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Can Information Improve Visual Attention to Sugar Content? Evidence from an Incentivized Beverage Choice Experiment

Xuan Wei

Mid-Florida Research and Education Center &
Food and Resource Economics Department, University of Florida
wei.xuan@ufl.edu

Brandon R. McFadden

Department of Agricultural Economics and Agribusiness
University of Arkansas
mcfadden@uark.edu

Hayk Khachatryan

Mid-Florida Research and Education Center &
Food and Resource Economics Department, University of Florida
hayk@ufl.edu

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Introduction

In this study, we investigated:

- individual heterogeneity in visual attention to the information from the Centers for Disease Control and Prevention (CDC) about added sugar, and
- changes in visual attention to sugar content on the updated Nutrition Facts Label (NFL) due to additional information.

CDC information about added sugars (text and picture formats)

Americans are eating and drinking too much added sugars which can lead to health problems such as weight gain and obesity, type 2 diabetes, and heart disease. To live healthier, longer lives, most need to move more and eat better including getting fewer calories from added sugars. This is one of the [Healthy People 2020 objectives](#) ¹.



What are added sugars?

- Added sugars are sugars and syrups that are added to foods or beverages when they are processed or prepared. Naturally occurring sugars such as those in fruit or milk are not added sugars.
- Added sugars are called by many different names. Examples of added sugars seen on ingredient labels, according to the [2015–2020 Dietary Guidelines for Americans](#) ², include brown sugar, corn sweetener, corn syrup, dextrose, fructose, glucose, high-fructose corn syrup, honey, lactose, malt syrup, maltose, molasses, raw sugar, and sucrose.

Source: Adapted from the Centers for Disease Control and Prevention Data & Statistics Portal.

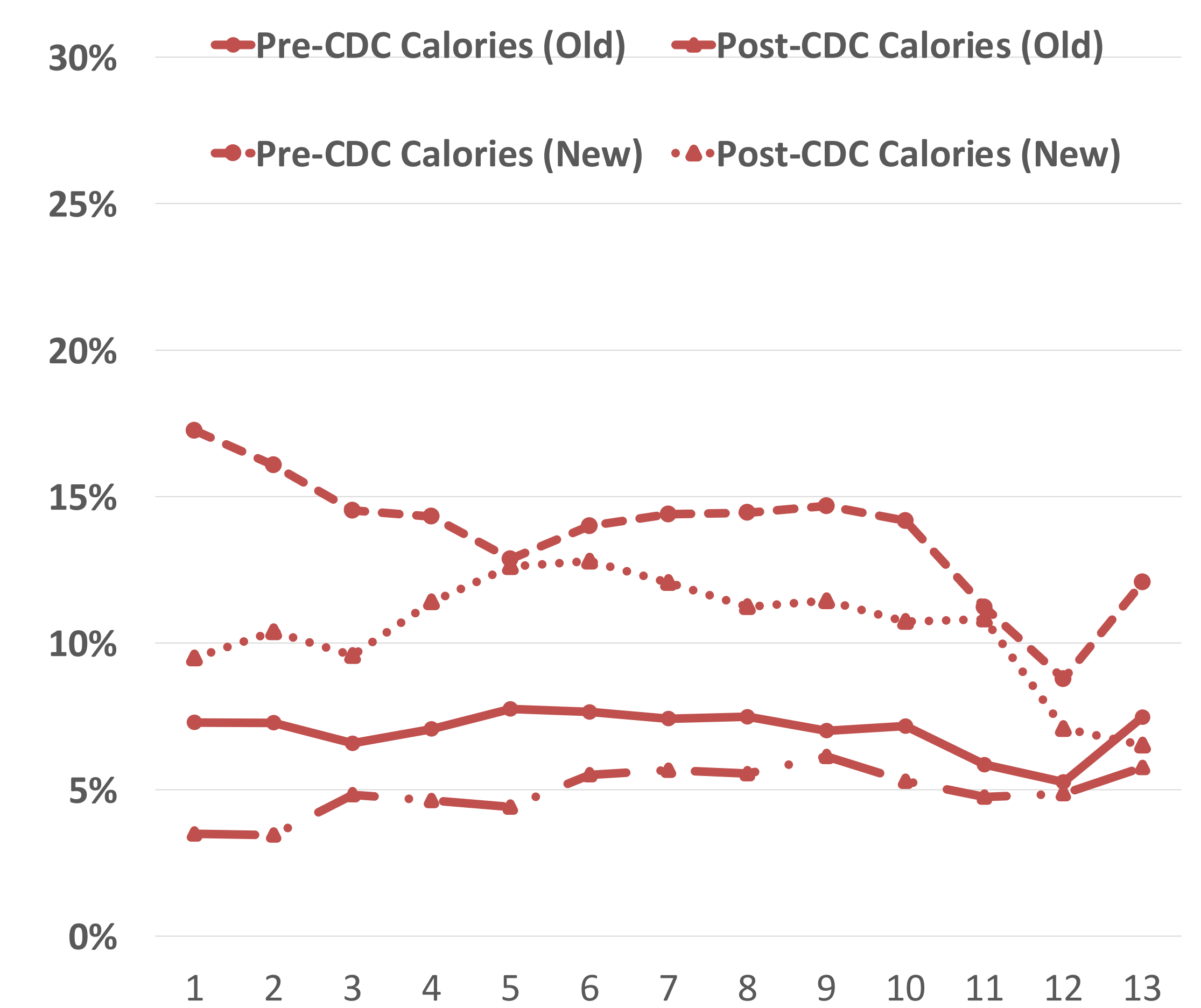
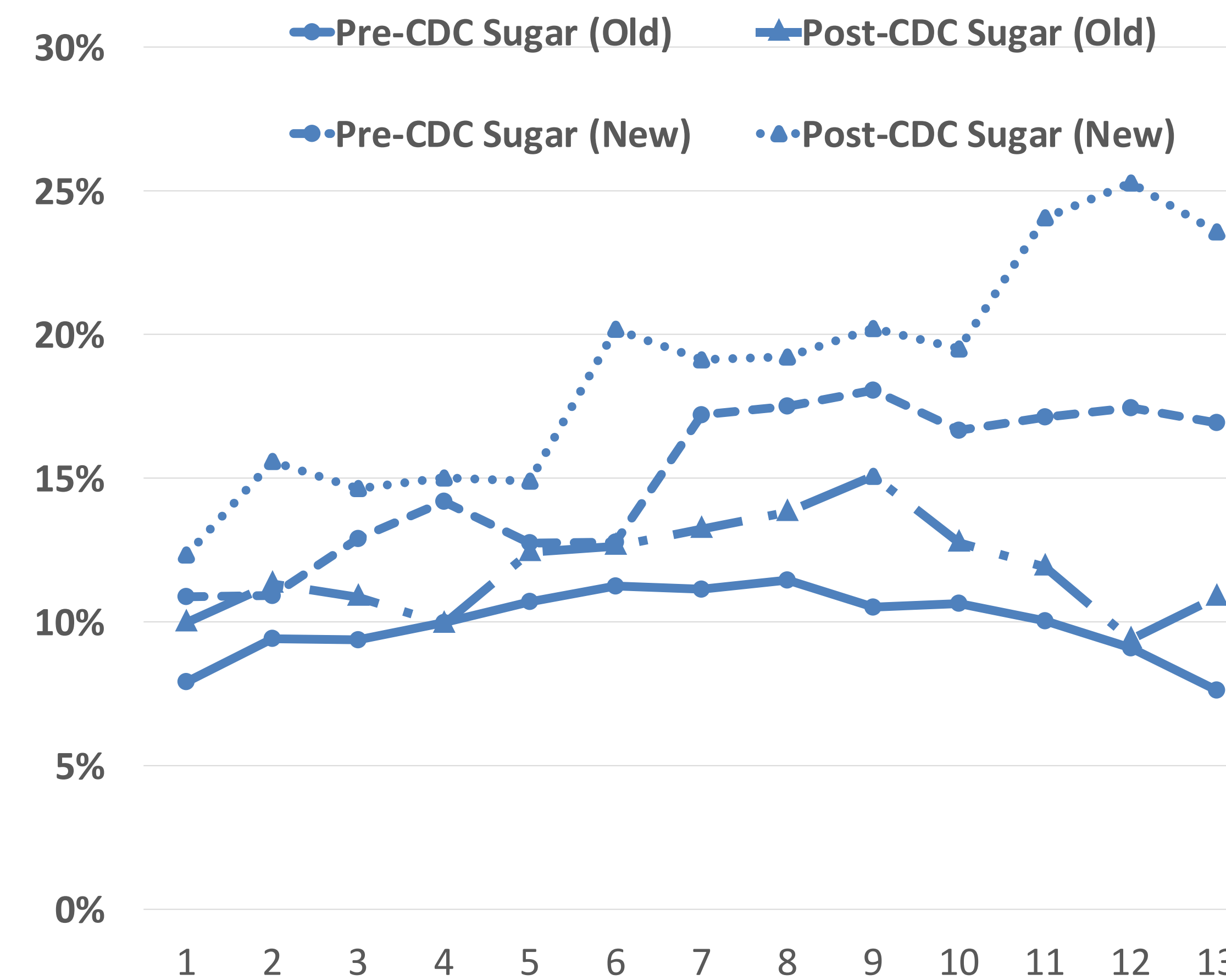
Previous & updated NFLs and definition of AOIs

Nutrition Facts	
Serving Size 2/3 cup (55g) Servings Per Container 8	
Amount Per Serving	
Calories 230	Calories from Fat 70
% Daily Value*	
Total Fat 8g	12%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	12%
Dietary Fiber 4g	16%
Sugars 12g	
Protein 3g	
Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%
* Percent Daily Values are based on a diet of other people's misdeeds.	
Your Daily Value may be higher or lower depending on your calorie needs.	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

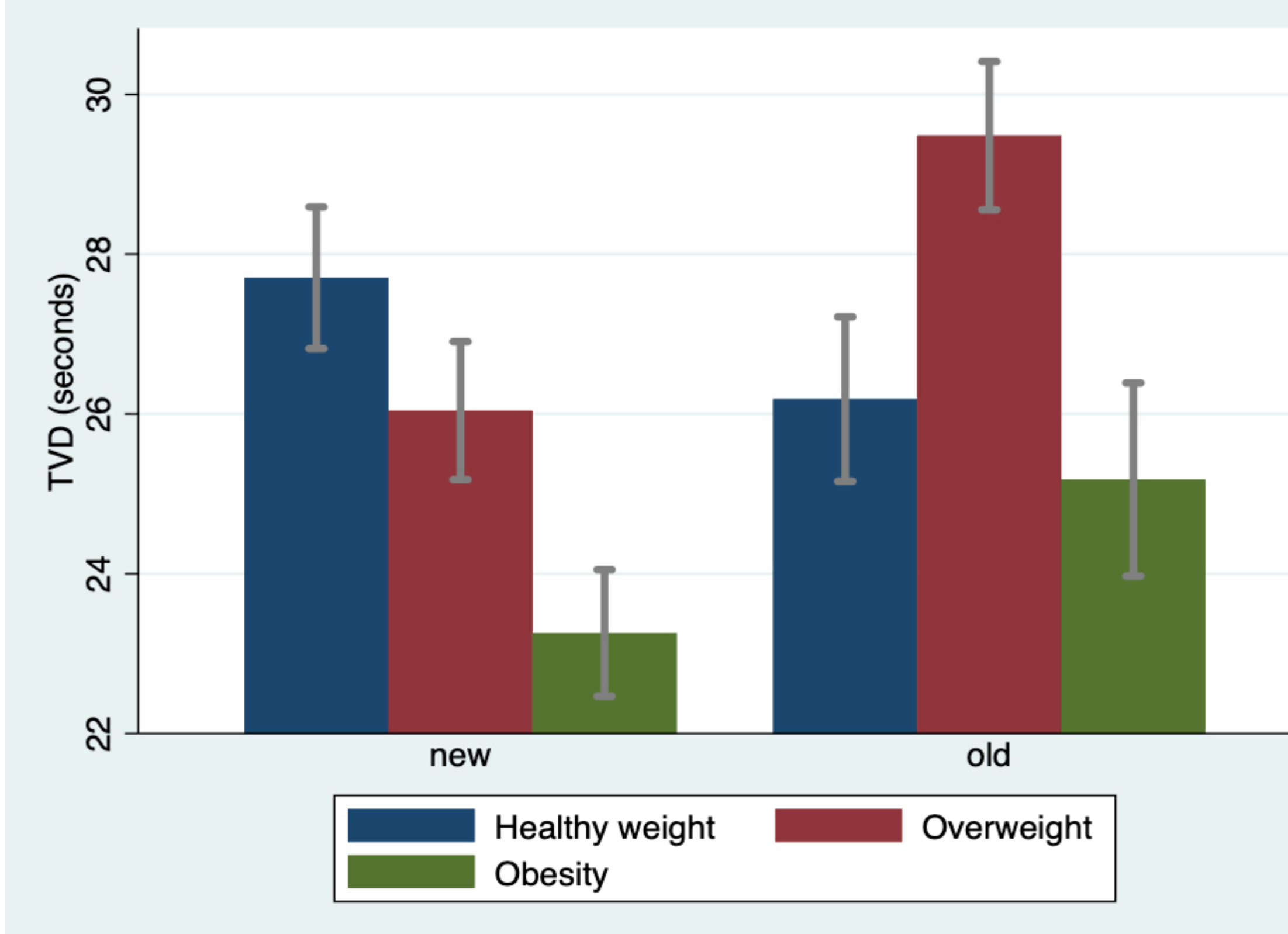
Nutrition Facts	
8 servings per container	
Serving size 2/3 cup (55g)	
Amount per serving	
Calories 230	
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 240mg	6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Nutrition Facts	
Serving size 20 fl oz (591 mL) Servings per container 1	
Amount per serving	
Calories 250	
% Daily Value*	
Total Fat 0g	0%
AOI Full Label	
Sodium 55mg	2%
Total Carbohydrate 69g	25%
Total Sugars 69g	
AOI Sugars	
Includes 69g Added Sugars 138%	
Protein 0g	
Not a significant source of other nutrients.	
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

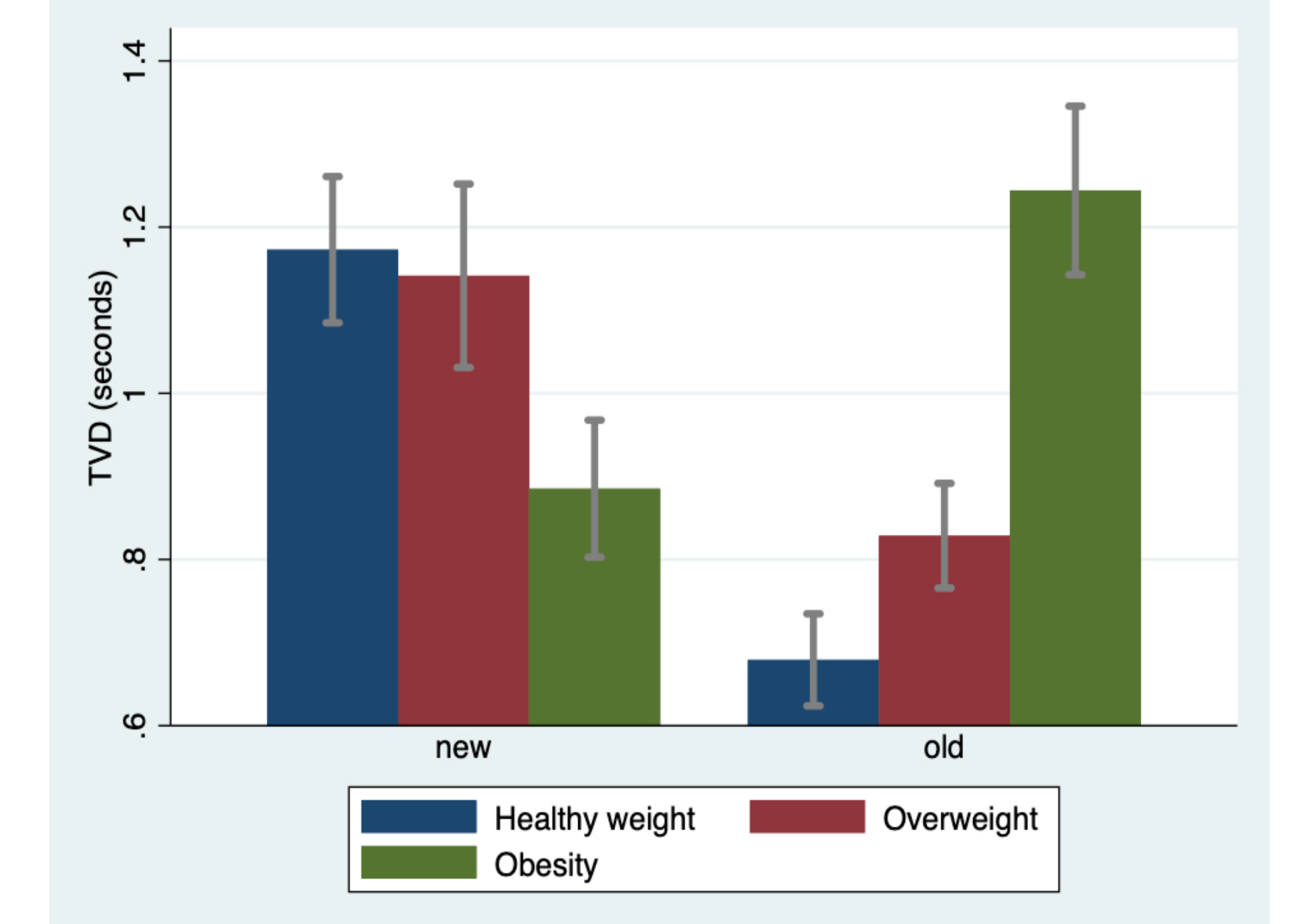
Side-by-side comparison of relative TVD to sugar content (Left) and calories (Right)



Average TVD to CDC information (text format) by BMI Group



Average TVD to CDC information (picture format) by BMI Group



Results and conclusions

- Total visit duration (TVD) results indicated that participants spent more time inspecting the sugar content in the updated NFL, suggesting that updated NFL garnered relatively more visual attention.
- The provision of information about added sugars had a positive impact on participants' visual attention to sugar content. Participants displayed longer visual duration to sugar content after receiving information regardless of viewing previous or updated NFL.
- Obese participants with a body mass index (BMI) of 30.0 or higher paid less visual attention to the CDC information, especially to the text format. They also paid less visual attention to sugar content in the subsequent beverage choices.
- Participants who paid more visual attention to the CDC text showed increased visual attention to sugar content, while those who paid more visual attention to the CDC picture paid less visual attention to sugar content when making beverage choices, particularly with the updated NFL.