

Corrigendum

Frosting on the cake: pictures on food packaging bias serving size – CORRIGENDUM

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All experimental analyzes were checked after statistical inconsistencies were identified in the reporting of the results. Statistical corrections are reported below. No findings or conclusions are impacted by these corrections. The size of the effect, however, is reduced in Experiment 3. For simplicity, the corrected results and associated figures and tables are reported in full in this corrigendum. The authors wish to apologize for the errors.

Original text and correction:**Study 1: Corrected Table 1**

Cake brand	Cake only				Cake with frosting			
	Avg. calories per serving	Avg. calories shown	Avg. change	<i>t</i> test	Avg. calories (frosting)	Total calories shown	Avg. change	<i>t</i> test
Betty Crocker (n 20)	264.00	225.70	-38.30	10.08***	309.22	534.91	270.91	11.30***
Duncan Hines (n 18)	246.67	287.49	40.82	4.05***	475.13	762.62	515.95	12.42***
Pillsbury (n 13)	259.23	210.00	-49.23	43.69***	275.56	485.56	226.33	200.84***
All (n 51)	256.67	243.50	-13.16	1.93	359.19	602.70	346.03	13.97***

*** $P < 0.001$.**Corrected Study 1 Results:**

Study 1 results are shown in Table 1. When cake calculations were based solely on the cake, cake boxes did not display significantly more calories than what is recommended ($t(50) = 1.93$, $P = 0.06$), a decrease of 5.13%. Breaking down by brand, only Duncan Hines exaggerated the number of calories shown, displaying 16.5% more ($t(17) = 4.05$, $P < 0.001$). Both Betty Crocker and Pillsbury displayed fewer calories than what is recommended, 14.5% and 19.0%, respectively ($t(19) = 10.08$, $P < 0.001$) and $t(12) = 43.69$, $P < 0.001$).

In contrast, when frosting was included in the calculation, all cake mix boxes exaggerated the amount of calories associated with a serving size. On average, cake mix containers displayed 134.82% more calories than what is recommended ($t(50) = 13.97$, $P < 0.001$). Duncan Hines brand displayed 209.17% more calories ($t(17) = 12.42$, $P < 0.001$); Betty Crocker displayed 102.61% more calories ($t(19) = 11.30$, $P < 0.001$); and Pillsbury depicted 87.31% more calories ($t(12) = 200.84$, $P < 0.001$).

Study 2: Corrected Table 2

	No mention of frosting	'Frosting not included on the nutritional labelling'	Control: cake no frosting
Cake calories selected			
Betty Crocker	591.60	433.07	411.67
Duncan Hines	594.53	438.27	402.80
Average	593.07	435.67*	407.23

Note: There was neither a significant difference between cake brands, nor a significant interaction between cake brand and condition type.

*Calorie estimations for cake with frosting images were significantly lower when there was a corresponding message than not ($P < 0.001$). There was no significant difference in calorie estimations between the control group and the text group.

Corrected Study 2 Results:

Study 2 results are shown in Table 2. Group estimations were entered into a 3×2 mixed-model ANOVA. There was a significant main effect of condition. Calorie estimations were lowest for those who were shown a cake package with no frosting ($F(2, 42) = 4.04, P = 0.025$). There was no difference in calorie estimations between the cake mix brands (478.78 v. 478.53 kcal; $F(1, 42) = 0.001, P = 0.994$) and there was also no significant interaction between the groups ($F(2, 42) = 0.030, P = 0.976$). Planned comparisons showed that of the participants who were shown cake with frosting packages, the number of calories estimated by people who were told no additional information was higher than by those who were told that frosting was not included on the nutritional labelling (593.07 v. 435.67 kcal; $t(28) = 2.10, P = 0.04$). Interestingly, there was no difference in calorie estimations between those who were shown packages with cake and frosting, but told that frosting was not included, and those who were shown packages with cake only (407.23 v. 435.67 kcal; $t(28) = 0.37, P = 0.710$).

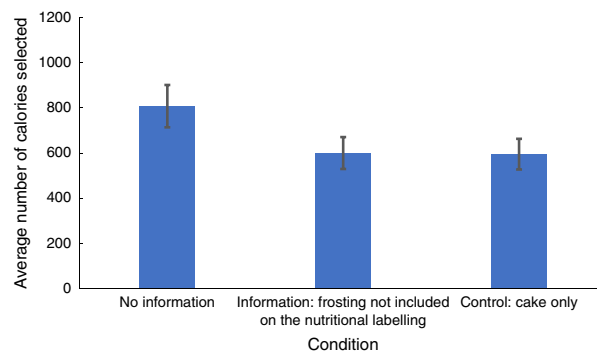
Study 3: Corrected Figure 1

Figure 1 Mean number of cake calories served by participants ($n = 72$) for each condition in Study 3. Error bars represent the 95% confidence intervals. Participants downsized portions when told frosting was not included on the nutritional labelling ('calories' = kcal; 1 kcal = 4.184 kJ)

Corrected Text:

Results for Study 3 are shown in Fig. 1. There was a significant main effect of condition ($F(2, 69) = 5.92, P = 0.004$). Intended serving size was lowest for participants who were shown a cake box showing a piece of cake without frosting. t Tests showed that when participants were shown a piece of cake with frosting, intended serving size was lower if the packaging contained the message 'frosting not included on the nutritional labeling' (808 v. 600.00 kcal; $t(46) = 2.73, P = 0.009$), a decrease of approximately 208 kcal.

Similar to Study 2, there was no significant difference in intended serving size between participants who saw cake with no frosting and participants who saw cake with frosting and the phrase 'frosting not included on the nutritional labeling' (595 v. 600 kcal; $t(46) = 0.065, P = 0.948$).

Experiment 4 results:

Please read 575 as 573; and 453 as 455