Author’s response to reviews

Title: A longitudinal study of fruit juice consumption during preschool years and subsequent diet quality and BMI

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Response to Reviewer Comments:

1. The reviewer points out that since the time frame of the study (1987-97) was during a period when obesity rates were accelerating rapidly and intake of soft drinks, fruit drinks, high-fructose corn syrup, and 100% fruit juice all were at their peak consumption, we should have been able to see any negative effect of fruit juice that existed. The reviewer makes excellent points and we have added this to the introduction (first paragraph) and the Discussion section (4th paragraph)

2. Reviewer suggests adding the more recent updated version of AAP guidelines for juice consumption. Done.

3. Reviewer suggests discussing how these results differ from and address may of the points made in the AAP policy statement about fruit juice intake (e.g., curbing consumption of fruit juice among children in federal safety net programs, effects of larger serving sizes, and gaps in evidence about effects on diet quality). We have added a number of these points to the introduction and discussion section of the paper.

4. In the Background, paragraph #2, the author's cite previous ref. 8 as a study, rather than a commentary. We have corrected this.
5. Reviewer suggests addressing the Wojcicki recommendation to eliminate fruit juice altogether to address rising obesity rates. We have added this to the end of the 2nd paragraph of the Discussion.

6. Methods: reviewer suggests that we offer more information about the FCS study itself, with references to publications that explain its design, demographics of the population, publications derived from the database, etc. We have added to the methods.

7. In the Discussion, in the paragraphs on the strengths and potential weaknesses of the study, add a comment about the FCS cohort’s ability to be representative of children in the U.S. We have added this to the discussion.

8. Describe why the children were categorized in the 4 age-groups chosen This has been added to paragraph 1 of the Statistical Analysis section.

9. Table 1. The study show a positive correlation between higher maternal education and consumption of fruit juice. These data differ from the published findings of Drewnowski and Rehm, who found an inverse relationship between SES and fruit juice consumption. A discussion of this issue has been added to the end of the Discussion.

10. The reviewer comments on the striking the dose effect of juice consumption the tracking of whole and total fruit and HEI scores among these initially 3-6 years old preschoolers. We have added a reference from this same cohort showing the strong tracking of diet from preschool to adolescence.

11. The reviewer asked for information on the HEI as a measure of diet quality. We have added a reference on the HEI to the Methods section of the paper.

12. The consumption of individual vitamins and minerals at baseline are listed in Table 1. Is there data from subsequent screenings, as well? If so, which micronutrients were major contributors to the HEI scores at different ages among FJ consumers and non-consumers? Since the HEI scores are based largely on food groups and since it would be very difficult to link individual nutrients to these food groups, I am afraid this would not be feasible to do.

13. Discussion paragraph #3 cites another longitudinal 10-year study exists, which found that FJ was associated with overweight. The citation is from Auerbach et al. Cite the original study instead. It would be worth elaborating and discussing how the FCS study compares and contrasts with this other longitudinal study. After re-reading these references, we have chosen to eliminate part of this paragraph and only reference the overall results from Auerbach rather than any of the individual studies.