

Examination of interrelationships between weight-based and smoking-based stigma, discrimination, and health

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Overview

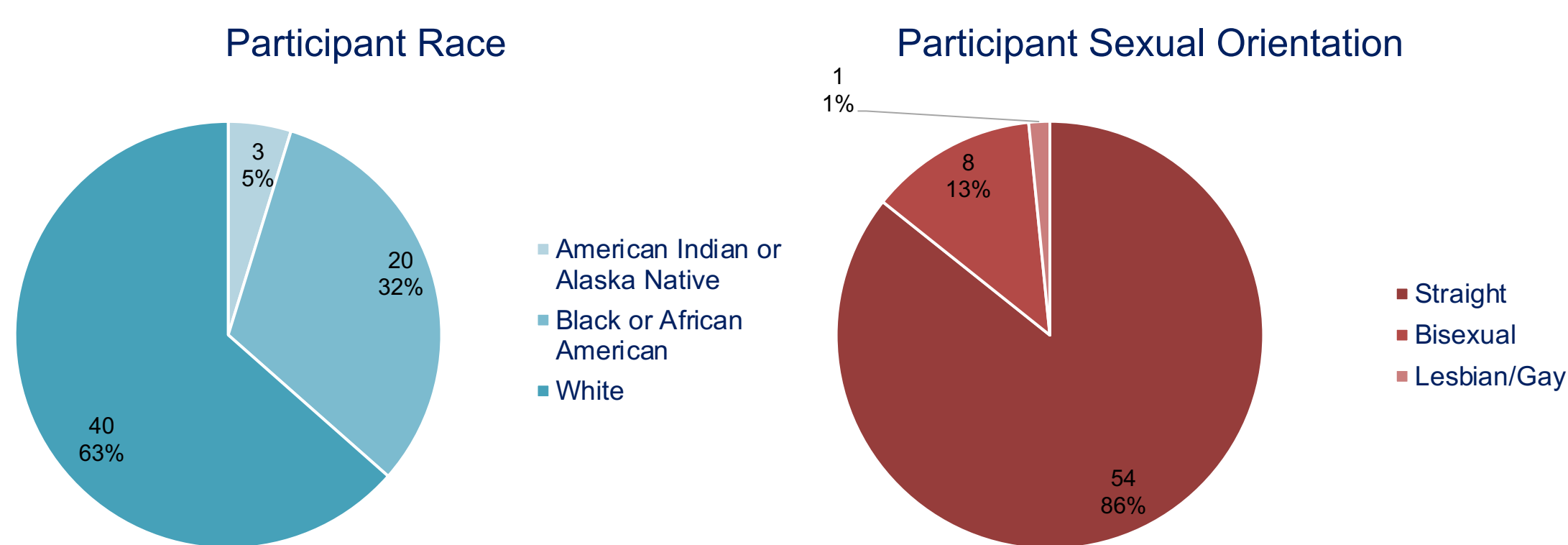
This study investigated the associations between stigma and discrimination and numerous health behaviors, outcomes, and beliefs in a sample of people with overweight or obesity who smoke cigarettes ($N = 63$).

Background

- Experiences of stigma (i.e., the state of social devaluation due to a certain trait or group identity) and discrimination (i.e., prejudicial treatment of individuals on the basis of a stigmatized identity) are associated with numerous deleterious health outcomes.
- People with overweight or obesity who smoke cigarettes experience multiple forms of stigma and discrimination based on their weight and smoking status, as well as other overlapping social positions.
- Little work has been done to examine the role weight and smoking stigma may play in creating deleterious health outcomes for this population.
- Study Aim:** We aimed to examine the associations of weight stigma, smoking stigma, and discrimination with self efficacy, weight concern, symptoms of depression, and smoking-related health behaviors.

Participants

- Individuals who reported smoking cigarettes and met criteria for overweight/obesity were recruited nationally using online ads for a multiple health behavior change intervention study targeting smoking and weight gain prevention had the following characteristics, on average:
 - Women (82.5%)
 - Non-Hispanic/Latino (97%)
 - Body mass index (BMI) = 35.7 (SD=8.2)
 - Age = 49.35 (SD = 11.7)
 - Years of education = 14.2 (SD=2.4)
 - Pre-tax household income of < \$50,000/year (50%)

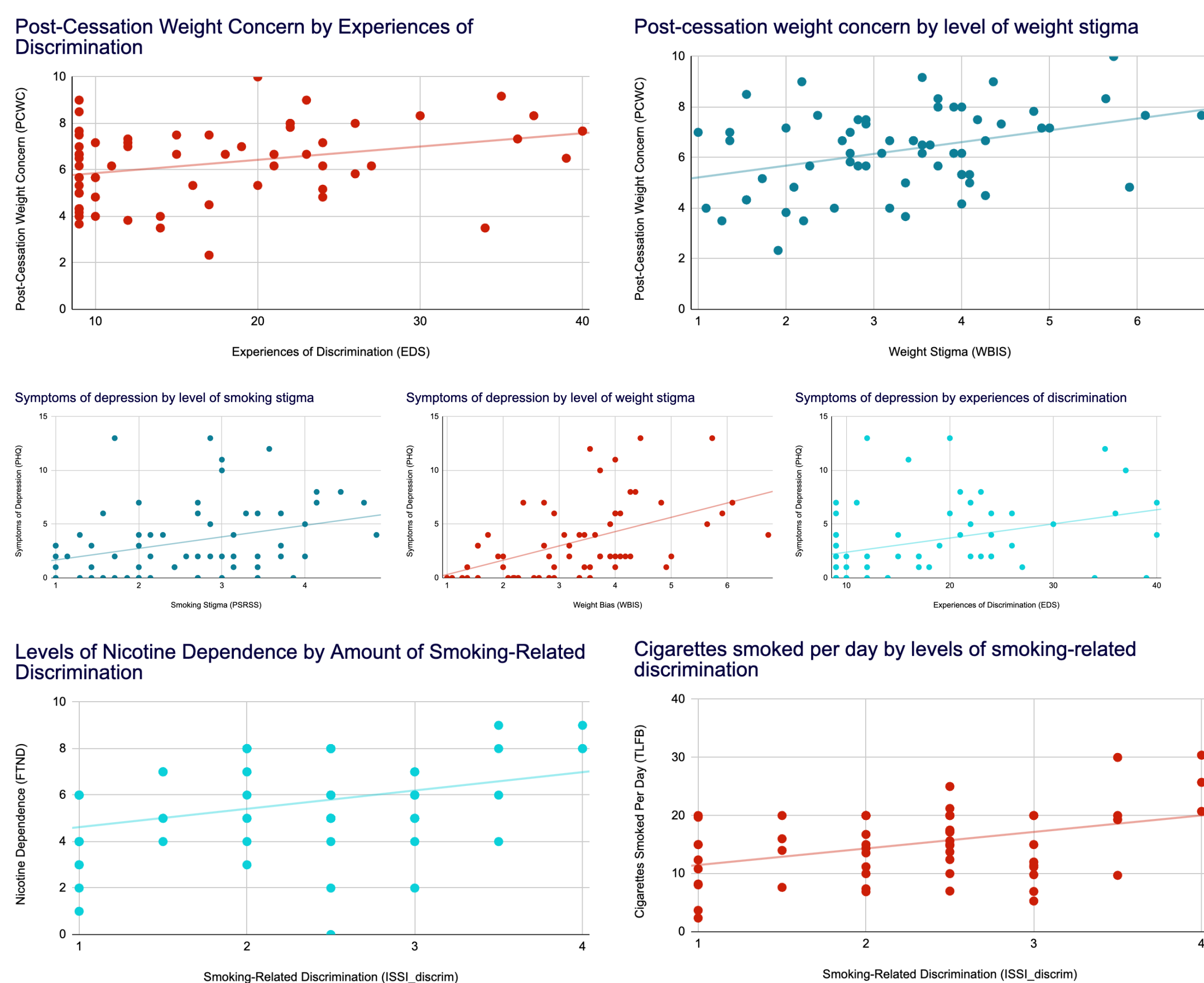


Methods

- Participants from across the US completed initial screening for study eligibility criteria, an orientation session, and a baseline assessment session (all remotely via Zoom; Nov. 2021 – Aug. 2023)
- Weight** was measured via a scale and used to calculate BMI
- Exhaled carbon monoxide (CO)**, a measure of heaviness of smoking, was measured using an iCOquit device
- Participants completed self-report questionnaires including:
 - Smoking stigma:** Perceptions of Smoking-Related Stigma Scale (PSRSS, 1-5) and Internalized Stigma of Smoking Inventory (ISSI, 1-4) – self, felt, and discrimination
 - Weight stigma:** Weight Bias Internalization Scale (WBIS, 1-7)
 - Discrimination:** Everyday Discrimination Scale (EDS, 9-54)
 - Self-Efficacy:** Smoking Self Efficacy Questionnaire (SSEQ); Weight Efficacy After Quitting (WEAQ)
 - Smoking:** Timeline Follow-Back (TLFB); Fagerström Test for Nicotine Dependence (FTND)
 - Weight Concern:** Post-Cessation Weight Concern (PCWC)
 - Depression:** Patient Health Questionnaire (PHQ, 0-27)

Results

- Cross-sectional associations between baseline variables were assessed using correlational analyses
- Mean **smoking stigma** = 2.59 ($SD = 1.01$); mean **weight stigma** = 3.30 ($SD = 1.29$), mean **everyday discrimination** = 17.49 ($SD = 9.29$); mean **PHQ** = 3.38 ($SD = 3.43$); mean **post-cessation weight concern** = 6.29 ($SD = 1.64$)
- Weight stigma, smoking stigma, and discrimination were all significantly associated
- There were significant associations between **greater weight stigma and greater smoking stigma** ($r = 0.34, p < .01$), **greater weight stigma and more discrimination** ($r = 0.463, p < 0.001$), and **greater smoking stigma and more discrimination** ($r = 0.68, p < 0.001$)
- Greater weight stigma, smoking stigma, and everyday discrimination** were all associated with **more symptoms of depression** ($r = 0.50, p < 0.001$; $r = 0.32, p < .05$; $r = 0.36, p < .01$)
- People who reported **more weight stigma or more everyday discrimination** also reported **more post-cessation weight concern** ($r = 0.37, p = 0.003$; $r = 0.32, p = 0.01$)
- People who reported **more smoking-related discrimination** reported **more cigarettes smoked per day** and **higher levels of nicotine dependence**
- No associations were found with self-efficacy, CO, or BMI



Conclusions

- Individuals with overweight or obesity who smoke cigarettes may be subject to stigma and discrimination associated with their smoking and weight.
- The co-occurrence of numerous types of stigma and discrimination in this population and the association with symptoms of depression and post-cessation weight concern points to how stigma may lead to additional deleterious health outcomes and may be associated with barriers to effective behavior change.
- Smoking cessation interventions may consider targeting processes for coping with stigma at the individual level, particularly for people with co-occurring overweight or obesity.
- These findings point to the importance of considering the potential stigmatizing impacts of public health interventions targeting behavior change on a population level.
- Limitations:** Cross-sectional analysis does not consider changes over time, or establish causal, directional relationships.
- Future directions:** The impacts of weight and smoking stigma and discrimination on smoking cessation over time should be examined, as should the efficacy of interventions targeting stigma as a means to improve health outcomes.