

Assessing the Racial Disparities and Risk of Developing Type II Diabetes Related to the Self Efficacy of Consumption of Sugar Sweetened Beverages in College Students

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Introduction to the Problem

In 2018, African American adults were 60% more likely than non-Hispanic white adults to be diagnosed with diabetes (HHS 2018). Sugar-sweetened beverages (SSBs) are considered high-glycemic index liquids that increase postprandial blood glucose levels, decrease insulin sensitivity, and decrease satiety levels resulting in overeating. A study by Bursac et al demonstrated that African American undergraduate college students reported 50% higher SSB intake compared to Caucasians undergraduate students (P = 0.02). Within this study, 91% of African American students reported SSB intake within the past month, with 50% reporting daily consumption of SSBs. There is limited research assessing how self-efficacy impacts SSB intake.

Purpose of Study

The purpose of this research was to assess racial disparities and risk of developing type II diabetes (T2DM) related to self-efficacy of consumption SSB in college students.

Statistical Analysis

The data was analyzed using descriptive statistics, Chi-Square tests, regression analysis and Pearson correlation to determine significant differences in self-efficacy and its' relation to ethnicity, sugar-sweetened beverage consumption, and risk factors for developing T2DM.

Methods

Design and Participants

This cross-sectional study consisted of 102 students, 55 participants being male and 47 participants being female. A majority of the participants were African American (80.3%). Other racial ethnicities included Caucasian (9.8%), Latino (1.9%) and Asian (1.9%), Indian (0.9%), and unspecified represented as other (4.9%).

The surveys consisted of the validated Beverage Consumption Questionnaire (BevQ-15), the validated American Diabetes Association Risk Assessment, and a self-developed survey assessing self-efficacy and ethnicity. The survey took between 10 - 15 minutes to complete and was randomly distributed at the Student Service Center, along with other locations around campus, at the University of Maryland Eastern Shore. The surveys were completed in person and submitted to the researchers with contact information provided in case participants wanted to withdraw.

Limitations

Small sample size, self-reported survey responses, ethnically homogenous sample size, and non-validated self-efficacy and ethnicity survey questionnaire. There are no disclosures or conflicts of interest to report.

Results and Conclusions

Results

- There was a significant difference in students who had higher self-efficacy and their risk factors for developing T2DM (P = 0.04), indicating a higher self-efficacy is associated with a lower risk of developing T2DM.
- There is a significant negative association between self-efficacy and intake of soft drinks (r (16) = -.454; p = <.001) and sweetened tea (r (16) = -.223; p = .04) indicating self-efficacy decreases as intake of soft drinks and sweetened tea increases.
- No racial disparities related to self-efficacy of SSB intake was observed.
- 58% of participants were not confident in replacing SSBs with water.
- 23% of participants had a BMI ≥ 30 and 32% of participants had at least 3 risk factors for T2DM. Weight is a modifiable risk factor for T2DM that is impacted by SSB intake.

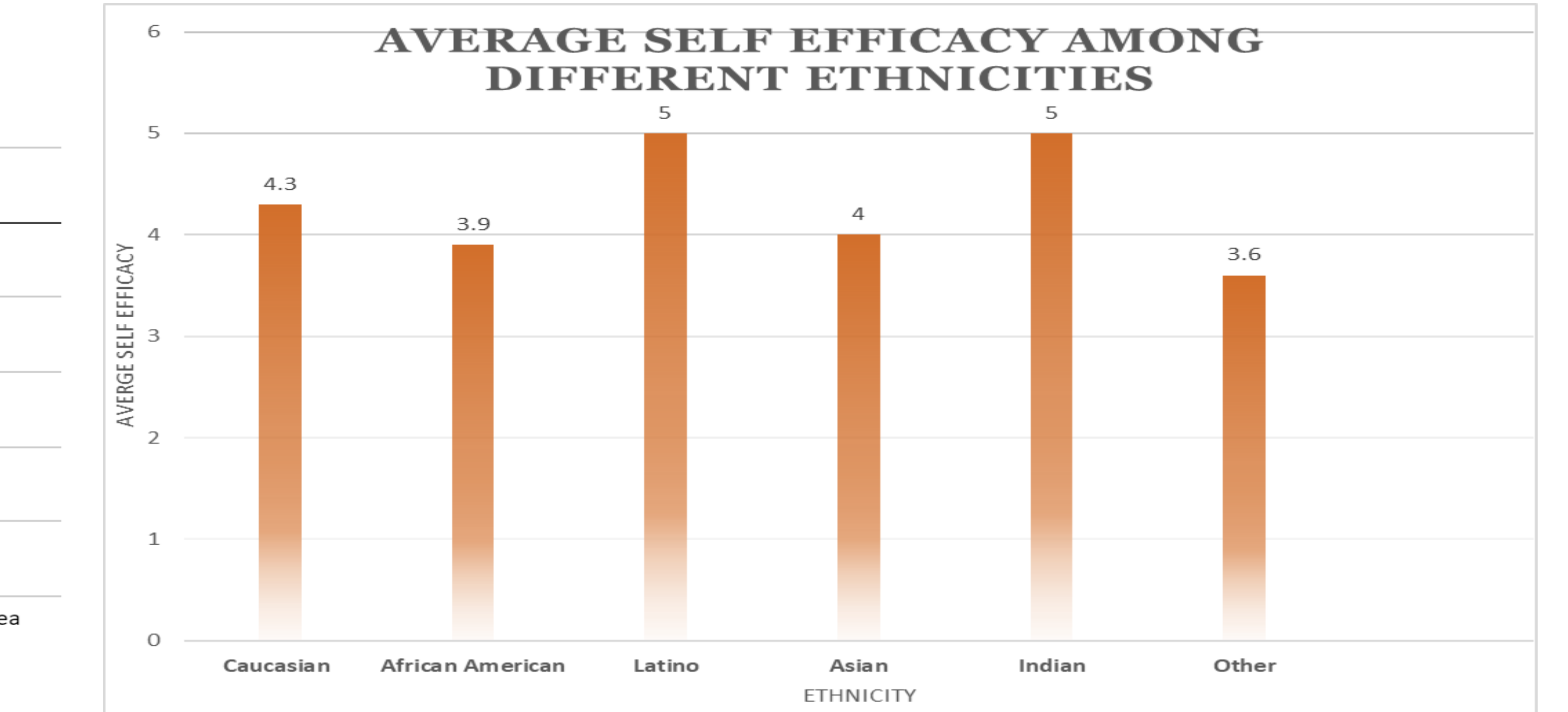
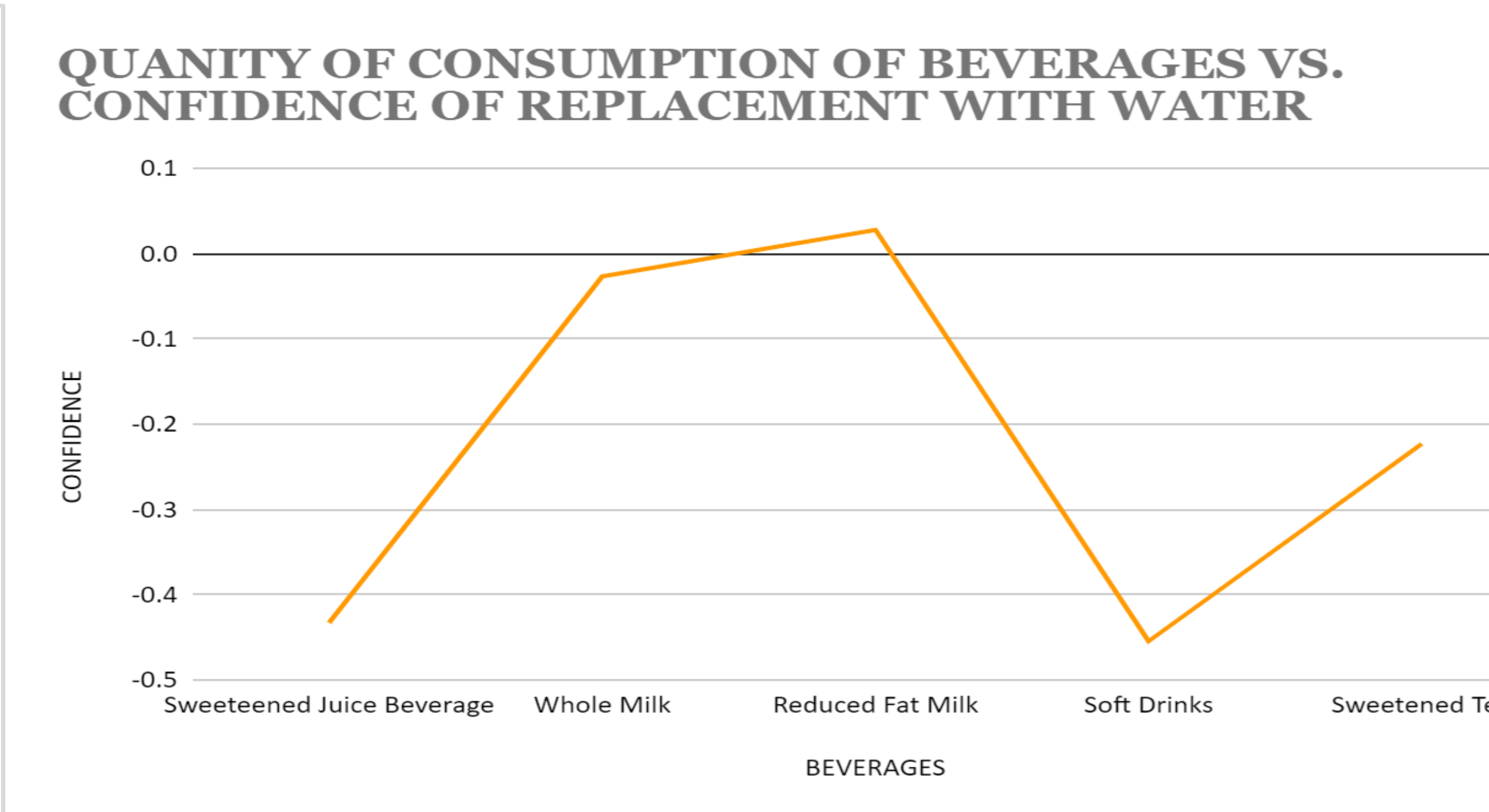
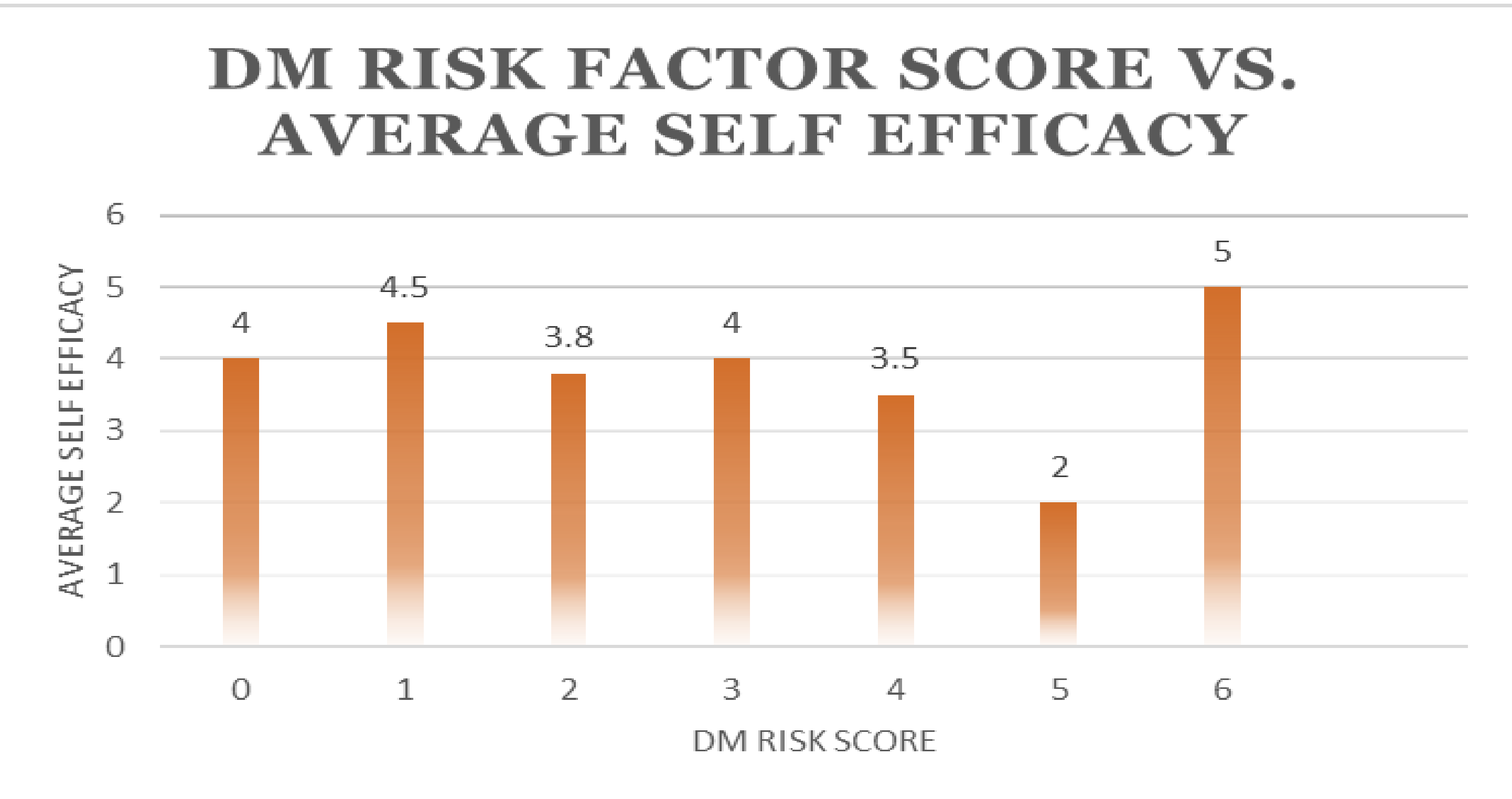
Conclusion

Self-efficacy significantly impacts T2DM risk factors. As African Americans are at an increased risk for T2DM, Registered Dietitians can utilize behavior intervention strategies to improve self-efficacy to modify SSB intake and reduce T2DM risk in this population.

Future Work

Further research is needed to determine how representative these results are and if self-efficacy impacts T2DM risk.

Results



References
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