that the weight discrimination of dark- and medium-skinned Black Americans with obesity was nonsignificant. In contrast, the weight discrimination of light-skinned Black Americans and White Americans with obesity was significantly negative [40]. The finding reinforces the racial/ethnic differences in the prevalence of weight discrimination and suggests that the impact of these variations varies and can account for differences in health outcomes associated with weight discrimination specifically. There are documented differences in the ideal body-image preferences between cultures [9–13]. In Western White culture, thinness is valued, whereas many other cultures, including African and Arab cultures, prefer heavier body types [9–13]. Most research assessing cultural beliefs about body ideals concerning health outcomes was published more than 10 years before this paper was written.

It is well documented that differences in health beliefs, rooted in culture or otherwise, influence health management and individual behavior [42–44]. Despite this, no current research ties varying beliefs about weight, specifically perceptions of weight discrimination, to health behaviors. The American Nursing Association requires nurses to be competent in applying health belief knowledge, practice, and communication in all nursing tasks [45]. To fulfill this competency, nurses must understand weight beliefs and their influence on health. With the absence of up-to-date research and a deep understanding of weight bias's health outcome-modifying factors, nurses and other clinicians must investigate the weight beliefs of their patients individually to create goals and identify barriers to care with patients effectively.

4.2 | Social Determinants of Health

Social determinants of health, including racial discrimination, influence health and health behavior. Individuals facing

multiple forms of discrimination have poorer associated health outcomes than those who only experience one form of discrimination [46]. Pearl and their team found that weight and racial discrimination co-occur in more than half of persons with obesity [23]. Racial and weight discrimination have been associated with adverse health behaviors [24, 47–49]. Increased racialized stress due to discrimination may compound the issue of weight discrimination. Racial discrimination is particularly impactful in the United States and is associated with increased cortisol stress levels [50]. Chronic stressors such as discrimination can take a toll on the body's systems as they are dysregulated, leading to premature morbidity and mortality [50]. The combination of increased discrimination stress and increased likelihood of adverse health behaviors puts individuals at risk for negative health outcomes.

The prevalence of weight discrimination varied not only by race and ethnicity but also by industry. The work of Dutton suggests that weight discrimination is more prevalent in African Americans than in White individuals when seeking housing [19]. Racial discrimination has also been documented to influence an individual's experience in obtaining housing [51–53]. Himmelstein and Puhl suggest that weight discrimination varies by race in healthcare, with White women most commonly experiencing discrimination from physicians compared with Asian and Black women [22]. A large body of evidence supports that the experiences of weight bias from healthcare professionals serve as a barrier to care [54–56]. Racial discrimination in healthcare is prevalent and harmful [57]. Both race and weight status put a person at risk for experiencing discrimination in several standard industry settings. These results suggest that those with intersectional identities, such as those with varying weight status and race, may be at heightened risk for adverse health outcomes due to multiple forms of discrimination and a more significant burden of environmental stressors. Further research is required to confirm and understand the interplay between discrimination types and health outcomes.

5 | Limitations

This coping review aimed to systematically map the breadth of literature on associations between weight discrimination and health outcomes, with a focus on racial and ethnic differences. Although we employed a rigorous approach, several limitations inherent to the nature of existing research and scoping review methodology warrant acknowledgment. First, our comprehensive searches were limited to English-language papers. This linguistic constraint may have resulted in the omission of relevant articles published in other languages, thus potentially affecting the completeness of the identified literature base. Second, a key objective of a scoping review is to identify the characteristics and trends within existing studies. In this regard, we observed significant heterogeneity in the terminology used across studies. Specifically, the term “obesity” often reflected a medical model, and binary descriptors for race, ethnicity, sex, and gender were predominantly employed. Although our reporting directly reflects the language used in the included studies, this variation and limitation in the primary literature meant we could not explore the full spectrum of these identities or their nuanced intersections as thoroughly as might be desired. Future research

should strive for more inclusive and consistent terminology. Third, despite our broad search strategy, the review found that most included studies did not conduct secondary analyses on race or ethnicity. This led to a substantial underrepresentation of many racial/ethnic groups and other intersectional identities within the existing body of research. This highlights a gap in the literature regarding the experiences and perspectives of diverse populations in relation to weight discrimination and health outcomes. Fourth, although this review sought to encompass an international scope, the identified literature was predominantly focused on United States-based populations. This geographical imbalance means that the findings may not be generalizable to other global contexts and underscores the need for more research from diverse geographical regions. Finally, although the review aimed to identify health outcomes related to weight discrimination, these outcomes were inconsistently assessed across studies. Furthermore, no studies directly examined internalized weight discrimination. This inconsistency and absence represent a significant gap in the current understanding of weight discrimination's health impacts and suggest areas for future research focus.

6 | Clinical and Policy Implications

The American Nurses Association and the American Medical Association provide resources to support healthcare providers in achieving cultural competency, with an emphasis on promoting health equity [45]. The findings of this review suggest that nurses and other clinicians must understand the intersectional experiences of those who face both race and weight discrimination. To enhance clinical practice and reduce disparities, healthcare professionals could actively work against weight discrimination in clinical practice to achieve competence. Embedding equity as a founding principle in prelicensure and institutional education and institutional training, coupled with positive role modeling by leadership, may significantly improve clinician competency in addressing the needs of those affected by these overlapping forms of discrimination. National and state-level public health policies should prioritize initiatives that combat weight discrimination, recognizing their profound impact on health equity and access to quality care for all individuals.

7 | Conclusion

The evidence represented in this review consistently suggests an association between racial or ethnic identity and the influence of weight discrimination on physical health, mental health, and disease management. Varying cultural beliefs about body size ideals and social determinants of health may play a part in this association. Future research should prioritize collecting quantitative data on weight discrimination from underrepresented populations, assessing a broader range of health outcomes by race and ethnicity, and qualitatively exploring personal narratives. Such efforts should focus on the interplay between cultural identity, social determinants of health, and weight discrimination. Clinicians must account for patients' experiences with culture and social determinants of health, including racial and weight discrimination, when providing care. This understanding should inform the development of collaborative and

inclusive care plans that address the diverse needs of patients and apply this knowledge in creating care plans with patients across body sizes.

Conflicts of Interest

The authors declare no conflicts of interest.

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