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The “Fair Trade” Effect: Health Halos From Social Ethics Claims

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Jonathon P. Schuldt¹, Dominique Muller², and Norbert Schwarz³

Abstract

The authors provide evidence that social ethics claims on food packaging (e.g., fair trade) can promote the misperception that foods are lower-calorie and therefore appropriate for greater consumption. In Study 1, participants evaluating chocolate provided lower calorie judgments when it was described as fair trade—a claim silent on calorie content but signifying that trading partners received just compensation for their work. Further establishing this effect, Study 2 revealed that chocolate was perceived as lower-calorie when a company was simply described as treating its workers ethically (e.g., providing excellent wages and health care) as opposed to unethically (e.g., providing *poor* wages and *no* health care) among perceivers with strong ethical food values, consistent with halo logic. Moreover, calorie judgments mediated the same interaction pattern on recommendations of consumption frequency, suggesting that amid the ongoing obesity crisis, social ethics claims might nudge some perceivers to overindulge. Theoretical and applied implications are discussed.

Keywords

judgment and decision making, values, ethics/morality, health, self/identity

The halo effect, whereby an initial favorable impression promotes subsequent favorable evaluations on unrelated dimensions, has a long history in social psychology. In a classic demonstration, Asch (1946) read participants a list of adjectives describing a target person that included either a positive or negative central quality (e.g., warm vs. cold) and found that warm targets were seen as more generous, sociable, and good-natured than were the cold targets. In follow-up work exploring behavioral outcomes, Kelley (1950) informed students that a guest lecturer was known “. . . to be a rather ‘warm’ [‘cold’] person, industrious, critical, practical, and determined” (p. 433) and found that 56% of students participated in the class discussion when the guest lecturer was described as “warm” compared to just 32% when he was described as “cold.” Beyond the warm–cold distinction, research on the what-is-beautiful-is-good effect has revealed strong halos arising from physical attractiveness (Dion, Berscheid, & Walster, 1972), halos so powerful that they become self-fulfilling—shaping perceivers’ behaviors in ways that lead targets to behave warmly, in line with perceivers’ expectations (Snyder, Tanke, & Berscheid, 1977).

As rates of overweight and obesity have reached record-levels, advertising claims have become more common on the fronts of food packaging, fueling concerns that they may lead consumers to see foods as healthier than they really are (Brownell & Horgen, 2004; Nestle, 2002; Pomeranz, 2011). In this vein, the halo effect in person perception has been

applied to help explain how one healthy attribute (e.g., no cholesterol) leads consumers to assume that foods offer other healthy but unclaimed attributes (e.g., low in fat; Andrews, Netemeyer, & Burton, 1998), a phenomenon known as the “health halo” effect (Andrews, Burton, & Netemeyer, 2000). For instance, research finds that “low-fat” labels on snack foods (M&Ms, granola) can lead to decreased calorie estimates, increased perceptions of serving size, and increased calorie intake (Wansink & Chandon, 2006), and that sandwiches from fast food restaurants marketed as healthy are judged to contain relatively few calories, leading unsuspecting consumers to order higher-calorie meals at Subway (i.e., a healthy restaurant) than at McDonalds (Chandon & Wansink, 2007). Beyond advertising claims, recent findings suggest a tendency to underestimate the number of calories in meals containing both a healthy and an unhealthy option (e.g., burger and salad) relative to the unhealthy option alone, reflecting the health halo

¹ California State University–Northridge, Northridge, CA, USA

² University of Grenoble 2 and University Institute of France

³ University of Michigan, Ann Arbor, MI, USA

Corresponding Author:

Jonathon P. Schuldt, California State University – Northridge, 322 Sierra Tower, 18111 Nordhoff St., Northridge, CA 91330, USA
Email: jschuldt@csun.edu

associated with “virtuous” foods (Chernev, 2011; Chernev & Gal, 2010; Rozin, Ashmore, & Markwith, 1996).

The rise of ethical food claims on food packaging, also known as values-based claims (Barham, 2002)—for example, “fair trade,” “organic,” “locally produced”—raises questions about whether they too might promote unwarranted nutrient inferences. In contrast to relative nutrition claims (e.g., low-fat), which have received the bulk of research attention to date, it is less clear whether ethics claims will affect nutrient inferences. For example, some relative nutrition claims are logically relevant to nutrient inferences such as judgments of calorie content: a perceiver might rationally assume that a “low-fat” candy contains fewer calories, given that fat is a calorie-dense nutrient. In this case, however, consumers may miss that foods labeled “low-fat” are unlikely to contain fewer calories because snack food manufacturers typically replace calories from fat with calories from added sugars to enhance taste (Wansink & Chandon, 2006).

In contrast, an ethical claim such as fair trade is intended to signal that a product was produced in accordance with certain progressive socioeconomic values (Barham, 2002), conveying that trading partners—often producers in developing nations who are typically marginalized in traditional economic exchanges—have received just compensation for their work (Fairtrade International, 2011). Fair-trade certification therefore communicates a food product’s socially ethical production qualities but is silent on nutrient content. Thus, any effect of the claim on calorie inferences would be surprising from a rational perspective and would present a strong case for a halo effect as opposed to deliberate (if flawed) reasoning on the part of the perceiver (Klein & Dawar, 2004).

Despite the rising popularity of ethical food claims, few studies have examined whether they too might evoke health halos. An exception is recent work demonstrating health halos from “organic” labeling. For instance, Oreo cookies “made with organic flour and sugar” receive lower calorie judgments than do regular Oreo cookies, even though the two products in actuality contain the same number of calories (Schuldt & Schwarz, 2010). The organic halo also appears to promote healthy inferences about specific nutrients, such as fat and protein (Roberto, Liu, Liu, & Schuldt, in press), biases that emerge even when consumers have actually consumed the food (Wan-Chen Lee, Shimizu, & Wansink, 2011). Interestingly, these effects are typically more pronounced among individuals reporting proenvironmental values and behaviors—that is, among those who are likely to view “organic” products more favorably in the first place. This value-dependent pattern is consistent with the theoretical rationale of a halo interpretation for these effects.

Although health halos appear to arise from the ethics label “organic,” it remains an open question whether social ethics claims such as fair trade evoke similar effects. First, the organic halo may be a special case, driven by the strong healthiness connotations of “organic” found among the American public (Harris, 2007). In addition, organic production entails tangible chemical and physical changes to foods that may justify

different nutrient inferences for organics in the minds of perceivers. For these reasons fair trade claims and other production information concerning social ethics might be less likely than “organic” claims to influence perceivers’ nutrient and health-related inferences.

The Present Work

Drawing on the logic of halo effects, we test the prediction that socially ethical food production will invite unwarranted healthy inferences across two experimental studies. Study 1 examines whether fair trade, a popular advertising claim connoting social ethics, can lead perceivers to see foods as containing fewer calories than they otherwise would. As a conceptual replication, Study 2 focuses explicitly on a company’s socially ethical versus unethical production practices to determine whether the effect is rooted in social ethics rather than any particular advertising claim per se.

Study 1

Method

Fifty-six online participants (37 females, 19 males) were recruited via Amazon.com’s crowd-sourcing website, Mechanical Turk, to complete a brief (1- to 2-min) questionnaire on “judgments about food” in exchange for a nominal fee (\$0.05; see Paolacci, Chandler, & Ipeirotis, 2010, for a validation of Mechanical Turk as a data source). Participants provided consent and were randomly assigned by computer algorithm to read a brief one-paragraph description of a fictional brand of chocolate called Petersen’s that was either described as fair-trade ($n = 27$) or not ($n = 29$). In the fair-trade condition, the claim appeared directly before the brand name each time it appeared (three times). Out of concern that some participants would be unfamiliar with the claim’s meaning, the fair-trade description further elaborated that “Petersen’s pays its cocoa farmers 50% more than the standard market price for cocoa, to ensure that the farmers receive a fair wage for their efforts.” Otherwise, the two descriptions were identical (see Appendix A for the complete text).

To determine whether the fair-trade claim would invite unwarranted healthy inferences, we then had participants judge the calorie content of their randomly assigned chocolate using the following item (underlining original): *Compared to other brands of chocolate, how many calories do you think that one serving of Petersen’s [[fair-trade]] chocolate contains? (1 = Many fewer calories, 7 = Many more calories). Finally, participants reported on various personal background characteristics including age, sex, educational attainment, and political affiliation (democrat, republican, independent, or other/none of the above). Mean age was 38.2 years ($SD = 14.2$ years), and participants were diverse educationally (11% high school graduates, 27% with some college, 46% college graduates, 16% postgraduate studies) as well as politically (34% democrat, 20% republican, 36% independent, 11% other).*

Results and Discussion

To determine whether the chocolate received lower calorie judgments when it was described as fair trade, we conducted a *t* test on the calorie content measure. Consistent with expectations, the chocolate was judged as significantly lower-calorie when it was described as fair trade ($M = 4.30$, $SD = 0.78$) than when it was not ($M = 4.76$, $SD = 0.74$), $t(56) = 2.28$, $p = .03$.² No personal background variable significantly moderated the effect ($t_s < 1.81$, *ns*).

The present results provide initial evidence that a social ethics claim can evoke a health halo, manifesting here in the form of reduced calorie inferences. This halo interpretation is made with some caution, however, given that other processes might have contributed to this effect. For instance, participants may have construed the fair trade advertising claim as an implicit persuasive appeal to the judgment at hand (Wänke & Reutner, 2010), whereby fair trade was assumed to be a positive attribute (or else why would the company advertise it?) that was relevant to calorie content (or else why would they ask about it?). This concern is somewhat attenuated because the substantive meaning of the fair trade claim was explicitly defined in terms of favorable prices paid to trading partners, without reference to calorie content or other nutritional information. Another possibility is that generic positive associations of the word “fair” may have fostered the positive inferences observed here, bypassing ethics-related inferences entirely. Finally, the present questionnaire did not solicit participants’ values toward ethical food production—values that are expected to moderate the effect of socially ethical production on healthy inferences and thus provide stronger evidence for a halo effect. Therefore, more compelling evidence for a halo interpretation for this effect would come from demonstrating a larger effect among perceivers who strongly value ethical food production and from showing an effect in the absence of any advertising claim (and the word “fair”).

Study 2 was designed to rule out these alternative explanations and to provide a more direct test of the halo theory account. Specifically, it did not feature the fair trade claim but instead examined the effect of a company’s ethical versus unethical treatment of its workers on judgments of the calorie content and appropriate consumption frequency of its product. In addition, participants completed a standard scale measure to assess their attitudes toward ethical food production, expected to moderate the effect of social ethics information on health-related inferences.

Study 2

Method

One hundred and ninety-two students (125 females, 61 males, 6 missing) from the Introductory Psychology subject pool at a large Midwestern university completed this approximately 30-min laboratory experiment on “thinking about food” in exchange for partial course credit.

Upon arriving to the lab, participants provided consent and were randomly assigned by computer algorithm to read one of three brief descriptions of a fictional brand of chocolate that we again called Petersen’s. In all conditions, participants read the same standard description of the product. To reduce the possibility that participants would construe information about the product as an implicit persuasive appeal on the part of the producer, the description was said to have appeared in a food magazine and to have been written by a journalist who was unaffiliated with the company. In addition to the standard product description, participants in the ethical condition read an additional paragraph detailing the company’s socially ethical treatment of its cocoa suppliers in West Africa (e.g., the company offers excellent wages and health care and donates far more to local charities than do other companies; see Appendix B for the complete text). In the unethical condition, participants instead read an additional paragraph describing the company’s socially *unethical* practices, the wording of which differed only slightly from the description used in the ethical condition (e.g., the company offers *poor* wages and *no* health care and donates far *less* to local charities than do other companies; italics added here for emphasis). In the control condition, participants read only the standard description of the product and received no ethics related information about the company.

Participants then completed the dependent measures. After providing a calorie judgment on the same scale featured in Study 1, they completed the following item to capture the effect of social ethics information on downstream consumption decisions: *Compared to other brands of chocolate, how often do you think that Petersen’s chocolate should be eaten?* (1 = *Less often*, 7 = *More often*). Afterward, participants completed the personal background measures. To assess values toward ethical food production, the hypothesized moderator, participants completed the 11-item Ethical Food Choice questionnaire (Lindeman & Väänänen, 2000) which includes items that tap equitable social relations, for example: *It is important that the food I eat on a typical day comes from a country in which human rights are not violated* (1 = *Not at all important*, 4 = *Very important*). Participants also completed an adapted version of the General Nutrition Knowledge (GNK) questionnaire (Dri-choutis, Lazaridis, & Nayga, 2005), which was used to control for basic knowledge about nutritional content (see Appendix C for the complete text) and provided demographic information (e.g., age, sex, height, and weight). Mean age was 18.5 years ($SD = 0.86$ years) and mean body mass index (BMI) was 22.43 ($SD = 3.22$).³

Results

We first consider calorie judgments before turning to consumption recommendations. Recall that the logic of halo effects predicts that ethical information should have more of an influence on calorie judgments for perceivers who value ethical food production. To test this moderation hypothesis, we computed two orthogonal contrasts: one contrasts the two theoretically extreme conditions (by using -1 , 0 , and 1 , respectively, for the

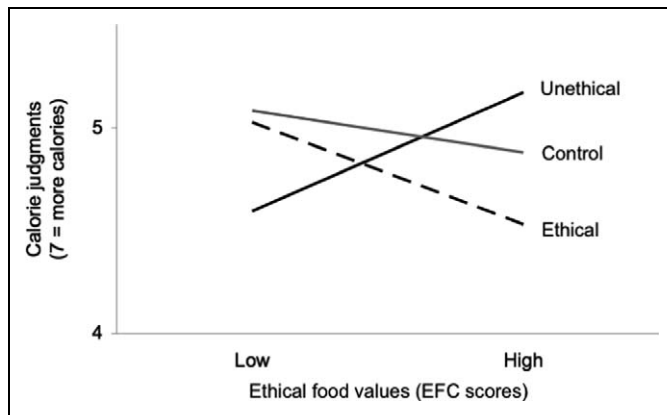


Figure 1. Interaction between social ethics information (ethical vs. unethical production) and ethical food values (Ethical Food Choice scores; EFC) for calorie judgments (Low = $M - 1 SD$; High = $M + 1 SD$).

ethical, control, and unethical conditions); the other tests whether the control condition fell between these extremes (by using 1, -2 , and 1, respectively, for the ethical, control, and unethical conditions). We then regressed calorie judgments onto these two contrasts, Ethical Food Choice scores (centered at their mean level), and their interaction terms.⁴ As shown in Figure 1, the results support our hypothesis: the difference between the ethical and unethical conditions increased as Ethical Food Choice scores increased, $b = .024$, $t(182) = 2.54$, $p = .01$, while the control condition fell between these two conditions, $b = .004$, $t(182) = 0.70$, $p = .48$. No other effects emerged as significant.

Simple effects tests further revealed that, as predicted, participants with high Ethical Food Choice scores (i.e., at $M + 1 SD$) gave lower-calorie judgments for the ethical chocolate ($M = 4.53$) than they did for the unethical chocolate ($M = 5.17$), $t(182) = 2.20$, $p = .03$. Calorie judgments in the control condition fell in-between ($M = 4.88$) and did not differ from the mean of the other two conditions, $t(182) < 1$. Among participants with low Ethical Food Choice scores (i.e., at $M - 1 SD$), none of the contrasts was significant ($M_{\text{ethical}} = 5.02$, $M_{\text{control}} = 5.08$, $M_{\text{unethical}} = 4.59$), $t(182) < 1.44$, $ps > .15$. Finally, simple slopes analysis revealed that calorie judgments showed a marginally significant and negative association with Ethical Food Choice scores in the ethical condition, $b = -.022$, $t(182) = -1.63$, $p = .11$, and a significant and positive association with Ethical Food Choice scores in the unethical condition, $b = .026$, $t(182) = 1.97$, $p = .05$. In other words, as ethical food values increased, participants were more likely to judge the chocolate as *lower-calorie* when it was produced *ethically* but as *higher-calorie* when it was produced *unethically*.

Turning to consumption recommendations, the same model revealed that, for a mean level of Ethical Food Choice score, consumption recommendations were higher in the ethical ($M = 4.46$) than in the unethical condition ($M = 2.37$), $t(182)$, $p < .001$. Again, the control condition fell between these

two conditions ($M = 3.95$), although it was now significantly closer to the ethical condition (i.e., it was higher than the mean of the two extreme conditions), $t(182) = 2.48$, $p = .02$. By themselves, these findings are of limited theoretical interest. More theoretically relevant is the moderation by Ethical Food Choice scores that reveals—as the halo logic would predict—that the difference between the two extreme conditions increases as ethical food values increase, $b = -.024$, $t(182) = 2.12$, $p = .04$. The second interaction term was marginally significant such that the higher the Ethical Food Choice score, the more the control condition fell closer to the ethical condition than the unethical one, $b = -.012$, $t(182) = 1.91$, $p = .06$. We now turn to the question of whether the interaction effect on consumption recommendations is driven by the effect of ethics information on calorie inferences reported above. In other words, we expected a mediated moderation (Muller, Judd, & Yzerbyt, 2005).

Following Muller et al. (2005), we tested this mediated moderation by first regressing consumption recommendations onto conditions, Ethical Food Choice scores (centered at their mean level), and their interaction terms. As the adjustment function underlying mediated moderation models is highly problematic when there are more than two conditions (Muller, Yzerbyt, & Judd, 2008) and as the control condition fell between the other two conditions, we conducted this analysis without the control condition. Again, this analysis revealed a condition by ethical food values interaction, $b = -.024$, $t(121) = 2.12$, $p = .04$. Second, the same model was used with calorie judgments (i.e., our mediator) as a dependent variable. As above, this analysis revealed a condition by ethical food values interaction, $b = .024$, $t(121) = 2.58$, $p = .01$. Third, we regressed consumption recommendations onto the same model plus calorie judgments and its interaction with ethical food values (both centered at their mean level). As expected under the mediated moderation hypothesis, we found a significant calorie judgment effect, $b = -.326$, $t(119) = 3.04$, $p < .01$, such that (controlling for the other variables in the model) the higher the calorie judgment, the lower the consumption recommendation. Moreover, this last model revealed that the condition by ethical food values interaction was no longer significant, $b = -.017$, $t(119) = 1.52$, $p = .13$, suggesting a complete mediated moderation. Thus, the influence of ethical or unethical chocolate production on the consumption recommendations provided by participants' with high Ethical Food Choice scores was indeed due to its influence on calorie judgments.

Discussion

The present study extends the fair trade effect from Study 1 in a number of important ways. First, it provides a conceptual replication by demonstrating that for people with strong ethical food values, simply learning about a company's ethical versus unethical treatment of its workers can influence the perceived calorie content of its product, suggesting that this effect can arise in the absence of an explicit advertising claim such as fair trade. Second and perhaps more important, it suggests that the

effect of social ethics hinges on the values of perceivers, a pattern that is consistent with a halo interpretation for these effects. Third, it demonstrates that health halos evoked by social ethics can promote higher consumption recommendations for a poor nutrition food, raising the possibility that social ethics claims may encourage perceivers to indulge more than they would otherwise, an important avenue for future research.

In contrast to the main effect of the fair trade claim observed in Study 1, the present results revealed an interaction effect between experimental condition (i.e., ethical vs. unethical production methods) and personal values (i.e., Ethical Food Choice score) but not a main effect of condition. Although this may appear inconsistent at first glance, halo logic makes no main effect prediction per se but instead predicts that effects should depend upon perceivers' personal values: to the extent they feel favorably toward the ethics information, positive halos should be evoked that manifest in the form of healthy inferences. Even if fair trade claims evoke a positive impression among most perceivers as Study 1 suggests, we would nevertheless predict larger health halo effects among perceivers who feel especially favorable toward the claim (e.g., those with high Ethical Food Choice scores, frequent consumers of fair trade products, etc.).⁵

Finally, beyond demonstrating positive health halos from social ethics claims, the present work suggests that negative information about a company's actions can lead perceivers to judge products as *less healthy* (i.e., higher-calorie), as seen in the simple slope analyses in Study 2 (Figure 1) which demonstrated that *unethical* chocolate received *higher-calorie* judgments among perceivers with higher Ethical Food Choice scores. To our knowledge, this is one of the first demonstrations of a negative health halo arising from a food's production methods.

General Discussion and Conclusion

Claims signaling the ethical virtues of food products have proliferated in the marketplace; yet, their influence on perceivers' health-related inferences is not well understood. Like relative nutrition claims (e.g., "low fat," "high fiber"; Harris et al., 2009), ethical or values-based claims (e.g., fair trade) frequently appear on poor nutrition foods. In a time when overweight, obesity, and their associated diseases are top public health concerns, it is important to understand the influence of these claims on health-related judgments and decisions.

Building on the classic halo effect in social psychology and past work demonstrating health halos from relative nutrition claims, we demonstrate that a company's ethical actions—which logically bear little upon the nutrient content of its products—can nevertheless influence perceivers' nutrient and health-related inferences about food products. Compared to an otherwise identical description, chocolate described as fair trade is perceived as lower-calorie. Moreover, this effect is not restricted to the fair trade advertising claim: among perceivers with strong ethical food values, chocolate is also judged as lower-calorie when a company is described as treating its

workers ethically as compared to unethically. These lower-calorie perceptions in turn promote higher consumption recommendations for the chocolate, suggesting that social ethics halos might be capable of influencing downstream consumption decisions.

Although this work demonstrates that ethical food claims can bias consumers to see poor nutrition foods in a healthier light, some open questions remain. One regards the extent to which our results reflect naïve theories linking ethical food production with healthy attributes as opposed to more general affective reactions to ethical versus unethical corporate actions. For instance, it could be argued that the calorie judgments we report simply reflect perceivers' positive impressions of companies that treat workers ethically versus unethically—without other means for conveying their attitude, our participants (especially those with strong ethical food values) may have been inclined to judge an ethical company's product more positively (i.e., as lower-calorie) and an unethical company's product more negatively (i.e., as higher-calorie). Although our design cannot rule out this attitude expression account, we contend that it does not fully explain the present findings. For instance, this critique appears to be most relevant to Study 2, where participants with strong ethical food values likely formed quite positive impressions of the ethical company and quite negative impressions of the unethical company. Study 1, however, featured company descriptions that were positive and nearly identical across conditions, and yet the fair trade description garnered significantly lower calorie judgments—despite its defining fair trade explicitly in nonnutritional terms. Nevertheless, future research may address the range of evaluations influenced by social ethics information.

Theoretical Implications

Beyond providing compelling evidence for a halo effect (Klein & Dawar, 2004), this work carries implications for the various dual-process models that distinguish between two systems of judgment: one characterized by more heuristic-based, intuitive processing (System 1) and one characterized by more systematic, deliberative processing (System 2; Stanovich & West, 2000). Whereas the dual-process literature typically finds that people process systematically when personal relevance is high (Chaiken, 1980; Petty & Cacioppo, 1984), the present results appear to show an opposite pattern: those with strong ethical food values, for whom the ethics of food production is more personally relevant, appear to be processing more heuristically rather than systematically (see also Schuldt & Schwarz, 2010; Chernev, 2011; Wan-Chen Lee et al., 2011).

When it comes to ethical food claims, why does heuristic processing seem to trump systematic processing when personal relevance is high? Although this apparent paradox awaits future research, we offer some possible explanations here. One possibility is that the domain of ethical claims differs in significant ways from those typically examined in research on dual-process models. In contrast with laboratory work that

experimentally manipulates personal relevance to determine its effect on heuristic versus systematic processing (e.g., Chaiken, 1980), for ethical food claims, personal relevance likely correlates with both positive affect and greater knowledge in real life. Moreover, ethical claims are also highly politicized given that they aim to promote progressive socioeconomic values in the marketplace (Raynolds, 2000), which may increase pressure to justify one's support for these claims, perhaps by judging products bearing these claims more favorably. The relative calorie judgments and consumption recommendations featured here were also highly ambiguous. Unlike cases in which judges neglect objective information such as base rates in favor of heuristics (e.g., how representative a target is of its class; Tversky & Kahneman, 1974), the absence of an objectively correct answer on the judgments featured here could lead perceivers with strong ethical food values to eventually abandon deeper processing, leaving their favorable feelings to drive the judgment. Finally, although it appears that perceivers with strong ethical food values (and thus high personal relevance) are processing more heuristically, it remains possible that they arrived at their judgments through systematic processing—for example, by reasoning that companies that care about the health and welfare of their workers likely also care about the health and welfare of their customers and make their products accordingly (e.g., with fewer calories, less fat, etc.). Future research may fruitfully examine the contribution of heuristic versus systematic processes in these effects (e.g., by testing whether they are enhanced under cognitive load manipulations; Kahneman, 2003) and in other domains in which positive affect and greater knowledge likely go hand in hand.

Applied Implications

Finally, this work also carries implications for obesity and industry oversight. Despite high demand for ethical foods, there is relatively little government regulation of ethics or values-based claims, “organic” being the notable exception (United States Department of Agriculture [USDA], 2010). Instead, the majority of ethical labels that have proliferated in the marketplace are administered by independent organizations that certify producers and enforce labeling standards (e.g., Fairtrade International, 2011). To the extent that such claims encourage consumers to view poor nutrition foods as healthy, the government might seek to regulate their appearance on food packaging as they currently do for other types of claims (see Pomeranz, 2011 for a discussion). Research should continue to explore under which conditions and to what

extent the various ethical claims adorning our food packages promote unwarranted healthy inferences.

Appendix A

“Fair-Trade” Chocolate Description



Instructions: Below you will see a picture and brief description of a food product. Simply read the information carefully and answer the question that follows.

Product name: Petersen's [fair-trade*] chocolate

Description: Petersen's [fair-trade] chocolate is a deliciously smooth chocolate from Petersen's: a small chocolate company known for high quality. The secret is in the making: this chocolate is created by hand in small batches, and each batch is thoroughly tested to ensure its quality.

[*Petersen's pays its cocoa farmers 50% more than the standard market price for cocoa, to ensure that the farmers receive a fair wage for their efforts.]

Now, please answer the following question (please do not consult any sources whatsoever; we are interested only in your best guess):

Compared to other brands of chocolate, *how many calories* do you think that one serving of Petersen's [fair-trade] chocolate contains (1 = *many fewer calories*; 7 = *many more calories*)?

1-----2-----3-----4-----5-----6-----7
many fewer calories many more calories

Appendix B

Socially ethical and unethical chocolate descriptions

Instructions: Below, you will see some information about a product and the company that produces it. Then, you will be asked some questions.

Note that the description is an excerpt from Food & Culture magazine. It was written by a journalist who is unaffiliated with the featured company.

Please read all of the information carefully before answering the questions that follow.



Product name: Petersen's chocolate

Description: Petersen's chocolate comes from a small company known for producing a high-quality, deliciously smooth chocolate bar. The secret is in the making: this chocolate is created by hand in small batches, and each batch is thoroughly tested to ensure superior quality. The Petersen Company has won numerous awards for the excellent taste of its chocolate.

[Ethical information condition; boldface added here for emphasis]

The Petersen Company is also known for its **ethical** business practices. For instance, the company offers **excellent wages and health care** to workers on its West Africa cocoa farms. Also, the company donates far **more** to local charities than do other companies, and as a direct result, schools in the surrounding villages offer the **highest** quality education in the area. Petersen has also strongly **supported** efforts to end forced child labor on cocoa farms, a shameful practice that treats young people much like slaves. Strongly **praised** by human rights groups, Petersen has built a reputation as an **ethical** chocolate maker.

[Unethical information condition; boldface added here for emphasis]

The Petersen Company is also known for its **unethical** business practices. For instance, the company offers **poor wages and no health care** to workers on its West Africa cocoa farms. Also, the company donates far **less** to local charities than do other companies, and as a direct result, schools in the surrounding villages offer the **lowest** quality education in the area. Petersen has also strongly **opposed** efforts to end forced child labor on cocoa farms, a shameful practice that treats young people much like slaves. Strongly **criticized** by human rights groups, Petersen has built a reputation as an **unethical** chocolate maker.

Appendix C

Nutrition Knowledge Measure⁶

Instructions: Below are some questions related to nutrition. Please answer each to the best of your knowledge (for all comparisons, assume an equal serving size).

For each of the following pair of foods, please select the food that contains more calories.

1. Peas or peanuts peas peanuts
2. Coconut milk or chicken coconut milk chicken broth

For each of the following pairs of foods, please select the food that contains more cholesterol.

1. Butter or margarine butter margarine
2. Egg yolks or egg whites egg yolks egg whites

For each of the following pair of foods, please select the food that contains more fat.

1. Sour cream or yogurt sour cream yogurt
2. Roast chicken or boiled chicken roast chicken boiled chicken

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Notes

1. We use this rating measure instead of open-ended calorie estimates because the latter are cognitively difficult and yield greater variance that can make it difficult to detect effects (Berman & Lavizzo-Mourey, 2008; Livingstone & Black, 2003).
2. The fact that the mean calorie judgment was above the scale midpoint in the fair-trade condition may seem inconsistent with our claim that social ethics labels reduce calorie judgments. Note, however, that the featured product was always described as a premium and “deliciously smooth” chocolate, likely creating the impression that it was higher calorie than most other (nonpremium) chocolates. Hence, the most informative comparison point is not the scale midpoint but the calorie judgment provided for the *same* chocolate in the absence of a fair-trade claim.
3. BMI was calculated using height and weight according to U.S. government criteria: 5% qualified as underweight (BMI < 18.5), 77% as normal weight (BMI 18.5–24.9), 15% as overweight (BMI 25.0–29.9), 3% as obese (BMI ≥ 30.0).
4. Controlling for GNK and BMI did not alter the reported results. The same was true for all of the analyses in this results section.
5. That we found a main effect in Study 1 but not Study 2 may be due to recruitment differences across the studies. Only in Study 1 was the topic of the study advertised (judgments about food); this may have led to some amount of self-selection (e.g., of participants with a strong interest in food) that might help account for this difference.
6. This measure was adapted from the GNK questionnaire (Drichoutis et al., 2005) and taps the same content areas of nutrition knowledge as the original measure (i.e., calories, cholesterol, and fat). The cholesterol and fat questions are from the original; the calorie questions were created to match the form of the other questions, replacing questions about the recommended daily intake of fat and sodium. Scores are the total number of correct responses out of six (peanuts, coconut milk, butter, egg yolks, sour cream, roast chicken).

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Bios

Jonathon P. Schuldt is an assistant professor of psychology at California State University–Northridge. His work explores the interplay of situational cues and person variables in everyday judgment and decision making.

Dominique Muller is a professor of psychology at the University of Grenoble 2, Grenoble, France. His work explores social comparison processes and how social factors influence basic cognitive processes. He also has interests in methods in Social and Personality Psychology.

Norbert Schwarz is a professor of psychology, business, and social research at the University of Michigan. His work focuses on the situated, embodied, and experiential nature of human judgment and its implications for public opinion and consumer research.