

A Daily Popcorn Snack Increases Whole Grain Intake

K. Reimers, PhD, RD¹, T. Angelopoulos, PhD², V. Nguyen, MS, RD³, J. Rippe, MD³

¹ConAgra Foods, Inc., 5 ConAgra Drive, Omaha, NE 68102, ²University of Central Florida, Orlando, FL and ³Rippe Lifestyle Institute, Celebration, FL

Background

Popcorn is a whole grain food, and population-based research shows a positive relationship between popcorn intake and whole grain consumption.¹ Increasing whole grains is a key recommendation of the Dietary Guidelines for Americans 2010 due to the association between whole grain foods and reduced risk of chronic diseases such as CHD and type 2 diabetes.² Currently, usual intakes of whole grain foods by U.S. adults (0.6 ounces) is 20% of the recommended three ounce equivalents per day; fewer than 5% of Americans consume the minimum recommended amount of whole grains.² Popcorn helps overcome barriers to whole grain intake because it is a familiar, highly preferred food. Popcorn currently provides 12.4% of all whole grain consumption.³ Little is known about the dietary impact of increasing popcorn intake on whole grain, non-whole grain, and other food group intakes.

References

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3. Jonnalagadda SS, Harnack L, Liu RH, McKeown N, Seal C, Liu S, Fahey GC: Putting the whole grain puzzle together: health benefits associated with whole grains--summary of American Society for Nutrition 2010 Satellite Symposium. *The Journal of Nutrition* 141:1011S-22S, 2011.

Purpose

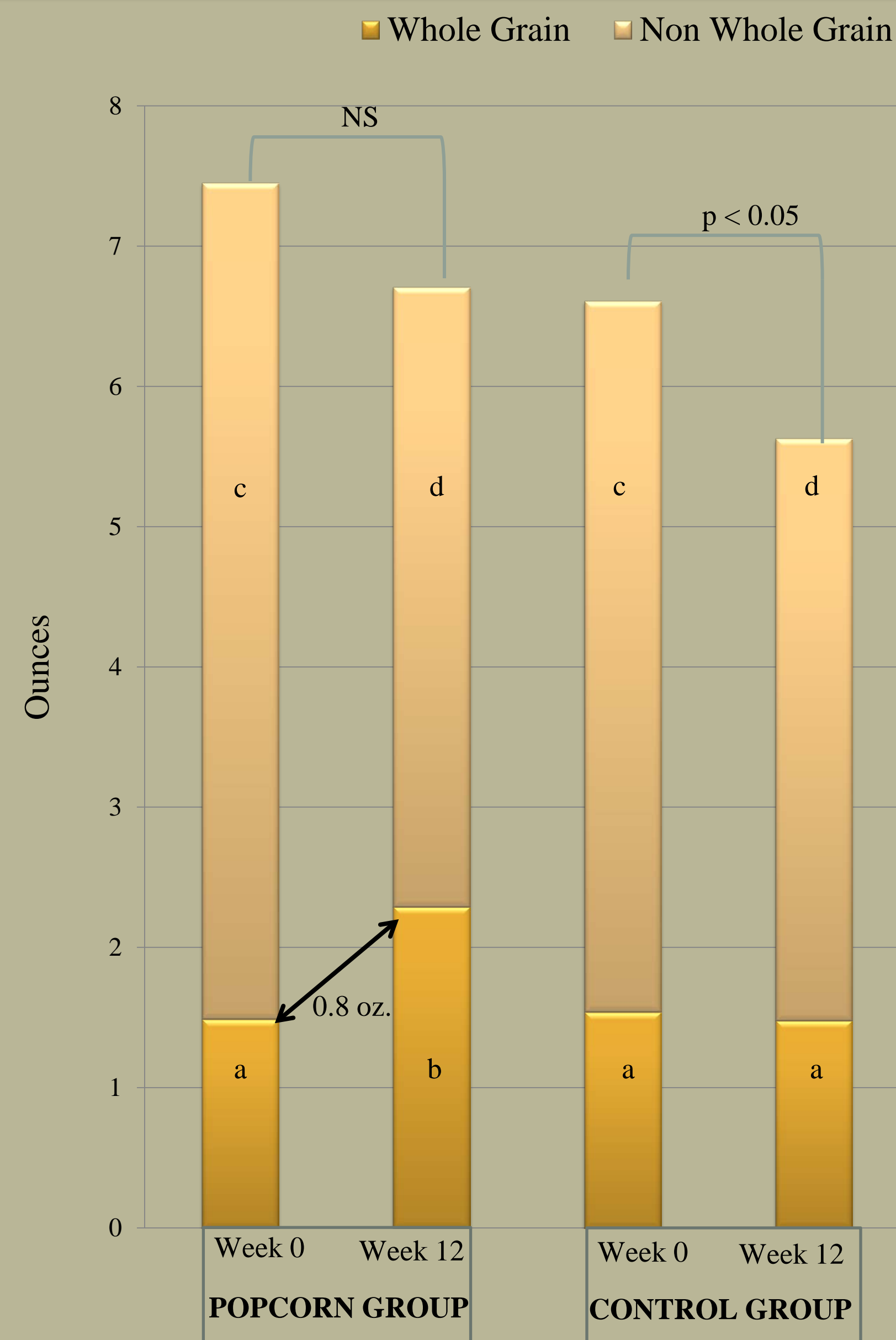
To determine the effect of increased popcorn intake on total whole grain consumption and consumption of other food groups

Methods

Participants (n=117, age= 52 ± 10 years) consumed in a random fashion either a daily popcorn snack or avoided popcorn (control) for three months, while otherwise consuming their usual diet. The popcorn snack was six cups (100 kcal) 94% fat-free popcorn (Orville Redenbacher's SmartPop!®, ConAgra Foods, Inc.). Participants recorded three-day dietary records at baseline and 12 weeks. NDSR software was used to analyze food group intake. Repeated measures ANOVA was used to determine differences between groups.

Results

Whole and Non-Whole Grain Intake by Popcorn and Control Groups at Baseline and Week 12

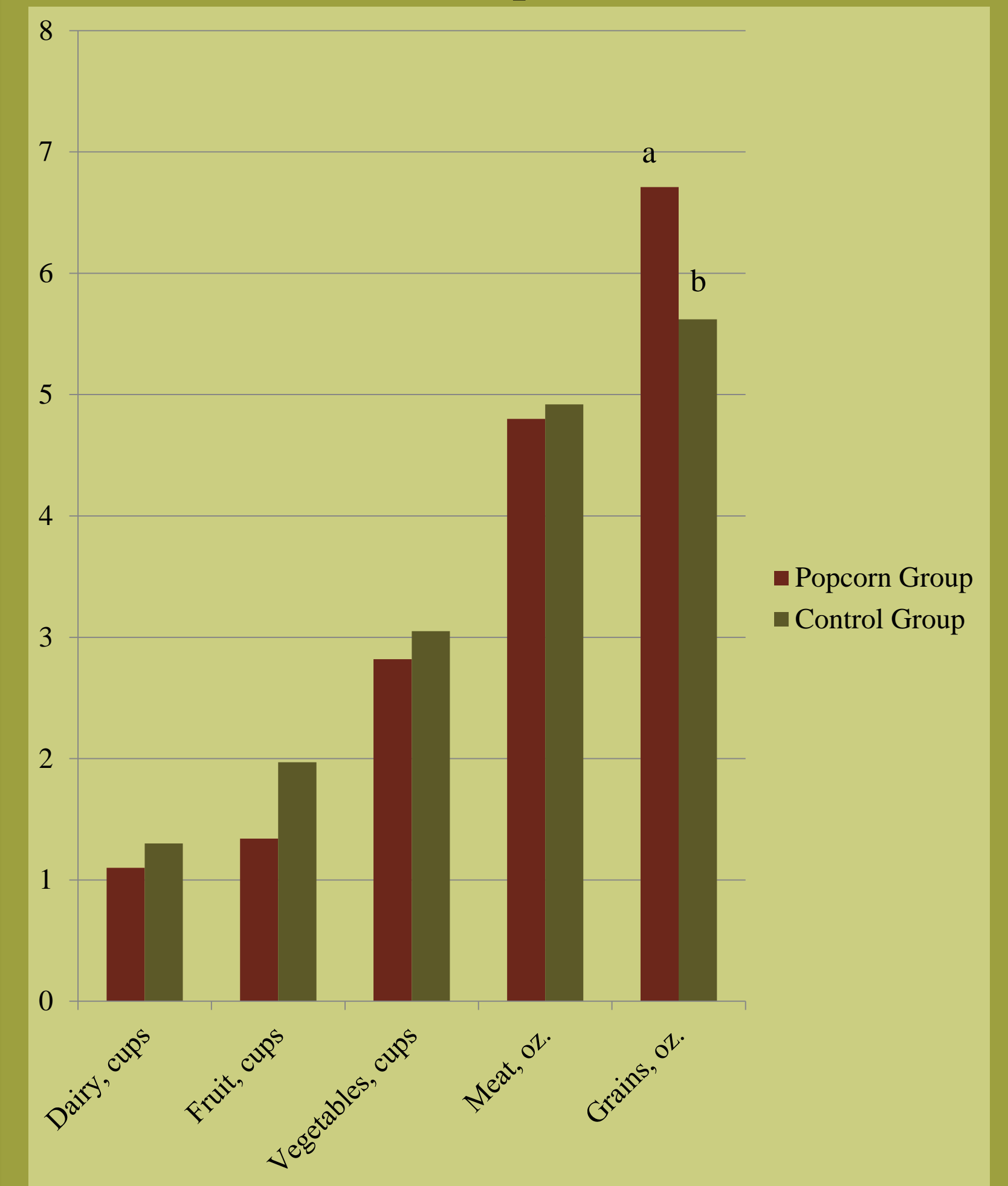


Unlike letters statistically different at $p < 0.05$

- Whole grain increased in the Popcorn Group but not in the Control Group
- Non-whole grain decreased in both groups.
- The net result, total grain remained unchanged in the Popcorn Group, while total grain decreased in the Control Group ($p < 0.05$).

Results

Food Group Intakes of Popcorn Group vs. Control Group at Week 12



Unlike letters statistically different at $p < 0.05$

Conclusions

These results show that popcorn consumed as a snack increases whole grain intake primarily by replacing non-whole grains and does not adversely affect the consumption of other food groups. Encouraging the consumption of popcorn, a well-accepted and familiar food, can help individuals meet the Dietary Guidelines for Americans 2010 recommendations for whole grain intake.

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