

# High level of satisfaction with 94% fat free popcorn when incorporated daily into a reduced calorie diet

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## Abstract

Two of the primary obstacles in following a weight-loss diet are hunger and the desire to snack. As such, it is important that the effects of different snacking habits on body weight are understood. Popcorn is a whole grain food, a good source of fiber and can be found as a low-fat option, and therefore may be incorporated into beneficial snacking strategies for people following a weight-loss diet.

We assessed how well tolerated the daily consumption of 94% fat-free popcorn (100Kcal) is when incorporated into a hypocaloric diet for 12 weeks. One hundred twenty five people (age 52.2 ± 9.3 years) were randomly assigned into one of two groups: hypocaloric diet and popcorn (n=64) or usual diet and popcorn (n=61). Participants completed an exit questionnaire regarding their satisfaction with the dietary intervention.

Hypocaloric diet participants (% affirmative response) reported the daily popcorn snack helped them 1) stay on track with weight loss (85%), 2) satisfy hunger (94%), 3) snack healthier (97%), and 4) produced more emotional satisfaction than their usual snacks (73%). There was not a single response of dissatisfaction with daily consumption of popcorn.

These data suggest a daily single serving of 94% fat-free popcorn is an effective physiologic and psychologic aid for adherence to a reduced calorie diet and is an appropriate choice for individuals seeking weight-loss or weight-maintenance.

## Background

A number of recent market research surveys show that at any one time, over 50 percent of overweight adults in the U.S. report they are “on a diet” or trying to lose weight. Dieters face challenges of hunger and the desire to snack when following a weight loss plan. In general, obese individuals consume a greater variety and larger portions of snack foods (Raynor et al 2005). Some experts perceive snacking as an uncontrolled eating behavior, predisposing to weight gain and obesity. Others argue that smaller, more frequent meals may help curb hunger. Healthy, but satisfying options such as high-fiber, low-fat popcorn may have the potential to assist in weight loss efforts.

## Methods

One hundred twenty-five overweight or obese sedentary subjects (BMI 27-37) between the ages of 35 to 70 participated in this randomized study that compared the effects of daily consumption of a 100 Calorie bag of 94% fat-free popcorn as a component of either a hypocaloric diet (HypoPop, n=64) or a usual diet (UsualPop, n=61) for 12 weeks. The HypoPop group completed a questionnaire assessing physiological and psychological measures at the end of the 12 week intervention.

Figure 1. Questionnaire distributed to HypoPop after 12 weeks

**SmartPop! Challenge: End-of-Study Questionnaire for Group 1**

Please think about your experience with eating a 100 calorie mini bag of SmartPop! popcorn every day as you answer the following questions.

- Did replacing your usual snack with SmartPop! make you feel like your snacking was healthier?  Yes  No
- Did the SmartPop! snack help you stay on track with your weight loss plan?  Yes  No
- Was the SmartPop! Challenge simple to follow?  Yes  No
- Did the SmartPop! Challenge help you gain a sense of control over your eating habits?  Yes  No
- Did eating the SmartPop! snack help take the edge off your hunger?  Yes  No
- Did eating the SmartPop! snack help fill you up?  Yes  No
- Did eating the SmartPop! snack help you eat less at the next meal?  Yes  No
- Did eating SmartPop! help you feel more emotionally satisfied compared to snacks you usually eat?  Yes  No
- Did eating SmartPop! help satisfy your hunger?  Yes  No
- Did participating in the SmartPop! Challenge help you feel healthier than before the Challenge?  Yes  No
- Did participating in the SmartPop! Challenge help you feel more energetic?  Yes  No
- Did participating in the SmartPop! Challenge help you feel better about yourself?  Yes  No
- Did participating in the SmartPop! Challenge help you feel more confident?  Yes  No
- Please add any other comments you would like to make about your experience eating SmartPop! snacks.

## Results

Table 1. HypoPop responses about the daily popcorn snack after 12 weeks

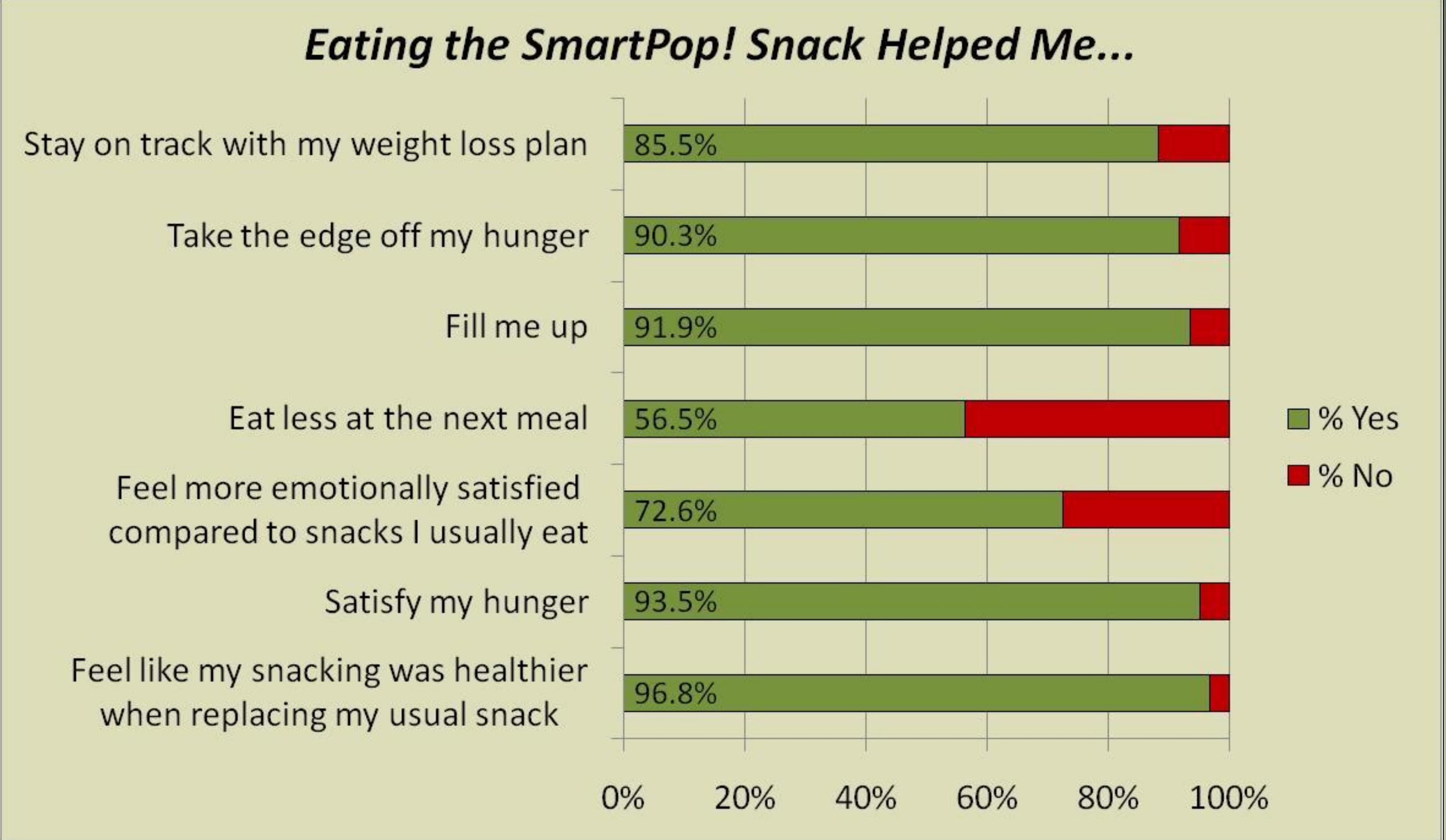
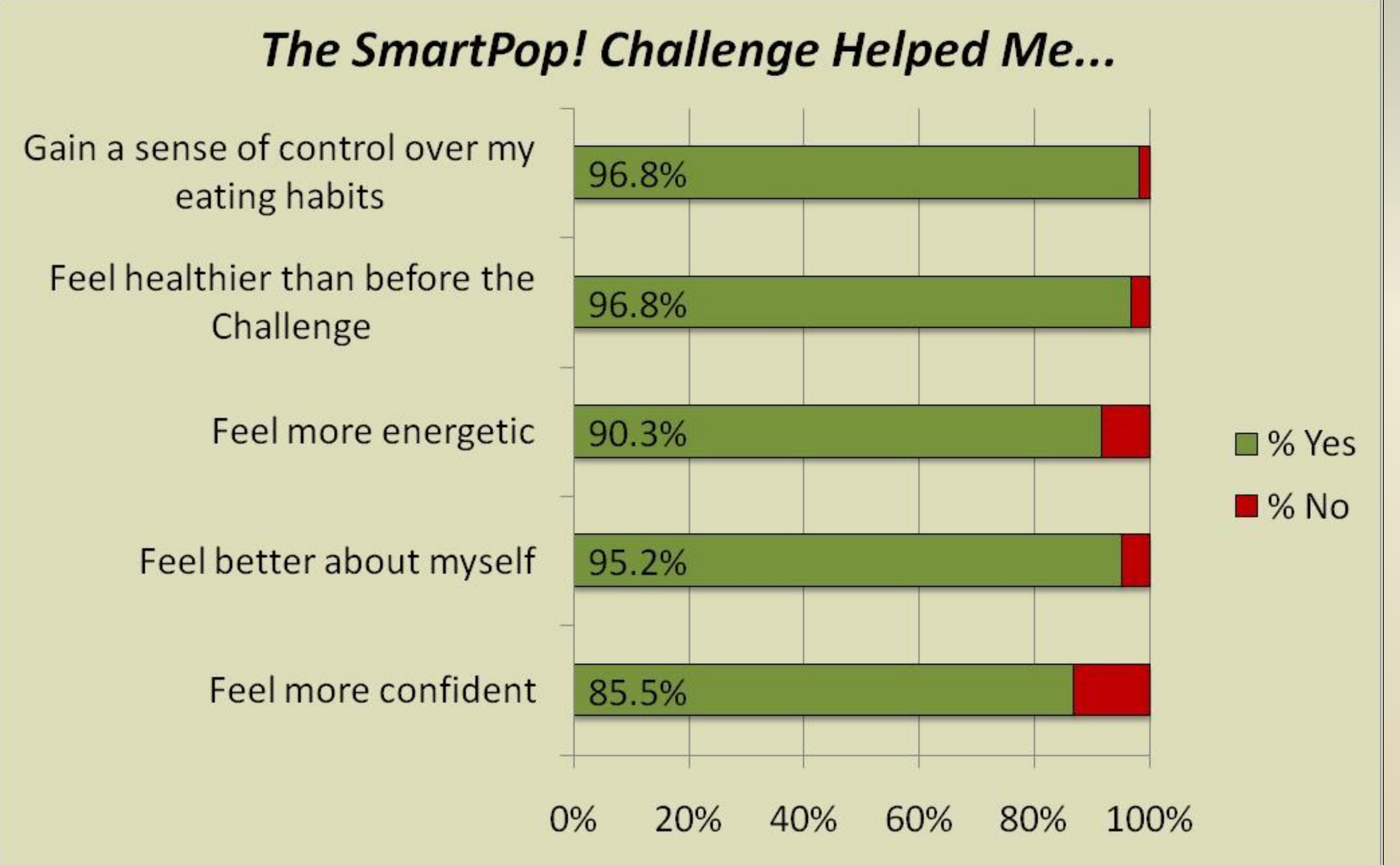


Table 2. HypoPop responses about the daily popcorn snack plus reduced calorie diet



## Conclusions

Results support that daily snacking on 94% fat-free, whole grain popcorn may be an effective physiologic and psychological aid for adherence to a reduced calorie diet in overweight and obese individuals.



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