

# The Impact of *Crunchy Wednesdays* on Happy Meal Fruit Orders: Analysis of Sales Data in France, 2009–2013

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## ABSTRACT

**Objective:** Beginning in September, 2010, all McDonald's restaurants in France offered free fruit with every Happy Meal sold on the first Wednesday of the month. Sales data were used to determine the impact of free fruit promotion on the proportion of regular Happy Meal fruit desserts sold.

**Methods:** Trend analyses examined the proportion of fruit desserts for 2009–2013. Analyses also compared fruit orders on *Crunchy Wednesdays* with other weekdays.

**Results:** Happy Meal fruit desserts rose from 14.5% in 2010 to 18.0% in 2011 and to 19.4% in 2013 ( $P < .001$ ). More Happy Meal fruit desserts were ordered on *Crunchy Wednesdays* compared with other weekdays ( $P < .001$ ). Orders of cherry tomato sides and water as a beverage on *Crunchy Wednesdays* were unaffected.

**Conclusions and Implications:** Based on sales transactions data across multiple years, this study provides evidence of the long-term effectiveness of menu promotions aimed at increasing children's consumption of vegetables and fruit.

**Key Words:** fast food, sales data, *Crunchy Wednesdays*, health promotion, Happy Meal (*J Nutr Educ Behav.* 2017;49:236–240.)

Accepted October 4, 2016. Published online November 11, 2016.

## INTRODUCTION

The World Health Organization promotes fruit and vegetable consumption among children as part of its global strategy for better diets and better health.<sup>1,2</sup> Economic factors can shape dietary choices through the provision of incentives and other rewards.<sup>3–5</sup> However, most economic interventions aimed at promoting fruit and vegetable consumption were short-lived and their durability was unclear.<sup>3,4</sup>

One notable exception is the US Department of Agriculture (USDA) *Fresh Fruit and Vegetable Program* (FFVP), which was launched nationally in 2008 and which continues to provide fresh fruits and vegetables as snacks to schoolchil-

dren at no cost.<sup>6</sup> Evaluation studies conducted by the USDA showed that the FFVP increased children's average fruit and vegetable consumption on FFVP days by about one quarter of a cup.<sup>7</sup> Since September, 2010, all McDonald's restaurants in France have offered a free bag of apple slices with grapes or a pineapple spear with every Happy Meal sold on the first Wednesday of each month.<sup>8</sup> The promotion, which became known as *Crunchy Wednesdays*, or *Mercredis à Croquer*, added fruit to the regular Happy Meal dessert, which could also be fruit. The questions asked here were similar to those posed by the US Congress regarding FFVP evaluation in the 2008 Farm Bill.<sup>7</sup> First, did total fruit orders rise on

*Crunchy Wednesdays* relative to control days? Second, was there evidence of a further impact on the rest of the Happy Meal, such as more orders for cherry tomatoes or plain water as a beverage?

Similar to in the US, fruit and vegetable consumption in France falls well below the national 5-A-Day goals. Based on the 2006 national food consumption data for France, 73% of adults and 95% of children failed to consume 5 daily servings of fruits and vegetables as recommended by the French National Plan for Nutrition and Health.<sup>9</sup>

The current study was unique in 2 respects. First, few economic interventions have had access to sales data.<sup>10,11</sup> Typically, sales data have been sourced from mall intercepts and consumer surveys, sometimes backed by restaurant receipts.<sup>12–17</sup> Second, there were few precedents for analyses based on multiple-year sales data at the national level.<sup>12</sup> This study was based on sales transactions for over 350 million Happy Meals sold in the 1,296 McDonald's restaurants in France between 2009 and 2013.

## METHODS

Happy Meal menu choices at McDonald's France were entrée, side, beverage,

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*Conflict of Interest Disclosure:* The authors' conflict of interest disclosures can be found online with this article on [www.jneb.org](http://www.jneb.org).

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<http://dx.doi.org/10.1016/j.jneb.2016.10.005>

and dessert. Item weights, provided subsequently, allow for comparison with McDonald's USA nutrition facts for popular menu items.<sup>18</sup> Entrées were hamburger (106 g), cheeseburger (120 g), fish filet sandwich (123 g), grilled cheese sandwich (Croque McDo) (95 g), or chicken nuggets (72 g). Side choices were fries (small 80 g), potato wedges (medium 110 g), or cherry tomatoes (60 g). Beverage options were carbonated beverages (25 cL), 100% juices (20 cL), or plain water (33 cL). The 4 dessert options were yogurt beverage (90 g); fruit compote (90 g) or apple banana puree (100 g), year-round fruit (apple slices with grapes, 80 g), and seasonal fruit (pineapple, melon, watermelon, kiwi, or orange, from 65 to 80 g). The fruit was offered in an easy-to-eat format: apple slices or kiwi fruit on a stick. A toy was provided with the meal.

The main dependent variable was the proportion of fruit (year-round or seasonal) ordered as Happy Meal desserts. The researchers also examined the potential impact of the *Crunchy Wednesdays* promotion on other components of the meal (cherry tomatoes and plain water).

Every cash register at each McDonald's restaurant sent transaction data daily to the head office in Guyancourt, France, where it was analyzed using ProClarity software (SPSS Inc., Chicago, IL, 2007). Daily sales data for all 1,296 restaurants were aggregated by day, week, and year. Statistical comparisons were made between Wednesdays and the whole week and between *Crunchy Wednesdays* and the other Wednesdays of the month. To test for statistical differences in the proportion of meals with fruit desserts as a function of time, minimum variance unbiased estimators (U statistics) were computed for each successive pair of months or years. The program used was the French version of Epi Info, a public domain suite of statistical tools made available by the Centers for Disease Control and Prevention. Additional tests were based on 1-way ANOVA with *post hoc* comparisons using SPSS (version 16.0, IBM Corp). Separate analyses were conducted to estimate the popularity of 5 seasonal fruits, provided for varying periods during 2010 and 2013.

Sales data for all Happy Meals sold in France between 2009 and 2013 were made available by the McDonald's business unit in France for further analyses by the research team.

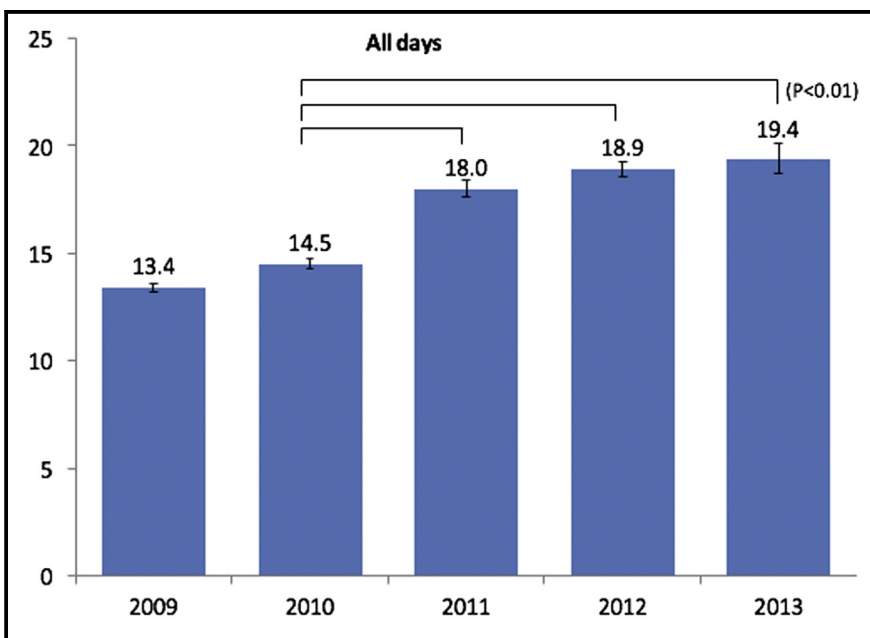


Figure 1. Percentage of Happy Meals with fruit desserts in France, 2009–2013.

## RESULTS

Figure 1 shows that the percentage of Happy Meals with a fruit dessert was 13.4% in 2009 and 14.5% in 2010. The *Crunchy Wednesdays* promotion was launched in September, 2010. As shown in Figure 1, the percentage of Happy Meals with a fruit dessert rose to 18.0% in 2011, 18.9% in 2012, and 19.4% in 2013. The largest increase occurred between 2010 and 2011 ( $P < .001$ ); propor-

tions for later years were significantly different from 2010 ( $P < .001$ ) but not from each other.

Figure 2 compares monthly data from 2010 and corresponding data for 2013, to demonstrate increases in fruit consumption and the seasonal variation. Data analyses by month for 2013 (January to November) showed that fruit desserts were most often ordered in the summer months of July and August.

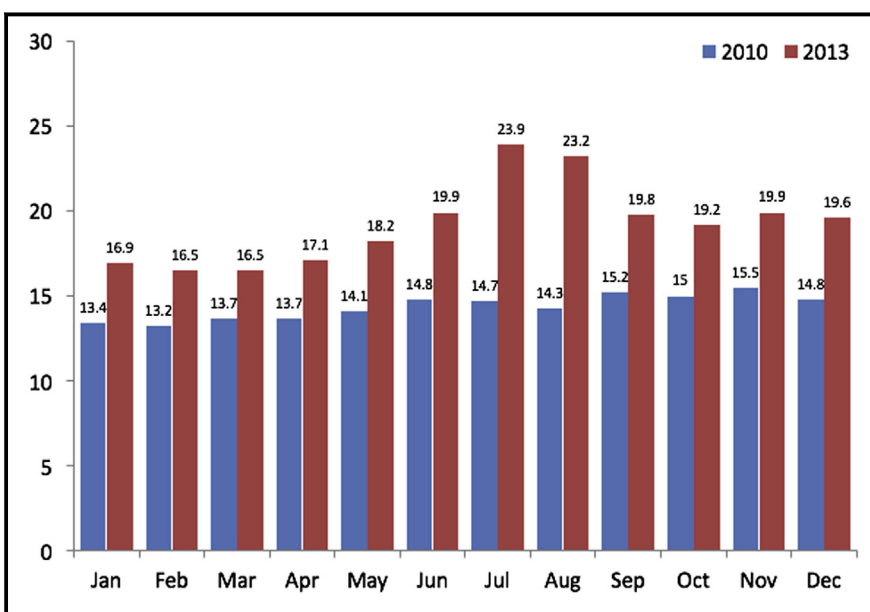


Figure 2. Effect of seasons on percentage of fruit orders as Happy Meal desserts for children. Data are for January to November, 2013, by month.

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