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Nutrition Facts use in relation to eating behaviors and healthy and unhealthy weight control behaviors:

Original Research Article

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Abstract

Objective—Investigate the relationship between use of Nutrition Facts labels on packaged foods and weight-related behaviors.

Design—Cross-sectional survey in 2015–2016.

Participants—Young adult ($N = 1,817$, 57% women, average age 31.0 ± 1.6) respondents to the Project EAT (Eating and Activity in Teens and Young Adults)-IV survey, the fourth wave of a longitudinal cohort study.

Variables measured—Use of Nutrition Facts labels on packaged foods; healthy, unhealthy, and extreme weight-control behaviors; intuitive eating; binge eating.

Analysis—Linear and logistic regression models were adjusted for age, ethnicity/race, education, income, and weight status.

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Results—In women, greater Nutrition Facts use was associated with a 23% and 10% greater likelihood of engaging in healthy and unhealthy weight control behaviors, respectively, and a 17% greater chance of engaging in binge eating. In men, greater label use was associated with a 27% and 17% greater likelihood of engaging in healthy and unhealthy weight control behaviors, respectively, and a lower level of intuitive eating.

Conclusions and implications—Messaging concerning healthy use of Nutrition Facts may be needed; health professionals may consider asking clients at risk for disordered eating behaviors about how they may use labels.

Keywords

Food labeling; Body weight maintenance; weight control behaviors; binge-eating disorder; intuitive eating

INTRODUCTION

Obesity, poor dietary quality, and engaging in unhealthy weight control behaviors are prevalent problems among US young adults. Approximately 34% of young adults (20–39 yrs) are at a weight classified as having obesity¹ and unhealthy weight control behaviors are reported by approximately 40% of young men and 50% of young women.² Dietary quality decreases during the transition from adolescence to young adulthood,³ and young adults are less likely to be motivated by health than older adults.⁴ Despite the nutritional challenges of this developmental period, there is a lack of interventions targeting the promotion of healthy eating and weight gain prevention for young adults.⁵

To better understand weight behaviors in this age group, it is important to consider how young adults trying to control their weight may use resources such as nutrition information. Nutrition Facts labels have been required on most packaged foods in the US since 1990.⁶ Studies have found that 52%⁷ to 73%⁸ of young adults use nutrition labels at least sometimes, and that this practice is associated with healthier dietary intake,^{7,9} higher involvement in healthy weight control behaviors,¹⁰ and healthy eating behaviors such as breakfast consumption.¹¹ However, studies have also found potentially negative associations. Using Nutrition Facts labels on packaged foods has been related to smoking more cigarettes with the intention of controlling weight,¹⁰ and there is evidence that individuals with weight concerns¹² and eating disorders¹³ may be particularly influenced by exposure to menu labels.

The relationship between nutrition label use and weight control behaviors in particular remains poorly understood, and several gaps in scientific understanding still remain. The only identified prior study to specifically assess nutrition label use on packaged foods in relation to multiple healthy and unhealthy weight control behaviors was limited by exclusively surveying women recruited from a reproductive health clinic,¹⁰ leaving a gap in understanding label use in relation to weight control behaviors in men and the general population. Population-based studies are particularly relevant given that Nutrition Facts labels are a population-level intervention with potentially widespread impact.

Additionally, it is unknown how use of Nutrition Facts labels relates to behaviors such as intuitive eating. Intuitive eating is a practice wherein individuals make choices about food and eating based on physical hunger and satiety cues rather than external cues such as time of day or other people eating.¹⁴ This practice has been associated with lower body mass index (BMI) and better psychological health.¹⁵ Measuring the relationship between intuitive eating and Nutrition Facts labels is of interest given that labels are external cues. Therefore, those who use them as prompts for deciding how much to eat “in the moment” may not be eating intuitively. However, it is also possible that, rather than these two behaviors being mutually exclusive, some individuals may use the external cue of a Nutrition Facts label when *purchasing* food, while considering internal cues and intuitive eating when *consuming* food. Thus, measuring if these behaviors are related could fill a gap in understanding how consumers make choices when purchasing and consuming food.

Also understudied is how nutrition label use on packaged foods may relate to binge eating, a form of disordered eating characterized by eating a large amount of food while experiencing the feeling of loss of control.¹⁶ While the relationship between menu label exposure and binge eating disorder¹³ and binge eating¹⁷ has been considered previously due to concern that menu label exposure could impact disordered eating, the relationship between binge eating and use of Nutrition Facts on packaged foods has not been measured. Testing this relationship is important for providing a foundation to better advise individuals who may be at risk for or suffering from binge eating.

The current study investigated the relationship between use of Nutrition Facts labels on packaged foods and weight-related behaviors in a population-based sample of young adults participating in Project EAT (Eating and Activity in Teens and Young Adults)-IV to provide a more informed basis for future nutrition education and messaging. Based on prior research,^{10–13} it was hypothesized that Nutrition Facts use would be positively related to both healthy and unhealthy weight control behaviors. Due to the lack of prior studies, no *a priori* hypotheses were formulated regarding the potential relationships between intuitive eating and binge eating with Nutrition Facts use. Therefore, this study aimed to test if greater Nutrition Facts use was positively, negatively, or unrelated to engaging in intuitive eating and binge eating.

METHODS

Study Design and Sample

Young adults ($N = 1,817$) were surveyed in Project EAT-IV, the fourth wave of a longitudinal cohort study measuring diet, weight, activity, and related factors in adolescents and young adults. Recruitment initially occurred in 31 public middle schools and high schools during 1998–1999 in the Minneapolis-St. Paul metropolitan area, Minnesota, USA.¹⁸ The selected schools served diverse populations in terms of gender, ethnicity/race, and socioeconomic status to allow for comparisons across these characteristics. For the current study, participants who had completed at least one of the follow-up surveys were mailed an invitation to participate in Project EAT-IV during 2015–2016. Of initial participants completing EAT-I,¹⁸ 1,830 (66.1% of those with valid contact information) participated in EAT-IV, primarily via online survey. The question concerning Nutrition Facts use was

completed by 1,817 respondents (99.3%). The University of Minnesota Institutional Review Board approved the study and participants provided written or online informed consent.

Participants had a mean age of 31.1 ± 1.6 years; 57.1% ($n = 1037$) were women and 42.9% ($n = 780$) were men. The ethnic/racial distribution of the sample was 68.7% white, 14.7% Asian American, 8.3% African American, 3.4% Hispanic, and 4.9% mixed or other race/ethnicity.

Survey Development and Measures

Surveys assessed Nutrition Facts use, healthy and unhealthy weight control behaviors, intuitive eating, binge eating, sociodemographic characteristics, and height and weight. Test-retest reliability estimates were determined for ordinal and continuous variables in a subgroup of 103 participants who completed the EAT-IV survey twice within a period of 1 to 4 weeks. All test-retest correlations had P values $< .001$. Percent agreement is reported for categorical variables.

Nutrition Facts use was assessed based on a modified National Health and Nutrition Examination Survey question:¹⁹ “How often do you use the Nutrition Facts panel (or other part of the food label: ingredient list, serving size information) before buying or choosing to eat a food product for the first time?” with a 5-point frequency response where 1=Never and 5=Always (test-retest $r=0.83$). For analysis, Nutrition Facts use was dichotomized by categorizing those responding “most of the time” and “always” as label users, and all other responses as label non-users, similarly to previous studies.^{9, 11}

Weight control behaviors were assessed via previously-reported Project EAT measures.²⁰ Weight control behaviors were classified as healthy, unhealthy, or extreme based upon various sets of recommendations for healthy weight maintenance and more globally for health promotion.²¹ Behaviors classified as “healthy” were those generally recommended for weight loss or maintenance that could reasonably be sustained over time. Six healthy weight control behaviors were assessed via the question stem: “How often have you done each of the following things in order to lose weight or keep from gaining weight during the past year?” Four response options 1=Never to 4=On a regular basis were given for each behavior listed, including exercise (test-retest $r=0.79$), ate more fruits and vegetables (test-retest $r=0.69$), ate less high-fat foods (test-retest $r=0.65$), ate less sweets (test-retest $r=0.66$), drank less soda pop (not including diet pop) (test-retest $r=0.55$), and watched my portion sizes (serving sizes) (test-retest $r=0.61$). For analysis, healthy weight control behaviors were combined and dichotomized by considering anyone who reported performing 1 of the 6 behaviors “on a regular basis” as performing healthy weight control behaviors, similarly to previous research.²² Test-retest percent agreement for the combined variable was 96%.

Behaviors classified as “unhealthy” have been found to be precursors to eating disorders²³ or counterproductive to weight loss or maintenance.²⁴ Nine unhealthy weight control behaviors were assessed via the question stem: “Have you done any of the following things in order to lose weight or keep from gaining weight during the past year?” followed by: fasted (test-retest % agreement=88), ate very little food (% agreement=91), took diet pills (% agreement=96), made myself vomit (throw up) (% agreement=98), used laxatives (% agreement=96), used diet pills (% agreement=96), used diet pills (% agreement=96), used diet pills (% agreement=96), used diet pills (% agreement=96).

agreement=97), used diuretics (water pills) (% agreement =99), used food substitute (powder/special drink) (% agreement=88), skipped meals (% agreement=90), and smoked more cigarettes (% agreement=96). A subset of the behaviors was defined as extreme weight control behaviors, defined as those that often accompany eating disorders:^{25, 26} using diet pills, laxatives or diuretics, and vomiting. Response options for each were yes/no. Test-retest percent agreement for the combined variables (i.e. performing any unhealthy or any extreme behaviors) was 86% for unhealthy and 96% for extreme weight control behaviors.

Intuitive eating was assessed via 7 items drawn from the Intuitive Eating Scale (IES) and IES-2. These items included the 6-question Reliance on Hunger and Satiety Cues (RHSC) sub-scale of the IES-2.²⁷ The RHSC has been previously validated in young adults in relation to eating, body-related, and psychological measures.²⁷ The remaining item was modified from the Intuitive Eating Scale (IES).²⁸ The question stem “How strongly do you agree with the following statements?” was followed by: “I trust my body to tell me *when* to eat”, “I trust my body to tell me *what* to eat”, “I trust my body to tell me *how much* to eat”, “I rely on my hunger signals to tell me when to eat”, “I rely on my fullness (satiety) signals to tell me when to stop eating”, “I trust my body to tell me when to stop eating”, and “I stop eating when I feel full”. Response options ranged from 1=Strongly disagree to 4=Strongly agree. Responses were summed such that higher values indicated greater reliance on internal signals to guide eating (Cronbach’s $\alpha=0.87$, test-retest reliability $r=0.75$).

Binge eating with loss of control was assessed via two questions previously used in this cohort^{29, 30} based on the Questionnaire on Eating and Weight Patterns-Revised (QEWP-R)³¹ and the Eating Disorder Examination Questionnaire (EDE-Q)³² classification of binge eating disorder, which has been validated in young adults.³³ Questions were adapted to assess binge eating in the past year compared to the stricter binge eating disorder criteria of the past 28 days: “In the past year, have you ever eaten so much food in a short period of time that you would be embarrassed if others saw you (binge-eating)?” with responses being yes/no, and if affirmative, “During the times when you ate this way, did you feel you couldn’t stop eating or control what or how much you were eating?” with responses of yes/no. Those who responded yes to both questions were categorized as engaging in binge eating (test-retest agreement=94%).

Covariates

Given previous research showing that nutrition label use⁸ and weight control behaviors^{14, 34} differ by gender, analyses were stratified by gender rather than including it as a covariate. Covariates in adjusted analyses were selected based on prior research on weight control behaviors²² and Nutrition Facts use.⁷ Age was calculated from self-reported birth date and the survey completion date. Education was assessed via the question: “What is the highest grade or year of school that you have completed?” (test-retest $r=0.84$). Household income was assessed via the question: “What was the total income of your household before taxes in the past year?” (test-retest $r=0.94$). Ethnicity/race was assessed via the question: “Do you think of yourself as white, black or African American, Hispanic or Latino, Asian-American, Hawaiian or Pacific Islander, or American Indian or Native American?”, with respondents checking all that applied.

Height and weight were self-reported. BMI was calculated according to convention,³⁵ with BMI under 25.0 considered not overweight, 25.0 and 29.9 considered overweight, and greater than 30 considered obese. A previous Project EAT study validated self-reported height and weight against objective measures, with correlation coefficients of 0.77–0.96.³⁶

Data Analysis

Linear and logistic regressions were used to assess the relationship between Nutrition Facts use (modeled as a predictor variable) and 1) healthy, 2) unhealthy, and 3) extreme weight control behaviors, 4) intuitive eating, and 5) binge eating, modeled as outcome variables. For analysis, engagement in weight control behaviors was dichotomized to compare those who participated in at least one healthy practice to those who did not engage in any healthy behaviors, those who engaged in at least one unhealthy practice compared to those who did not engage in any unhealthy behaviors, and those who engaged in at least one extreme practice compared to those who did not engage in any extreme behaviors. Those who participated in a specific behavior (e.g. exercised more in the past year) were also compared to those who did not perform that specific behavior. All regressions included adjustments for age, ethnicity/race, income, education, and weight status (not overweight, overweight, obese) and utilized a weighted sample based on response propensities.³⁷ The weighted sample was representative of the original school-based sample, being more diverse and having lower socioeconomic status than those responding at EAT-IV. Relative risks (prevalence proportion ratios), which provide more conservative association estimates for common outcomes compared to odds ratios³⁸, were calculated from logistic regressions using the counter-factual method,^{39, 40} and standard errors for confidence intervals were estimated using previously described methods.⁴⁰ All analyses were performed using the Statistical Analysis System (version 9.4, SAS Institute Inc, Cary, NC, 2012).

RESULTS

Participant sociodemographic characteristics are shown in Table 1 by gender. Forty percent of women and 30% of men reported using Nutrition Facts “most of the time” or “always;” approximately another third of both women and men reported using Nutrition Facts “sometimes.”

Table 2 shows unadjusted percentages comparing the number of Nutrition Facts users and non-users engaged in weight control behaviors, intuitive eating, and binge eating, and the adjusted relative risk showing how Nutrition Facts use related to risk of engaging in weight control behaviors, intuitive eating, and binge eating. Adjusted analyses in women showed that Nutrition Facts use was associated with a 23% higher likelihood of engaging in healthy weight control behaviors, a 10% greater likelihood of engaging in unhealthy behaviors, and a 17% greater likelihood of binge eating. Nutrition Facts use was unrelated to extreme weight control behaviors or intuitive eating. In men, Nutrition Facts use was associated with a 27% greater likelihood of engaging in healthy weight control behaviors, a 17% greater likelihood of engaging in unhealthy behaviors, and a lower level of intuitive eating. Nutrition Facts use was unrelated to extreme weight control behaviors or binge eating. For both genders, Nutrition Facts use was related to greater involvement in each of the six healthy

weight control behaviors. For example, greater Nutrition Facts use was related to a 64% (women) and 53% (men) greater likelihood of eating less high-fat foods. Greater Nutrition Facts use was further related to a 44% (women) and 72% (men) greater likelihood of watching portion sizes. For unhealthy weight control behaviors, greater Nutrition Facts use was negatively related to engagement in using a food substitute for women, and both negatively and positively related to engagement in unhealthy weight control behaviors for men.

DISCUSSION

This study aimed to measure how Nutrition Facts use was related to healthy and unhealthy weight control behaviors, intuitive eating, and binge eating in a large population-based sample of young adults. Nutrition Facts use was positively associated with engagement in healthy and unhealthy weight control behaviors in both genders. Nutrition Facts use was also positively related to binge eating in women, and negatively related to intuitive eating in men. Label use was generally unrelated to engaging in extreme weight control behaviors in either gender.

Aligning with this analysis, prior research in young adult women has reported that nutrition label use on packaged foods was related to 6 of 8 healthy weight control behaviors assessed by Laz *et al.*¹⁰: eating less food; switching to foods with fewer calories; beginning to exercise or exercising more; eating more fruits, vegetables, or salads; eating less sugar, candy or sweets; and getting help from a personal trainer, dietician, or nutritionist. Laz *et al.*¹⁰ also found nutrition label use was related to greater smoking, which was 1 out of 4 unhealthy weight control behaviors assessed in their study. As was hypothesized based on prior research, in Project EAT-IV, Nutrition Facts use was highly related to engagement in healthy weight control behaviors, and to a lesser extent, overall engagement in unhealthy behaviors. Notably, when looking at individual behaviors rather than overall risk, Nutrition Facts use was generally negatively related to specific unhealthy weight control behaviors, with many relative risks close to the null. Thus, while a clear positive relationship appears to exist between healthy weight control behaviors and Nutrition Facts use in the current study population, the relationship between Nutrition Facts use and unhealthy or extreme weight control behaviors is less clear. This analysis extends prior research¹⁰ by assessing a greater variety of unhealthy weight control behaviors in a larger population that included men, showing that Nutrition Facts use was related to greater engagement in healthy weight control behaviors. It further suggests that while less common, some young adults using Nutrition Facts labels may also engage in unhealthy weight control behaviors.

While both nutrition label use and intuitive eating have been recommended for weight maintenance,^{15, 41} and both are related to improved dietary intake,^{9, 15} it was important to measure if and how these behaviors were associated to better provide a basis for weight maintenance recommendations. In the Project EAT-IV sample, Nutrition Facts use was negatively related to intuitive eating among men, but was unrelated in women. For men, these results suggest that attention to an external cue (Nutrition Facts) when choosing food could be negatively related to attention to internal cues when consuming food, while women may rely on both or neither of these particular cues when purchasing or consuming food.

Nutrition Facts use was related to greater likelihood of engaging in binge eating in the past year in women, but not men, in Project EAT-IV. Two prior studies have investigated how those with binge eating interact with menu labels.^{13, 17} Haynos and Roberto¹³ found that restaurant menu labeling predicted an increase in calories ordered by young adult women with binge eating disorder. Among women surveyed upon exiting a college cafeteria, Lillico *et al.*¹⁷ found that posting labels did not impact reported engagement in binge eating. Importantly, menu labels generally only include calories and have been recently introduced in much of the US, whereas Nutrition Facts labels on packaged foods are detailed and have been required for almost three decades. Further, Nutrition Facts are generally used in grocery store settings where food choices are often not relevant to immediate consumption.

Limitations

This study was limited by its cross-sectional nature; thus, it is not possible to draw conclusions about the temporal ordering of observed linkages between Nutrition Facts use and weight-related behaviors. Second, although large and diverse, this sample was not nationally representative. Additionally, self-reported measures with varying reliability were used to assess anthropometric, sociodemographic, and behavioral factors and weight control behaviors.

Implications for Research and Practice

The results indicate it may be important for future obesity prevention research to examine the influence of population-based nutrition education and messaging around Nutrition Facts on weight preoccupation and disordered eating. In this study, individuals reading labels were substantially more likely to perform healthy weight control behaviors, in line with the Centers for Disease Control and Prevention recommendation to use labels to manage weight.⁴¹ However, since label use was also related to engagement in some unhealthy weight control behaviors and binge eating in women, it is important to consider how individuals may use labels, particularly those at risk for, or engaging in, disordered eating behaviors. Future research investigating potential relationships between Nutrition Facts use, intuitive eating, and binge eating is needed, and clinicians advising patients and clients on weight management may want to consider possible gender differences in response to weight loss and management guidance and that in some cases a high level of label use may be related to disordered eating. Future research examining the relationship between Nutrition Facts use and eating and weight control behaviors may consider reasons for label use, the potential impact of label use on food choices, and how label use may differ in settings such as food stores, homes, workplaces, and recreational facilities.

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PRACTICE POINTS

- Individuals using Nutrition Facts labels may also be performing healthy and unhealthy weight control behaviors and binge eating
- Weight control and eating behaviors may relate to Nutrition Facts use in a different way for men and women

Table 1

Sociodemographic, anthropometric, and behavioral characteristics shown for young adults ($N=1,817$) surveyed in the population-based EAT-IV survey.

Characteristics	Women % (n) 57.1 (1037)	Men % (n) 42.9 (780)
Age, years	31.0 ± 1.7	31.1 ± 1.6
Education		
<i>High school graduate or less</i>	20.0 (207)	26.2 (204)
<i>Associate/technical/trade degree</i>	25.9 (268)	22.9 (178)
<i>Bachelor degree or higher</i>	54.2 (561)	50.9 (396)
Income		
<i>Low (\$0–\$49,999)</i>	37.9 (387)	33.9 (262)
<i>Middle (\$50,000–\$99,999)</i>	38.2 (390)	41.5 (320)
<i>High (\$100,000+)</i>	23.9 (244)	24.6 (190)
Weight status		
<i>Normal or underweight (0–24.99 kg/m²)</i>	44.5 (456)	35.2 (271)
<i>Overweight (25–29.99 kg/m²)</i>	27.5 (282)	39.2 (302)
<i>Obese (≥ 30 kg/m²)</i>	28.0 (287)	25.6 (197)
Weight control behaviors		
<i>Healthy weight control behaviors, any</i>	75.9 (784)	61.6 (477)
<i>Unhealthy weight control behaviors, any</i>	51.6 (533)	36.4 (282)
<i>Extreme weight control behaviors, any</i>	15.9 (164)	6.7 (52)
<i>Binge eating in the past year</i>	15.9 (164)	8.6 (67)
<i>Intuitive eating (scale: 7–28), mean ± SD</i>	20.8 ± 4.0	20.6 ± 4.0
Nutrition Facts use		
<i>Never or rarely</i>	24.5 (254)	38.8 (303)
<i>Sometimes</i>	35.2 (365)	31.5 (246)
<i>Most of the time or always</i>	40.3 (418)	29.6 (231)

Note. Of the 1,830 young adults participating in Project EAT-IV, 1,817 (99.3%) answered the question concerning Nutrition Facts use and were included in this analysis.

Table 2

Prevalence and relative risk of engaging in weight control and eating behaviors in relation to Nutrition Facts use^a shown for young adults ($N=1,817$) surveyed in the population-based EAT-IV survey.

Weight Control and Eating Behaviors	Women			Men		
	Label users % ($n=418$)	Label non-users % ($n=619$)	RR [CI] ^b	Label users % ($n=231$)	Label non-users % ($n=549$)	RR [CI] ^b
Healthy, any	86.4	68.8	1.23 [1.15, 1.42] [*]	80.8	53.5	1.27 [1.17, 1.43] [*]
<i>Exercise</i>	52.6	27.2	1.48 [1.31, 1.75] [*]	48.7	27.1	1.26 [1.14, 1.44] [*]
<i>Ate more fruit/vegetables</i>	61.5	39.4	1.34 [1.22, 1.55] [*]	41.3	20.9	1.33 [1.19, 1.55] [*]
<i>Ate less high-fat foods</i>	43.5	19.0	1.64 [1.43, 1.96] [*]	29.1	11.2	1.53 [1.32, 1.83] [*]
<i>Ate less sweets</i>	40.7	21.6	1.41 [1.25, 1.65] [*]	37.6	16.5	1.34 [1.18, 1.57] [*]
<i>Drank less soda</i>	68.4	45.2	1.34 [1.22, 1.55] [*]	61.3	31.4	1.49 [1.33, 1.72] [*]
<i>Watched portion sizes</i>	45.0	22.8	1.44 [1.28, 1.69] [*]	33.0	8.6	1.72 [1.46, 2.07] [*]
Unhealthy, any^c	53.2	50.4	1.10 [1.04, 1.23] [*]	40.8	34.6	1.17 [1.08, 1.30] [*]
<i>Fasted</i>	13.0	13.3	0.99 [0.98, 1.03]	11.7	10.8	0.98 [0.97, 1.00] [*]
<i>Ate very little food</i>	31.7	35.3	0.98 [0.97, 1.04]	23.0	21.9	0.97 [0.96, 1.00] [*]
<i>Used food substitute</i>	24.0	17.4	0.97 [0.95, 0.99] [*]	16.5	11.7	0.98 [0.96, 0.99] [*]
<i>Skipped meals</i>	24.6	30.6	1.02 [1.00, 1.10]	18.7	21.1	0.99 [0.98, 1.03]
<i>Smoked more cigarettes</i>	4.1	6.7	1.00 [0.99, 1.05]	2.6	3.9	1.02 [1.01, 1.08] [*]
Extreme, any	16.6	15.5	1.13 [1.01, 1.33]	7.0	6.6	1.05 [0.87, 1.31]
<i>Took diet pills</i>	11.3	13.3	0.99 [0.98, 1.02]	6.1	5.9	1.00 [0.99, 1.03]
<i>Made myself vomit</i>	5.1	2.3	1.00 [0.97, 1.02]	0	0.7	1.01 [1.01, 1.10]
<i>Used laxatives</i>	4.1	3.3	1.00 [0.98, 1.03]	1.3	1.1	1.00 [0.99, 1.02]
<i>Used diuretics</i>	2.9	2.1	1.00 [0.98, 1.02]	1.3	0.6	1.00 [0.99, 1.01]
Intuitive eating (scale: 7–28), $\beta \pm SE$	21.0 $\pm$ 4.0	20.7 $\pm$ 4.0	0.11 $\pm$ 0.11	20.1 $\pm$ 4.2	20.8 $\pm$ 3.8	-0.26 $\pm$ 0.12 [*]
Binge eating with loss of control	18.0	14.4	1.17 [1.02, 1.39] [*]	9.6	8.2	1.14 [0.95, 1.40]

^a Nutrition Facts use was assessed via a question asking how often the participant used the Nutrition Facts panel when buying or eating a product for the first time. Responses ranged from 1–5 where 1=Never and 5=Always. Those responding “most of the time” and “always” were categorized as being frequent label users, and others as non-users.

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Adjusted for age, ethnicity/race, income, education, and weight status (not overweight, overweight, obese).

The four extreme behaviors (taking diet pills, vomiting, using laxatives and diuretics) were also considered unhealthy weight control behaviors.

CI indicates confidence interval, RR, relative risk.

* indicates $p < 0.05$