**An Exploratory Analysis of the Longitudinal Relationship
Between Weight Discrimination and Metabolic Health**

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Background:

Along with population-level increases in overweight and obesity, the prevalence of weight discrimination has also been on the rise. Weight-based discrimination – the outcome of actions rooted in weight bias - may be experienced in multiple settings, including at school, work, home, medical, and public settings. Consequently, people living with overweight and obesity may begin to avoid medical care, reduce physical activity, and experience higher levels of depression, anxiety, and psychosocial stress. Individuals reporting a history of weight discrimination may in turn partake in more extreme measures of weight control, which can contribute to difficulties with weight maintenance, increased weight cycling, and resultant deteriorations in metabolic health. The extent to which these changes in metabolic health are independent of changes in body weight and related health risk is not yet known. Most studies to date have only used a single time point to assess the relationship between weight discrimination and either obesity or metabolic health. This study will investigate consequent changes in obesity in relation to weight discrimination intensity at the key transition point of emerging adulthood.

Objectives:

(1) To determine whether weight change before age 25 is related to weight discrimination over 20 years of follow-up.

(2) To determine if weight discrimination is related to metabolic syndrome (MetS), glucose intolerance, elevated hemoglobin A1C, and incident diabetes, independent of traditional cardiometabolic risk factors.

Approach and Impact:

To address these questions, secondary analysis of the Coronary Artery Risk Development in Young Adults (CARDIA) cohort study will be undertaken. Associations between weight discrimination (at school, work, home, medical, and public settings) and blood pressure, serum measure (glucose, insulin levels, hemoglobin A1C, triglycerides) will be assessed by generalized estimating equation models, with exploratory mediation analysis. Results of this work will provide insight into the need for medical screening of weight discrimination history within the paradigm of obesity treatment and management.