

Central Adiposity and Metabolic Profile are Similarly Affected by the Two Common Types of Fructose Containing Sugars, Sucrose and High Fructose Corn Syrup, When Consumed as Part of a Normal Diet

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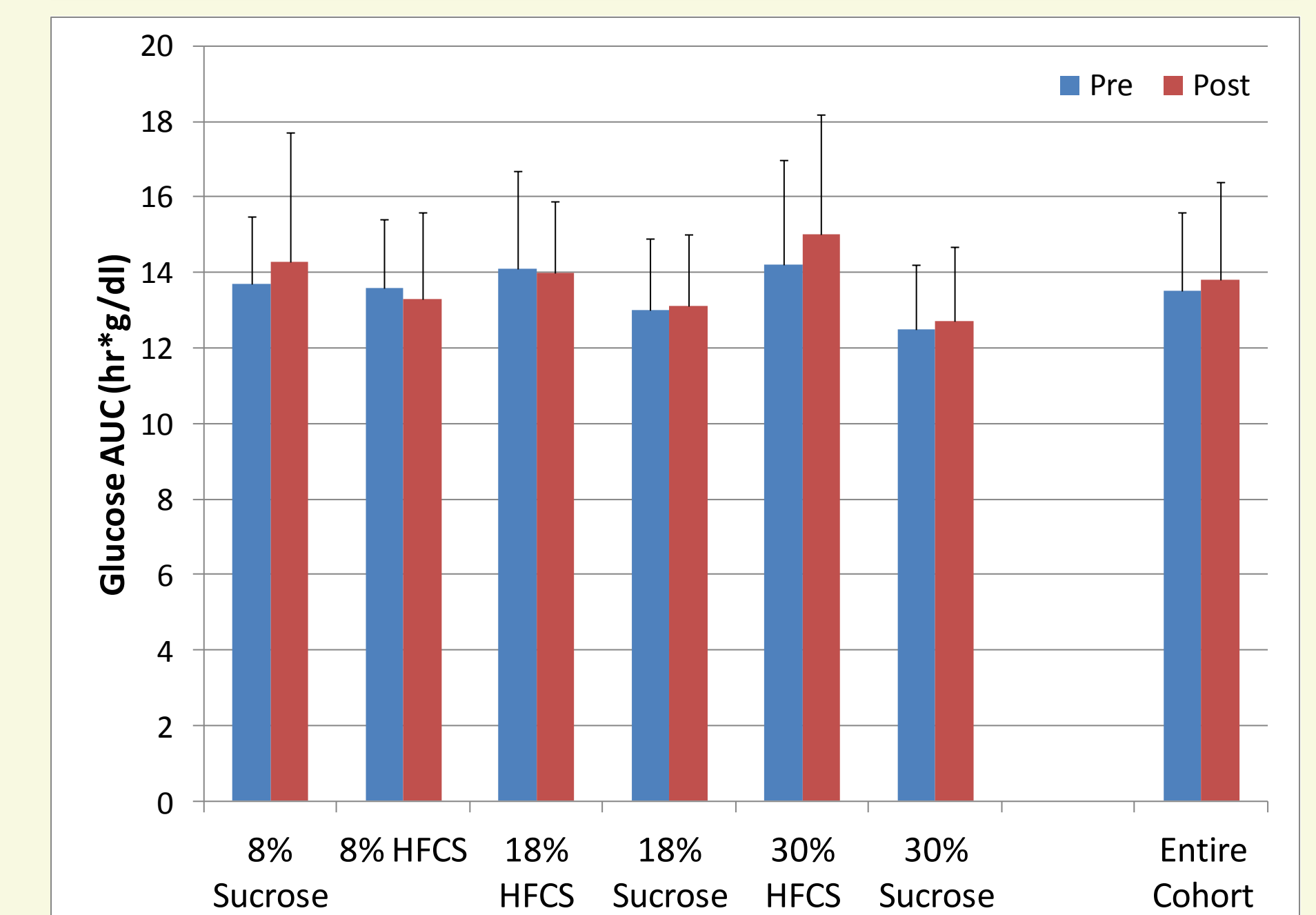
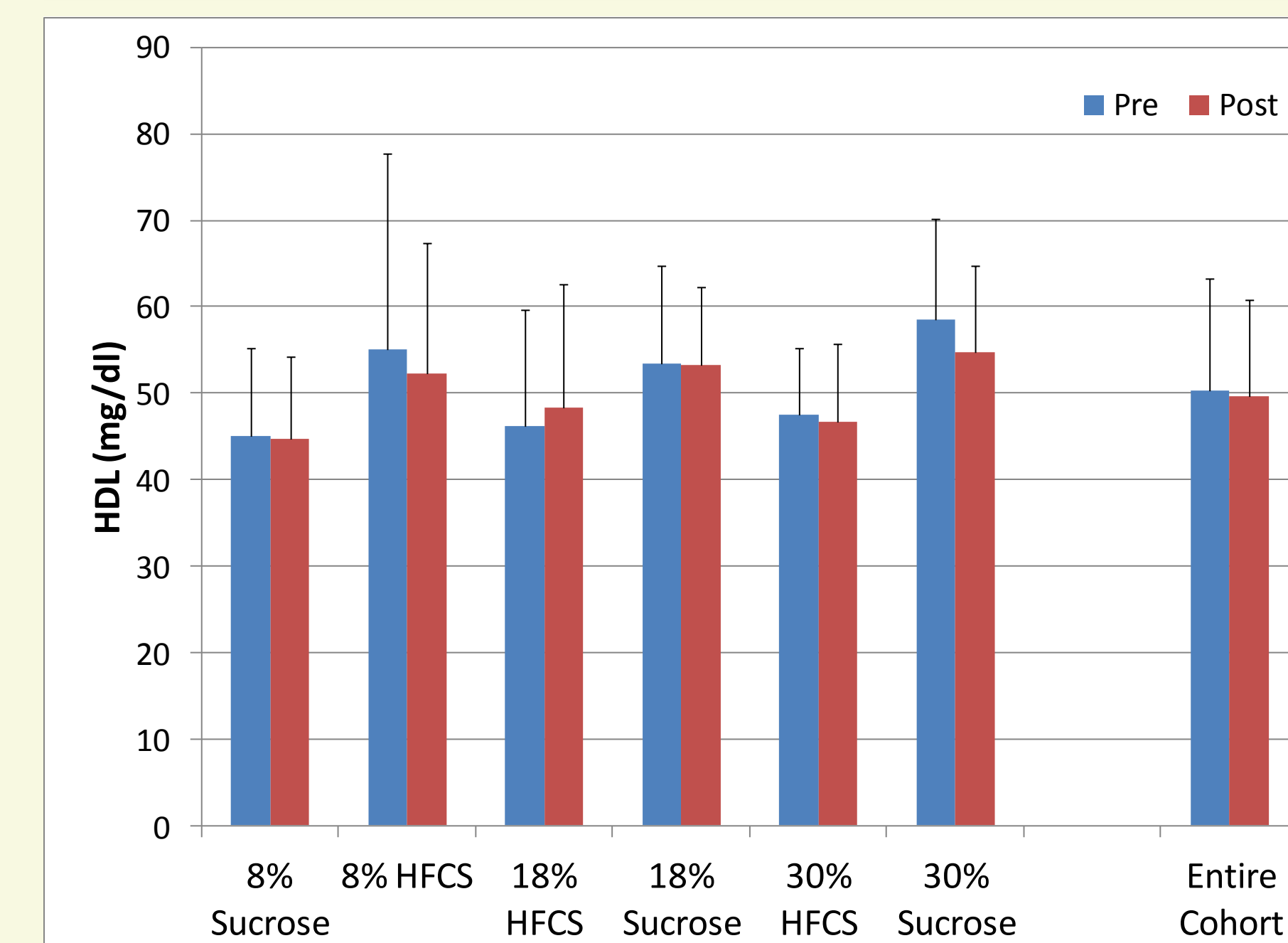
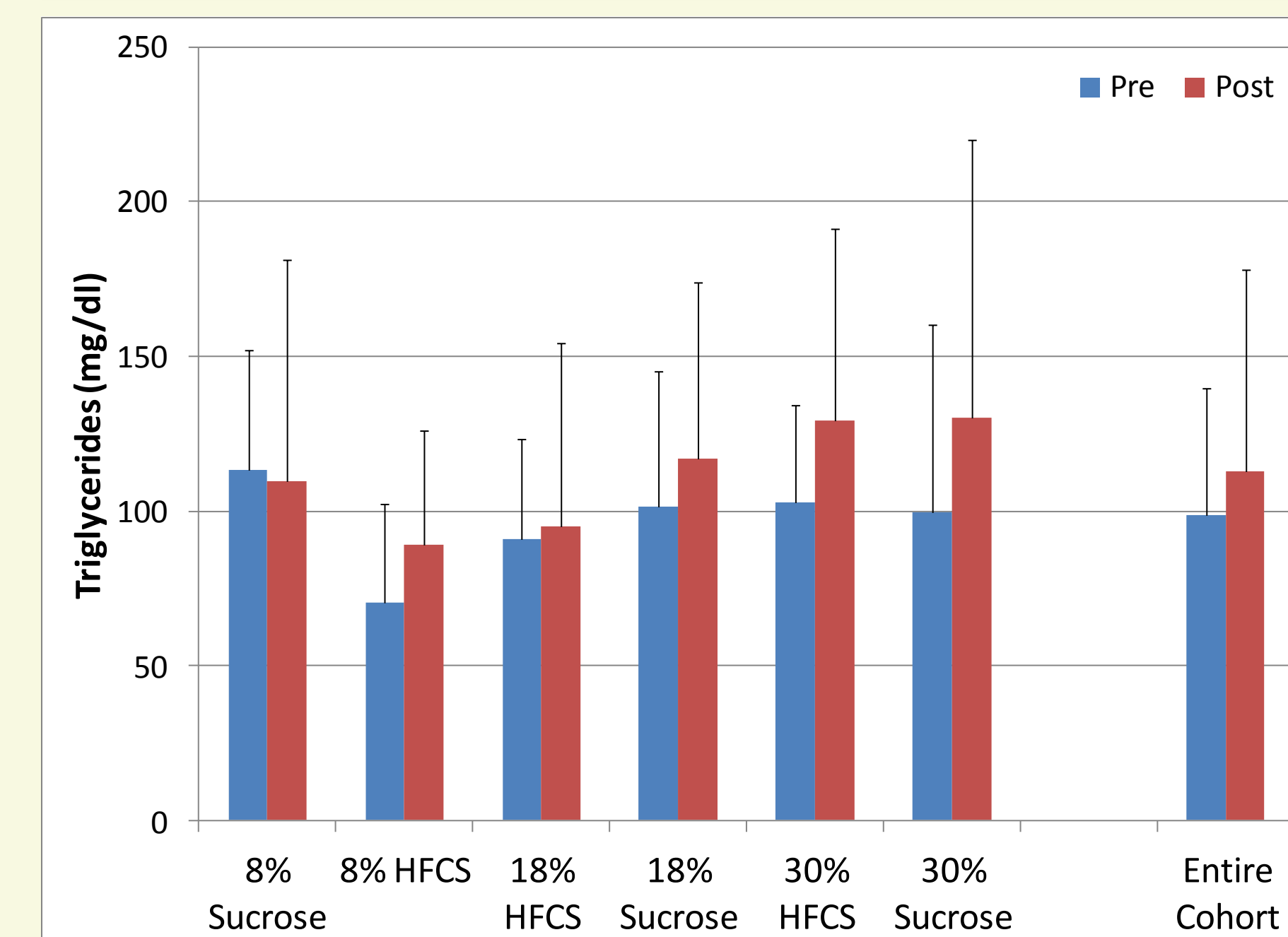
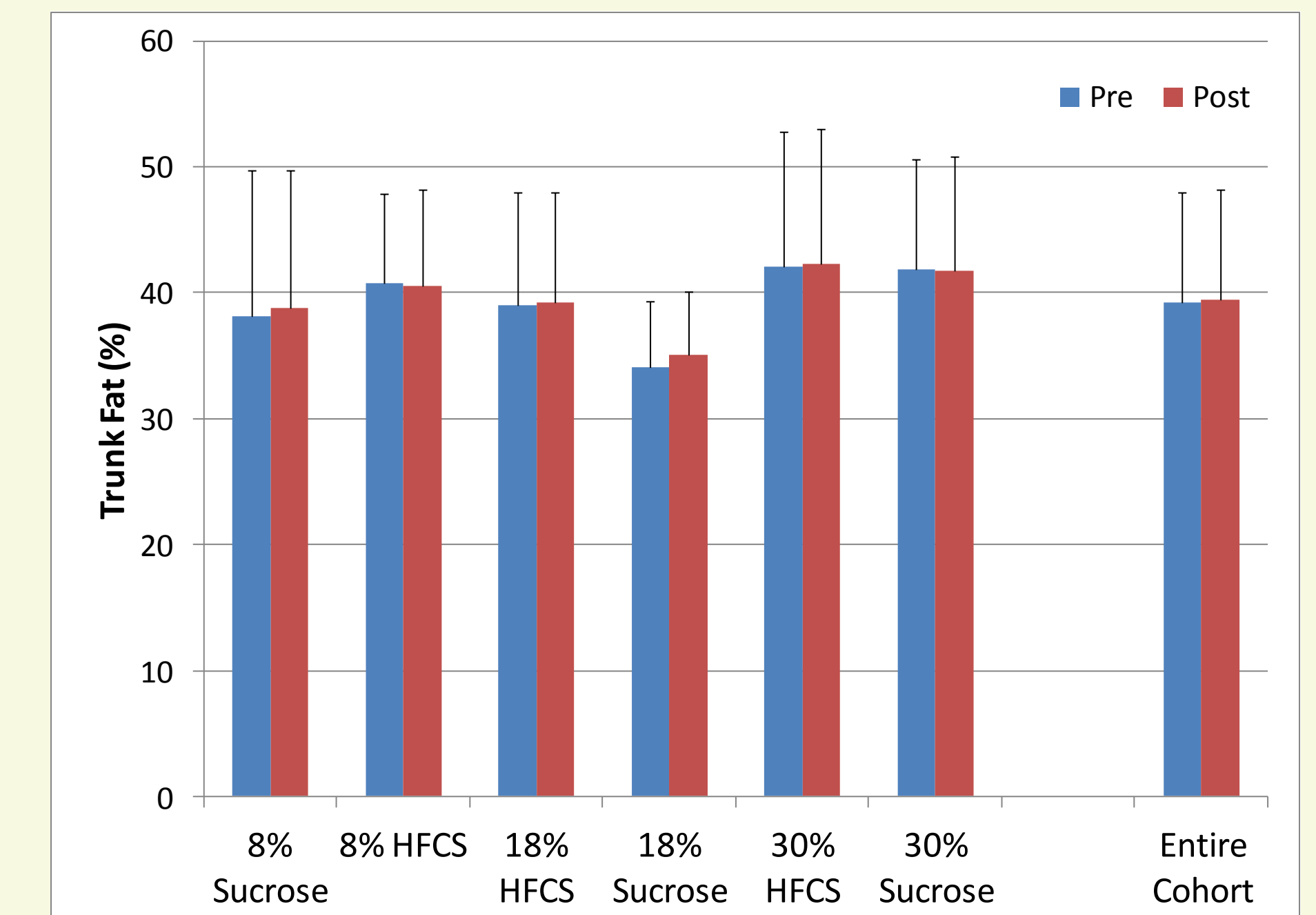
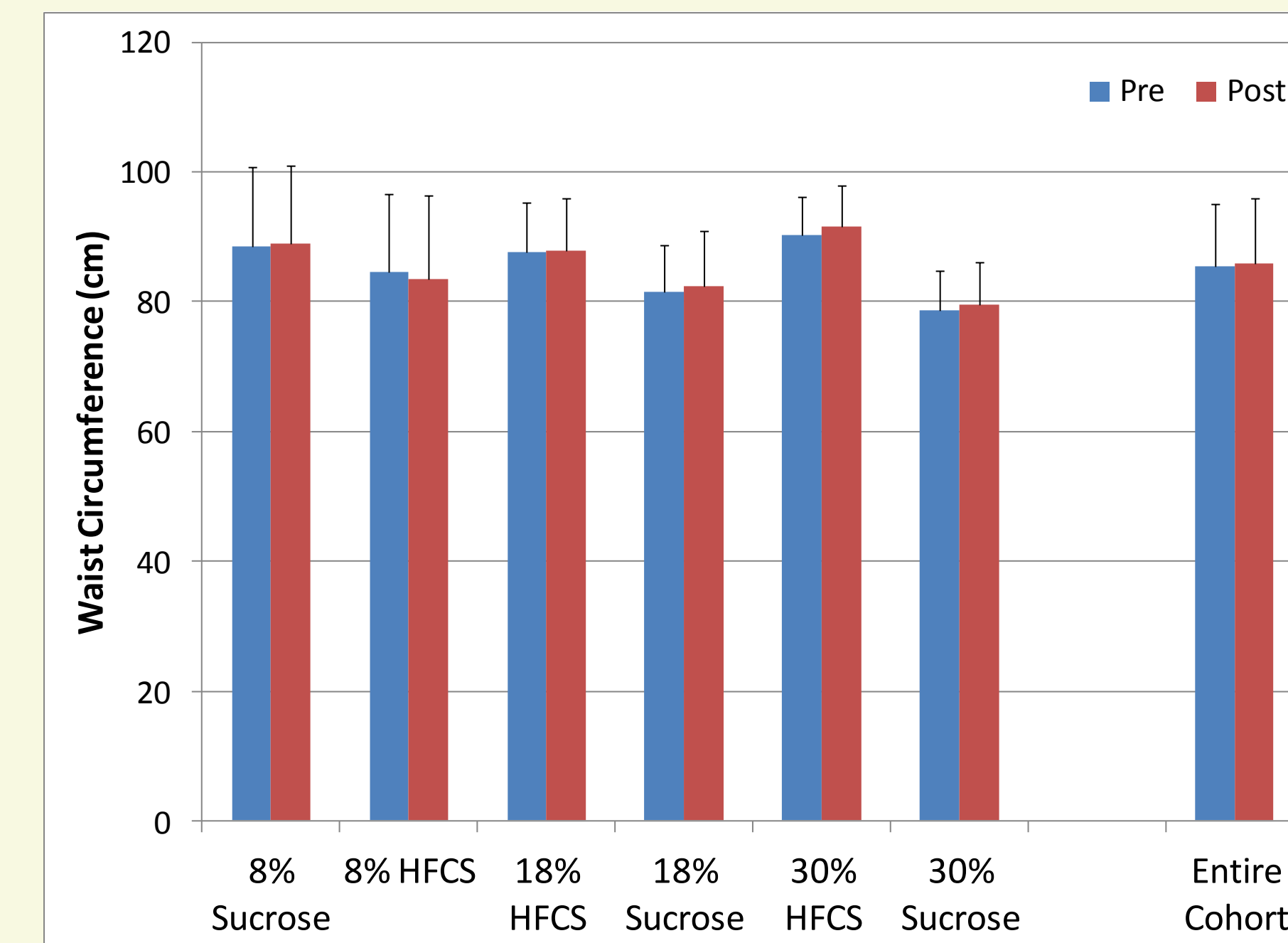
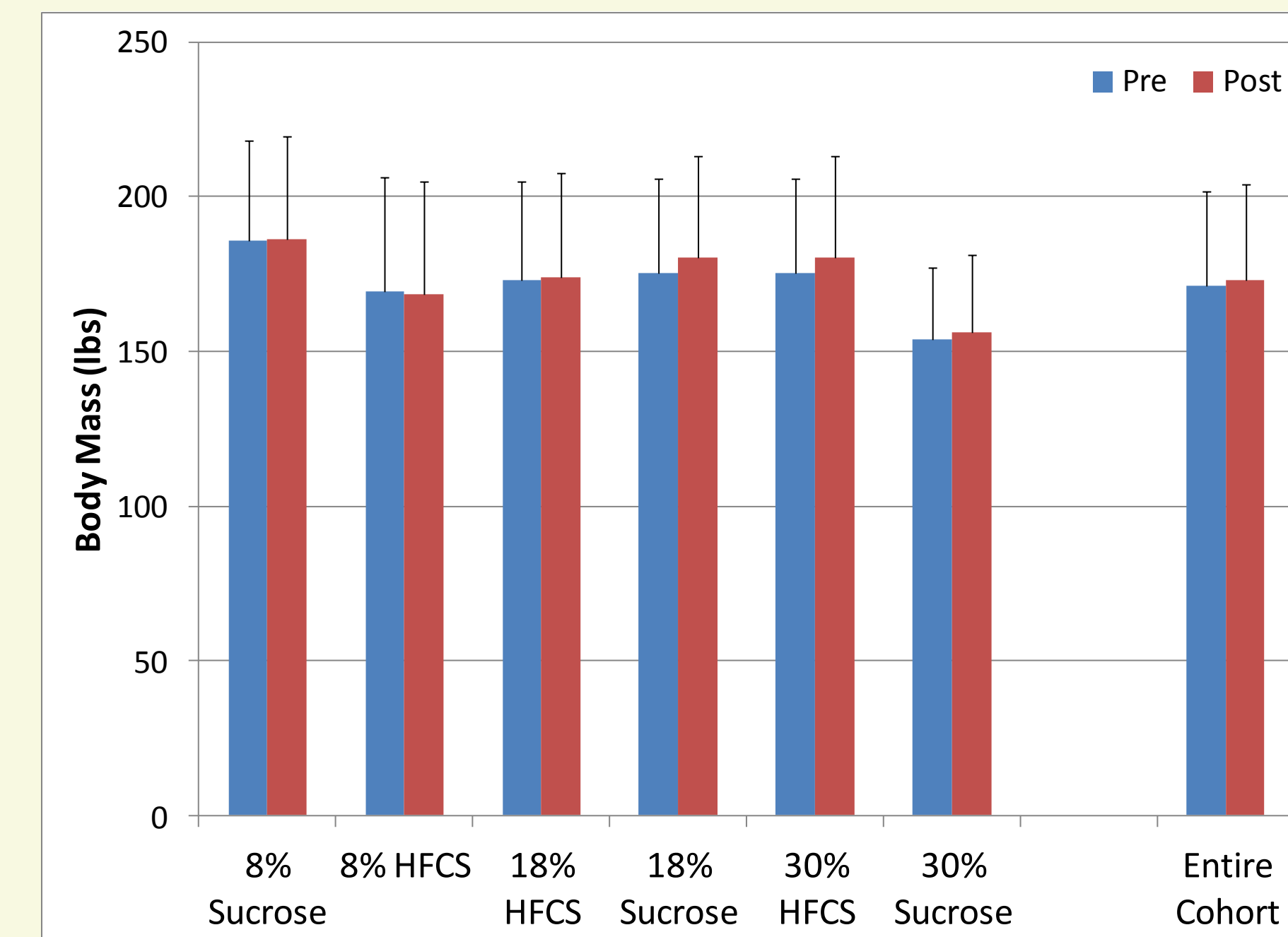
Introduction

- Excess sugar consumption has been singled out as a potential primary factor in the development of obesity and associated metabolic disorders, with fructose containing sugars being particularly strongly implicated.
- Fat accumulation in the abdominal region is particularly relevant in the link between increased adiposity and metabolic disease, such as insulin resistance.
- Pure fructose is rarely consumed in isolation. Instead it is typically commonly consumed along with other sugars, most commonly in the form of sucrose or high fructose corn syrup (HFCS)
- Acute studies have shown them to have equivalent metabolic effects, but few data exist on the longer-term metabolic effects of these two sugars when consumed at levels typical of the general population.

Methods

- This study consisted of sixty-four normoglycemic, normotensive individuals
 - Mean age 42.2 ± 11.7 years
 - Mean BMI 27.3
- Participants consumed low-fat, sweetened milk for ten weeks according to the following random group assignments:
 - 8% total caloric intake provided by added HFCS or Sucrose (25th percentile level of fructose in the American diet)
 - 18% total caloric intake provided by HFCS or sucrose (50th percentile)
 - 30% total caloric intake provided by HFCS or sucrose (95th percentile)
- No structured diet was provided. Instead participants were asked to self regulate eating behavior based on their perception of hunger.
- Abdominal (trunk) fat was measured via iDEXA (GE).
- Data were analyzed using a multivariate analysis of variance with repeated measures.

Results



Time Effect >0.05 and time X group interaction p>0.05 in multivariate analysis.

Discussion & Conclusion

- Consumption of sugars across a wide span of intake levels did not lead to an increase in body mass, central adiposity, or markers of insulin resistance adiposity, even when consumed at the level equivalent of the 95th percentile for fructose.
- HFCS and sucrose showed comparable effects



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