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Dodging dietary defaults: Choosing away from healthy nudges☆

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ABSTRACT

The default effect has been identified as a powerful tool to influence behavior; however, the current studies demonstrate that consumers dodge the effects of healthy defaults by selecting away from the healthy default environment, thereby reducing its effect. Two studies with real consequences and three hypothetical scenario studies in restaurant settings demonstrate that healthy defaults promote healthy food choice in the moment, but consumers choose to put themselves in environments with unhealthy defaults over those with healthy defaults. That is, healthy defaults negatively impact sales and willingness of consumers to return to the restaurant that offers them. Study 1 provides initial evidence that a healthy default reduces sales of the product compared to a less healthy default in a real gift shop. Study 2 uses an online survey with real consequences and demonstrates that participants prefer to receive meal kits from a company with unhealthy defaults over one with healthy defaults. Studies 3–5 use hypothetical scenarios to demonstrate the tendency for consumers to dodge healthy defaults. Study 3 shows that a healthy default can drive away future sales. Study 4 demonstrates that advertising a healthy default reduces interest in visiting the restaurant; that is, advertising healthy defaults drives away first-time sales. Finally, Study 5 shows that this dodge effect is robust in a between-subject manipulations using a well-known brand. The results demonstrate that consumers dodge healthy defaults by migrating to environments where unhealthy defaults are in place.

1. Introduction

Food consumption choices are linked to heart disease and cancer, leading causes of death in the US (Mokdad et al., 2000), yet few behavioral interventions show consistent and long-term effects on what people choose to eat. Recent research in psychology and behavioral economics has identified the default effect as a powerful, low cost method to "nudge" people towards optimal behavior in retirement savings (Choi, Laibson, Madrian, & Metrick, 2003; Madrian & Shea, 2001; Thaler & Benartzi, 2004), consumer purchases (Brown & Krishna, 2004; Park, Jun, & MacInnis, 2000), buying green electricity (Pichert & Katsikopoulos, 2008), vaccination (Chapman, Li, Colby, & Yoon, 2010; Chapman, Li, Leventhal, & Leventhal, 2016), and end of life decisions (Kressel & Chapman, 2007; Kressel, Chapman, & Leventhal, 2007). A default option is "the choice alternative a consumer receives if he/she does not explicitly specify otherwise" (Brown & Krishna, 2004), and the default effect refers to the tendency for people to stick to the default option instead of selecting an alternative option. Healthy defaults have been widely suggested as a specific intervention to improve the healthfulness of food eaten outside the home (e.g. Loewenstein, Brenan & Volp, 2007), although little research has examined the effect of defaults on actual food choices. While the default effect has high potential to facilitate choice of healthy foods, in the current paper, we examine a countervailing effect that reduces the benefits of healthy defaults.

Imagine a consumer who on Monday orders a sandwich at a restaurant A, where the default side dish is French fries, although carrot sticks can be substituted upon request for no additional cost. On Tuesday, this same consumer goes to a different sandwich restaurant,

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restaurant B, where the default side dish is carrot sticks, although French fries can be substituted if requested. One question of interest is at which restaurant the consumer is more likely to end up getting the healthier carrot sticks, and previous research on the default effect indicates that it is restaurant B, because placing carrot sticks as the default option makes them more likely to be chosen. A second question of interest, however, is to which restaurant will our consumer return on Wednesday? This question has not received systematic exploration in previous research, and we predict that many consumers will prefer to return to restaurant A, the one that provides French fries by default. That is, decision makers will dodge the effects of the healthy dietary default by selecting a consumer environment that uses unhealthy defaults. The current studies test this prediction.

Previous research has not addressed how changing a default may impact consumer choices about which restaurant or store to patronize, despite the fact that such secondary effects of defaults would have large implications for the viability of restaurants that set up these defaults. In this paper, we test how implementing healthy defaults in restaurant settings can affect what people choose to eat, but we also investigate the effect of healthy defaults on sales, customer intentions to visit, and customer willingness to return.

An exploration of the secondary effects of default interventions is particularly important because defaults are often applied to large, unselected populations that likely contain many individuals who do not wish to change their health behavior. It is instructive to distinguish two types of health interventions. One category of interventions serves a targeted, self-selected group of individuals. For example, people wishing to change their diet may consult a nutritionist or join a weight loss program that provides behavioral interventions or nudges to help the individuals with their behavior change goals. Such individuals would presumably be delighted to receive these interventions and unlikely to dodge them. In contrast, another category of health interventions, such as soda taxes or calorie labeling legislation, are applied to an entire population, including both individuals who would welcome these interventions because they align with their own goals, and individuals who may wish to dodge the effects of the interventions due to conflicting preferences or different goals. These population-level health interventions could potentially be dodged by, for example, purchasing soda in a nearby municipality that lacks the tax (Roberto et al., 2019). A restaurant changing a dietary default that applies to all customers falls in this latter category of health interventions. Customers who do not wish to consume the healthy option can opt out of the healthy default (e.g., request French fries rather than taking the default carrot sticks), but they can also dodge the default intervention by patronizing a different restaurant with an unhealthy default.

1.1. Health interventions

Traditional interventions to promote healthy eating most commonly focus on ways to educate the consumer, or to present useful health information in ways that make it easier for consumers to understand. These interventions have had mixed results. For example, simplified visual summaries such as "traffic lights" have been found to decrease the consumption of unhealthy foods labeled with a red light (Thorndike, Riis, & Sonnenberg, 2014) but the presence of a nutrition logo indicating a healthier option on menus had no effect on consumption (Vyth et al., 2011). Interventions that rely on choice architecture to change food choices have typically been more successful (Cadario & Chandon, 2019; Duckworth, Milkman, & Laibson, 2018; Liu, Wisdom, Roberto, Liu, & Ubel, 2014; Roberto & Kawachi, 2014). The largest effects come from behaviorally oriented interventions such as convenience manipulations (healthy grab-and-go or pre-portioned options, placing healthy food at the beginning of the cafeteria line, healthy defaults; Cadario & Chandon, 2019). Although previous research has examined the effect of the healthy dietary defaults on hypothetical choices (e.g., Coffino & Hormes, 2018; Giesen, Geyskens, Goukens, & Havermans, 2013), few studies have examined the effects of default on actual food choices (Just & Price, 2013). Most importantly, previous studies have not explored the long-term effects of defaults on customer preferences or the tendency for consumers to dodge defaults.

A landmark study by Johnson and Goldstein (2003) demonstrated the power of the default effect: Organ donation rates are higher in European countries with an opt-out system, where the default is to be an organ donor, than in countries with an opt-in system, where the default is to be a non-donor. Similarly, automatic enrollment in retirement plans has been hugely successful at increasing savings rates (Choi et al., 2003; Madrian & Shea, 2001; Thaler & Benartzi, 2004). Both of these well-known examples entail one-off decisions; in contrast, dietary decisions are made multiple times per day often in varying settings. In addition, dodging an organ donation or retirement enrollment default would entail high cost, such as moving to a different country or employer that uses the desired default. In contrast, dodging a dietary default is often as easy as not returning to a particular restaurant and choosing to patronize the one next door the next time. Consequently, dietary decisions represent an important domain for examining consumers' tendency to avoid the effects of defaults in repeated decisions.

1.2. Dodging interventions

Previous research has investigated the negative effects of interventions designed to change behavior. Negative spillover—the phenomenon whereby the impact of an intervention is partially undone because consumers engage in compensatory behavior—can occur when, for example, the introduction of a soda tax prompts consumers to purchase soda in a nearby municipality that lacks the tax (Roberto et al., 2019), or a manipulation to encourage lower calorie entrees prompts consumers to purchase higher-calorie side dishes and beverages (Wisdom, Downs, & Loewenstein, 2010). Negative spillover is sometimes avoided – prompting customers to downsize their rice portion does not result in selection of higher-calorie entrees (Schwartz, Riis, Elbel, & Ariely, 2012), and calorie labeling at a coffee chain resulted in fewer food calories purchased without a corresponding increase in beverage calories purchased (Bollinger, Leslie, & Sorensen, 2011). Studies have also found that decision makers avoid exposing themselves to interventions intended to encourage prosocial behavior. For example, people strategically avoid supermarket entrances where the Salvation Army is soliciting donations (Andreoni, Rao, & Trachtman, 2017) and similarly avoid a task where they might feel obligated to behave prosocially (Dana, Cain, & Dawes, 2006; Schwartz, Keenan, Imas, & Gneezy, 2017).

Despite recent work on the possible negative consequences of nudging consumers with defaults or other nudge interventions (Raihani, 2013), little research has examined how defaults can have a negative impact on the businesses that implement them. While healthy defaults may nudge people towards healthy options, they could also drive potential consumers away from making any food purchase in the nudge environment. Indeed, past research has demonstrated that default effects can have boundaries. For example, Park et al. (2000) found that consumers chose to have more features on a car when a default car model was expensive and loaded with many fancy features compared to when the default was a basic model with few features. However, when consumers had low commitment to buying a car to begin with, the expensive, feature-loaded default option made them less likely to buy a car at all, even though they were free to add or remove any feature from the default model.

We examine whether consumers avoid a default condition that would encourage selection of the healthy food. That is, we assess whether healthy defaults result in a negative spillover effect such that consumers avoid being exposed to the healthy default, thereby reducing the net effect of the healthy default on healthy food consumption. We define the dodge effect behaviorally as avoiding the setting that uses a healthy default in favor of a setting that uses an unhealthy default.

Specifically, we predict that healthy defaults will foster choice of the healthy option for consumers who are in the healthy default environment, but at the same time, healthy defaults will also drive customers away from this environment altogether. These studies will present evidence that customers who have experienced a restaurant environment with a healthy default and one with an unhealthy default will on average, other things equal, prefer to return to the restaurant with the unhealthy default. Furthermore, experience with ordering food and seeing the consequences of one's choice is not necessary for consumers to dodge healthy defaults. Simply knowing that a restaurant uses a healthy default will decrease preferences for going to that restaurant relative to an analogous restaurant with an unhealthy default.

Why would healthy defaults drive away customers, who could easily opt out of the default if they do not like it? Examining which consumers are mostly likely to dodge the healthy default can shed light on this question. One possibility is that consumers who have an unsatisfying dining experience due to sticking with the default will be particularly likely to avoid the healthy default restaurant in the future. Consider again our consumer who on Tuesday orders a sandwich with a default side of carrot sticks. Due to the power of the default effect, she is likely to stick with that default even if she does not enjoy carrots. The lunch she obtains consequently includes a disliked component, and this unenjoyable dining experience may prompt our consumer not to return to that restaurant. Thus, it is the mismatch between the consumer's preferences (she likes fries) and the restaurant's default (given the default she is likely to end up with carrots) that prompts her to avoid the healthy default restaurant. Put simply, consumers may prefer restaurants where they can easily obtain their preferred foods without the effort or stigma of opting out of a healthy default.

1.3. Current studies

The current research includes five studies that examined the tendency for consumers to dodge healthy dietary defaults. Study 1 provides initial evidence for dodging defaults. This study combined experimental manipulations with a real-world environment at a campus retail shop, where we manipulated the default snack included with the purchase of a coffee mug. We tested whether the presence of a healthy default reduces sales compared to an unhealthy default. Study 2 used an online survey with real consequences to test whether participants choose to receive actual meal kits from a company that uses unhealthy defaults over one that uses healthy defaults. Studies 3–5 used hypothetical scenarios. Study 3 tested whether a healthy default can reduce willingness to return to a restaurant, and hence reduce repeat sales. Study 4 tested whether advertising a healthy default reduces willingness to try a restaurant. Study 5 tested the dodge effect in a different design using a well-known brand.

All materials and data are posted on Open Science Framework (OSF) at https://osf.io/b23r8/?view_only=7cd985fc08ff4a4a8db68d59244dd945. In addition, Study 2 was pre-registered at https://aspredicted.org/hz3z7.pdf.

2. Study 1

In this field study we manipulated the default condition for an item that was available for purchase in a retail store setting, with highly visible signage indicating the presence of an alternative option. The participants were real customers spending their own money, who were not aware that an experiment was taking place. We examined the tendency for healthy defaults to decrease sales. One potential limitation of default effects is that customers may select away from a less appealing default, deciding not to purchase the item category at all (or to go to another store), despite their freedom to choose an alternative option within the item category. This study took place in a store where many consumers frequently browsed without specific intent to make a purchase, and thus purchase likelihood may be sensitive to the default.

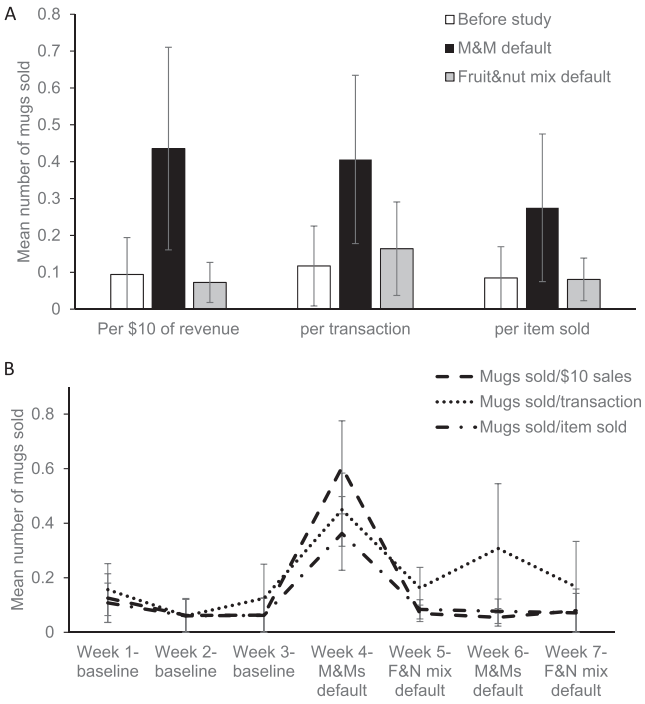

Fig. 1. Mug sales in study 1 by condition (A) and by week (B). Note: (A) Different colored bars represent mean number of mugs sold by period: pre-study period (white bars), M&M'S® default period (black bars), and fruit and nut default period (gray bars), shown separately for mug sales per $10 of revenue, per transaction, and per item sold; (B) Separate lines represent weekly mean number of mugs sold per $10 of revenue (dashed line), per transaction (dotted line), and per item sold by week (dash-dot line). Sales staff shift was the unit of analysis in both graphs. Error bars = ±2SE in both.

2.1. Methods

This study was conducted in the student store of a large university's law school. The store sells law-school-branded apparel, gifts, and office supplies, including law school coffee mugs. During the normal course of business, the mugs were sold empty. However, during the study period, the mugs came with a free snack packed inside such that the desired experimental manipulation was possible. During the study each mug available for sale was filled with a snack packed in a clear cellophane baggie: either M&M'S®, an unhealthy snack (258 calories and 11 g of fat per ¼ cup) or a healthier fruit and nut mix (140 calories and 6 g of fat per ¼ cup).

The default snack packed in the mugs was alternated on a weekly basis for four weeks, with each week starting Saturday and ending Friday. A small placard was placed next to the mugs in each of the two places in the store where the mugs were displayed, which read "M&M'S® [fruit and nut mix] also available, just ask the cashier" (depending on condition). A cashier was present at all times when the store was open, with easy access to bags of the non-default snack option under the counter.

2.2. Results

During the two weeks in which M&M'S® were the default snack, 14 mugs were sold, all of which were sold with M&M'S® (100%). During the two weeks in which the fruit and nut mix was the default snack, 8 mugs were sold, and only 1 mug was sold with M&M'S® (12.5%) (Fisher's exact test = 12.97, $p < .001$), demonstrating a default effect.

To examine whether the healthy default snack inside the coffee mug discouraged consumers from purchasing the mug (despite their freedom to switch to the more appealing yet less healthy M&M'S® as the free

snack), we analyzed mug sales adjusting for overall sales in the store. Sales data from the three weeks previous to the experiment served as the baseline period in analyses of mug sales adjusted for overall sales. We examined three measures of adjusted mug sales: Number of mugs sold per $10 revenue, number of mugs sold per transaction, and number of mugs sold per item sold in the store. Shifts with no transactions at all were excluded from the analysis because the denominator would be zero. We used cashier shift as the unit of analysis (n = 13, 7, and 30 for the M&M default, fruit and nut mix default, and base periods for shifts with transactions; Mean length of shift = 1.57 h, $SD = 1.28$). See mean mug sales in these three measures by condition in Fig. 1A and by week in Fig. 1B.

We conducted three one-way ANOVAs on the three mug sales measures. Results indicate a significant difference between the M&M'S® default, fruit and nut mix default, and base periods for mug sales per transaction, $F(2, 47) = 3.79$, $p = .03$, and a marginal difference for mug sales per $10 revenue $F(2, 24.27) = 3.28$, $p = .055$ (Welch test due to unequal variance) and for mug sales per item sold, $F(2, 47) = 12.61$, $p = .08$.

We further conducted robust contrasts between pairs of conditions (not assuming equal variance). As shown in Fig. 1A, compared to the fruit and nut mix default condition, the M&M'S® default condition had significantly more mug sales per $10 revenue, $t(12.91) = 2.59$, $p = .022$, and marginally more mug sales per transaction, $t(17.26) = 1.85$, $p = .081$, and per item sold, $t(13.90) = 1.86$, $p = .084$. It is apparent, however, that the M&M'S® default condition also had greater mug sales compared to the baseline condition, $t(15.29) = 2.34$, $p = .033$, and per transaction, $t(17.65) = 2.29$, $p = .035$, and the difference was marginally significant for mug sales per item sold, $t(16.45) = 1.74$, $p = .099$. In contrast, the fruit and nut mix default condition showed no significant difference in mug sales compared to the baseline comparison, $p > .58$ for all three measures. When these comparisons were conducted as non-parametric tests (Mann-Whitney U test), the only significant differences emerged between the M&M'S® default condition and the baseline condition, $U = 101.50$, 110.00, and 109.50 in the analysis for mug sales per $10 of revenue, per transaction, and per item, $p = .012$, 0.024, and 0.022, respectively. Descriptively, the weekly mug sales plot (Fig. 1B) also shows a rise during the two weeks of the study when M&M'S® was the default (Week 4 and 6 in Fig. 1B, although the spike in Week 6 only occurred in one of the three measures of mug sales), compared to the two weeks of the study when fruit and nut mix was the default (Week 5 and 7 in Fig. 1B), as well as compared to the three weeks at baseline (Weeks 1–3 in Fig. 1B).

2.3. Discussion

This study demonstrates that defaults can have a significant impact on behavior in retail settings in which customers are spending their own money to make real purchases. Although both the fruit and nut mix and the M&M'S® were available to customers who purchased a coffee mug, customers preferred to take the default snack that was pre-packed in the mug. Thus, a simple change of default nudged customers toward the healthier option. However, this improvement in healthy eating came at a price to the store, with the healthy default reducing mug sales compared to the unhealthy default, bringing it down to the level of sales during the baseline period when no snack was offered. This suggests that when customers are browsing without necessarily having specific intent to purchase, a healthy default can lead to lower sales of the product than an unhealthy default. The healthy default appears to lead consumers to choose to not purchase the item at all, even when the unhealthy item could be had for a small transaction cost. That is, consumers dodge the default.

This study was limited in that the presence of potential customers in the store varied greatly by day and across periods in the study due to exams and other school events, so total, unadjusted sales figures could not be compared in a meaningful way. In addition, the sample size was quite small and, because participants did not know they were in a research study, we could not check that they noticed the signs and understood it was possible to opt out of the default snack and request the alternative one. Study 2 used an online survey paradigm with real consequences to provide a large sample size and a check on understanding of the default.

3. Study 2

The results of Study 1 indicated that consumers may chose not to purchase a particular product when the default is healthy, even when an unhealthy option is available for a small transaction cost. Study 2 examines the effect of healthy defaults on product choice in a slightly different context: allowing consumers to choose between two brands with different defaults. As in Study 1 this study used decisions with real consequences. Study 2 was pre-registered at https://aspredicted.org/hz3z7.pdf.

3.1. Methods

One thousand and two participants were recruited from Amazon Mechanical Turk for a small payment. The focal product category for this study was meal kits. Meal kits provide weekly home delivery of pre-measured ingredients and instructions for cooking, and have become increasingly popular, with an estimated at $2.5 billion in sales in 2017 (Conway, 2020). Consumers have a range of recipes to choose from, and if no choice is actively made the company selects meals to send by default. In the current study we used Hello Fresh® and Blue Apron® as focal brands, as they lead market share with an estimated 28% and 22% of the market respectively (Conway, 2020). Both Blue Apron® and Hello Fresh® websites indicate some meals as healthier choices, indicated by the WW® (formerly Weight Watchers®) logo on the Blue Apron® website and by "Calorie Smart" on the Hello Fresh® website.

Participants were given general information about meal kits and were told that they would see two different meal kit providers during the study. Each participant saw each of the two meal kit providers, one at a time. For each provider, participants saw three pre-selected (default) meals for week 1. Participants were randomly assigned to see either Blue Apron® with 3 healthy default meals and Hello Fresh® with 3 unhealthy default meals, or Blue Apron® with 3 unhealthy default meals and Hello Fresh® with 3 healthy default meals. Presentation order of the two companies was randomized.

Below the default meals participants were instructed that if the pre-selected options looked good to hit continue, or if they wanted to change meals they could write "change" in the text box provided. Participants who typed any input in the textbox for each company were automatically directed to a page showing all six (three healthy and three unhealthy) meals available for that company and asked to choose whichever three meals they preferred.

All participants then saw the meals they selected for the first week (or the default meals if they did not opt to change meals). After seeing and potentially making selections for both meal kit companies, participants were informed that as a thank you gift, one participant would be randomly selected to receive a month of free meals from either Blue Apron® or Hello Fresh®, and asked to make a choice for which brand of meal kit they would like to receive. Participants then completed two comprehension check questions to determine if they were aware they could choose away from the default for each meal kit company, completed an attention check (a simple shopping scenario where they needed to identify the cheapest item), and provided demographic information.

3.2. Results

Of a total of 1002 participants, 927 passed a simple attention check question at the end of the study and are included in the analysis. Per the

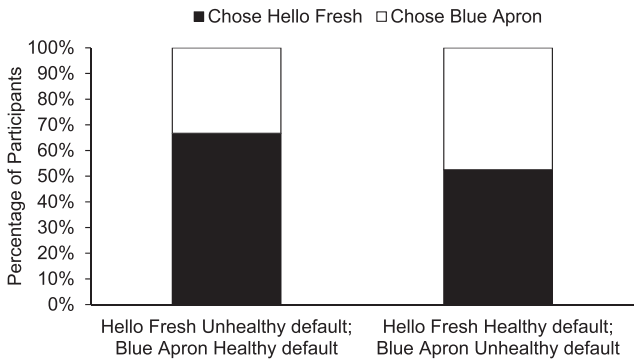

Fig. 2. Choice of meal kit company in study 2.

pre-registration, and as a test for the default effect, we analyzed the number of healthy meals chosen in a meal kit company (Within-Subject: Blue Apron® or Hello Fresh®) × condition (Between-Subject: Blue Apron® unhealthy default & Hello Fresh® healthy default, vs. Blue Apron® healthy default & Hello Fresh® unhealthy default) mixed factorial ANOVA. As predicted, the ANOVA revealed a significant interaction between condition and meal kit company, F (1, 925) = 2329.60, $p < .001$. partial $\eta^2 = 0.72$. Focused contrasts showed that participants chose more healthy meals from Hello Fresh® when Hello Fresh® had healthy vs. unhealthy default meals, $Ms = 2.46$ ($SD = 0.89$) vs. 0.37 ($SD = 0.77$), F (1, 925) = 1453.10, partial $\eta^2 = 0.61$; likewise, participants chose more healthy meals from Blue Apron® when Blue Apron® had healthy vs. unhealthy default meals, $Ms = 2.19$ ($SD = 1.00$) vs. 0.35 ($SD = 0.65$), F (1, 925) = 1096.44, partial $\eta^2 = 0.54$.

We next tested the dodge effect per the pre-registration. Descriptively, when Blue Apron® had unhealthy meals as default, 47.5% of participants chose Blue Apron® over Hello Fresh®; when Blue Apron® had healthy meals as default, only 33.3% chose Blue Apron® (See Fig. 2). In a logistic regression on choice (1 = Blue Apron®, 0 = Hello Fresh®), with condition (0.5 = Blue Apron® unhealthy default & Hello Fresh® healthy default, −0.5 = Blue Apron® healthy default & Hello Fresh® unhealthy default), display order (0.5 = healthy default meal kit first, −0.5 = unhealthy default meal kit first), and their interaction as predictors, condition had a significant effect on choice, Wald χ^2(1, N = 927) = 19.35, $p < .001$, odds ratio = 1.82, 95% CI [1.39, 2.37], indicating a greater likelihood of choosing Blue Apron® when it had an unhealthy vs. healthy default, that is, a dodge effect. Neither display order (χ^2(1, N = 927) = 0.25, $p = .62$) nor the interaction between condition and display order (χ^2(1, N = 927) = 0.07, $p = .79$) had a significant effect. The logistic regression model correctly classified 59.5% of participants and had a Nagelkerke R^2 of 0.03.

As an additional exploratory analysis, we further tested the dodge effect among the 473 (51.0%) participants who stuck with the defaults for both meal kit companies (did not choose any non-default meals). We found that 52.9% vs. 35.5% of participants chose Blue Apron® when it had unhealthy vs. healthy defaults, and performing a logistic regression as above showed that condition was a significant predictor of choice, Wald χ^2(1, N = 473) = 14.10, $p < .001$, odds ratio = 2.04, 95% CI [1.41, 2.96], indicating a dodge effect among participants who stuck with the default. Interestingly, among the 453 (49.0%) participants who opted out of the default for either meal kit company (chose at least one non-default meal), the dodge effect was also present, but smaller: 40.6% vs. 31.5% of participants chose Blue Apron® when it had unhealthy vs. unhealthy defaults, and logistic regression showed condition as a significant predictor of choice, with a smaller effect than before, Wald χ^2(1, N = 453) = 4.11, $p = .043$, odds ratio = 1.49, 95% CI [1.01, 2.20].

Note that of the 927 total participants included in the main analyses above, 73 failed at least one of the two comprehension questions about whether they had the option of changing meals from the default (including 2 who did not respond to the questions), leaving 854 (92.1%) of the participants who showed a clear understanding that they could opt out of the default and choose other meals. As planned in the pre-registration, we restricted the data to the 854 (92.1%) participants who clearly knew about alternative meals and repeated the main analyses, and found very similar results with regard to the default effect (interaction between condition and meal kit company in ANOVA F (1, 852) = 2018.90, $p < .001$. partial $\eta^2 = 0.70$), as well as the dodge effect (47.9% vs. 33.8% choosing Blue Apron® when it had unhealthy vs. healthy defaults, effect of condition in logistic regression Wald χ^2(1, N = 854) = 17.49, $p < .001$, odds ratio = 1.81, 95% CI [1.37, 2.38]), confirming the robustness of these findings.

3.3. Discussion

These results indicate that consumers may be significantly influenced in choice between products or brands by the default, even when a more appealing option is easily available. This suggests that companies that attempt to encourage healthy choices may be doing themselves a disservice, as consumers may choose away from their products when presented with a healthy default. In this study, participants chose to dodge the healthy default by simply choosing a different meal kit brand. In industries with stiff competition and many available alternatives, as exist with meal kits, the negative impact of providing a healthy default could have significant consequences. Study 2 also demonstrated that the dodge effect was robust in analyses restricted to participants who showed a clear understanding about the availability of alternative meals, suggesting that the dodge effect is not simply driven by people not noticing that they had other options beyond the default.

4. Study 3

Studies 1 and 2 suggest that improving healthy consumption may not be as simple as changing the default, as such defaults may have a negative impact on consumers' willingness to purchase, and thus hurt a business's bottom line. Study 1 took place in a store where consumers often entered to simply browse. The set-up in Study 2 was such that participants could choose away from the healthy default by selecting the alternative brand. Next, in Study 3 we examined the effect of a healthy default on sales in a restaurant situation where repeat purchases are especially relevant. If customers choose the healthy default, but then tend not to return, preferring instead other businesses with an unhealthy default, changing the default option in this type of setting may not be feasible. This study used hypothetical scenarios to test whether healthy default options affect consumers' choices of which restaurants to return to.

4.1. Methods

Individuals recruited from Amazon Mechanical Turk (N = 351) completed an online survey in exchange for a small payment. Each participant saw six restaurant scenarios in sequence. They were told to imagine they were trying out three types of new restaurants for lunch: Sandwich shops, pizza shops, and burger shops, and would visit two of each kind of restaurant and select which one they would prefer to return to if they were going to eat that type of food again.

For each of the three types of restaurants, two alternative restaurants were presented to each participant, one with a healthy default and the other with an unhealthy default. The specific default food options were as follows. Burger shops: turkey or beef burger; pizza shops: whole or skim milk mozzarella; sandwich shops: French fries or carrots as the side dish. First, participants saw a picture of a restaurant and the menu, with the default option listed on the menu, along with the information that the alternative could be requested at no additional cost. Participants were then asked to select an entrée and drink, and offered the opportunity to enter any special requests, including the non-default option, in a special request text box (the open-ended format of this question was

meant to mimic real restaurant settings, where people usually choose alternative options through verbal request). For example, at the sandwich shop, participants learned that sandwich entrées were served with French fries (or carrot sticks) as a default but that they could request carrot sticks (or French fries) as a substitution. If the participant wanted carrots, they would need to type "carrots" or "I want carrots instead" etc., into the special request text box, along with any other special requests. After choosing their order, participants saw a picture of their food, which included the healthy or unhealthy default they had chosen. That is, if a participant stuck with the French fries default they were shown a picture of their sandwich with French fries, however if they had entered "carrots" or some variation thereof in the text box, they were shown a picture of their sandwich with carrots. Participants then moved on to order lunch at the other restaurant within the same type, which had a different default. After ordering lunch at both restaurants of the same type they were asked to choose which one they would be more likely to return to.

We counter-balanced across subjects which restaurant name and picture were tied to which default and randomized the order of presentation within restaurant type (healthy default or unhealthy default first) and across restaurant type (burger, pizza, and sandwich). All restaurants were creations of the study team, such that participants did not enter the restaurants with brand-specific expectations.

4.2. Results

Each participant placed six lunch orders, one in each restaurant. These lunch orders showed a strong default effect, with 91.57% of participants sticking to the healthy default, and 94.57% sticking to the unhealthy default overall. The default effect was individually significant for each of the three restaurant types, (all McNemar's $\chi^2(1) \geq 293$, $p < .001$).

We next examined whether default condition affected the choice of which restaurant to return to. Each participant made three choices concerning which restaurant to return to, one for each type of restaurant. We coded whether participants chose to return to the restaurant with the healthy default (coded as 1) or the one with the unhealthy default (coded as 0) in each of the three restaurant types. We then averaged across the three restaurant types to compute the percentage of times each participant returned to the restaurant with the healthy default. Each participant could have a score of 0 (none of the 3 types of restaurant), 0.33 (1 of the 3 types of restaurant), 0.67 (2 of the 3 types of restaurant), or 1 (all 3 types of restaurant). If the default condition has no effect on return decisions, we would expect this measure to average 0.5. Of course, no individual participant can have a score of 50%, but if no dodge effect occurs, the distribution should be centered around 0.5.

The mean score was 0.46 (SD = 0.28), which was reliably less than 0.5 in a one-sample *t*-test ($t(350) = 2.53$, $p = .01$, Cohen's $D = 0.13$.). This indicates that participants were slightly but significantly less likely to return to a restaurant with a healthy default than to a restaurant with an unhealthy default. This result constitutes the dodge effect.

Individual chi-square tests indicated that participants were significantly more likely to return to the restaurant with an unhealthy default for the burger restaurants (42.69%, $\chi^2(1, N = 349) = 7.45$, $p < .01$), but not for sandwich shops (47.13%, $\chi^2(1, N = 348) = 1.15$, $p = .28$) or pizza restaurants (48.71%, $\chi^2(1, N = 349) = 0.23$, $p = .63$). We conducted a logistic HLM analysis using dummy codes of restaurant type and display order within restaurant type (healthy default first or unhealthy default first) to predict return to the healthy/unhealthy restaurant. The results showed that restaurant type did not affect choice, odds ratio = 1.20, 95% CI [0.89, 1.61], $p = .24$ for the comparison between sandwich and burger restaurants, and odds ratio = 1.27, 95% CI [0.94, 1.71], $p = .11$ for the comparison between pizza and burger restaurants, indicating that the dodge effect did not differ significantly in size across the three restaurant types. Thus, the dodge effect is statistically detectable when the data from the three scenarios are combined, but when each scenario is examined individually, the dodge effect is detectable in the burger scenario but not the pizza or sandwich scenarios. The HLM analysis also showed no effect of display order, odds ratio = 0.98, 95% CI [0.77, 1.25], $p = .87$, suggesting that return choice was not affected by whether the healthy or unhealthy default restaurant was displayed first within each restaurant type. It is unclear why the dodge effect was detectable only for the burger restaurant, but this may reflect the fact that the overall dodge effect in the current study was modest in size.

Results also suggest that participants were aware of their ability to make specific requests about their food and to request the alternative to the default option. Special requests were common, with 149 out of 352 participants (42%) making a special request on at least one of their six orders, and 14.5% of all orders containing special requests. This suggests that the high percentage of participants sticking with the default option was not due to unwillingness to make special requests, or lack of awareness that such requests were possible.

4.3. Discussion

Study 3 demonstrated a modest dodge effect, such that participants were slightly less likely to return to a restaurant that used a healthy default compared to one that used an unhealthy default. This pattern is presumably linked to the fact that many people prefer beef to turkey and find French fries tastier than carrot sticks. However, the implications of this modest finding are far from trivial. The libertarian paternalism logic behind defaults and other nudges is that they encourage healthy choice while not limiting options; that is, people who truly prefer beef can simply opt out of the turkey default. The dodge effect suggests that there is a cost, either physical or psychological, levied on beef-lovers when the default is turkey – a cost that is sufficient to motivate them to select a beef default restaurant in the future. Furthermore, the public health purpose of healthy defaults is to encourage people to eat less preferred but healthier foods. Given that most people find French fries tastier than carrot sticks, how do we encourage them to eat carrot sticks instead? The view that dietary defaults are a simple intervention to encourage healthy choice is too simplistic, given our results. Such interventions will be less effective when consumers have alternative environments to patronize, because some French fry loving consumers will not return to the restaurant with the carrot stick default – that is, they will act to ensure that they are not exposed to the nudge that would encourage them to eat healthier.

5. Study 4

In Studies 1 and 2 we found that, compared to an unhealthy default, a healthy default reduced sales. In Study 3 we found that healthy defaults also reduce willingness to return to a restaurant, reducing repeat sales. Although in Study 3 novel brands were used to reduce consumer expectations, it is still possible that the dodge effect is driven by surprise at encountering a healthy default in a location where an unhealthy default was expected. If so, then one potential method of ameliorating this effect is to advertise the healthy default in advance. In Study 4 we investigate the effects of an advertised healthy default on willingness to try a new restaurant, examining the effect of the healthy default on first-time sales. After exploring consumer decisions related to the dodge effect in various phases in the above studies: purchase decisions at the store (Study 1), purchase decisions after exploring online offerings (Study 2), and return decisions after experiencing food choices (Study 3), Study 4 offers a test for the dodge effect at a different stage of consumer choice: patronage decisions after viewing the advertisement of a healthy default but prior to entering the store.

5.1. Method

Two hundred and three individuals participated on Amazon Mechanical Turk for a small payment. Participants were asked to imagine

Fig. 3. Stimuli from study 4.

that they had just started a new job and "In the break room are two ads for burger restaurants that are near your office. Today for lunch you feel like a burger, so you decide to try out one of them." Participants then saw advertisements for two burger restaurants, "Burger Kaboom" and "Tastee Burger" (see Fig. 3), where one restaurant advertised an all-beef patty, but noted that turkey patties were available upon request, and the other advertised an all-turkey patty but noted that beef patties were available upon request. Between subjects, we manipulated which restaurant brand had which default to isolate any brand name effect from the dodge effect. Thus, the design was a 2 (Restaurant: Kaboom vs. Tastee) × 2 (Default match: Kaboom beef/Tastee turkey vs. Kaboom turkey/Tastee beef) mixed factorial design, with restaurant as the within-subject factor, and default match as the between-subject factor. The display order of the two restaurants was also counterbalanced. After viewing both advertisements, participants were asked to choose which of the two restaurants they would prefer to visit. Participants were also asked to rate how difficult it would be to decide what to order at that restaurant on a scale of 1 (extremely easy) to 7 (extremely difficult) and how appealing the restaurant was on a scale of 1 (not at all appealing) to 6 (extremely appealing).

5.2. Results

A chi-square analysis on choice of restaurant to visit revealed a significant effect of default match on restaurant choice, where 70.6% of participants preferred "Kaboom" when Kaboom offered a beef default and Tastee offered a turkey default, but only 48.5% preferred Kaboom when Kaboom offered a turkey default and Tastee offered a beef default. Across both default match conditions, 121 out of the 203 participants (59.6%) preferred the restaurant with the less healthy beef default, significantly above 50%, $\chi^2(1, N = 203) = 9.98$, $p = .002$. In a logistic regression predicting the choice between healthy and unhealthy default restaurant, we found that this choice was not influenced by which brand name was matched with healthy default, Wald $\chi^2(1, N = 927) = 19.35$, $p < .001$, odds ratio = 1.82, 95% CI [1.39, 2.37], display order (whether healthy or unhealthy default restaurant was displayed first), Wald $\chi^2(1, N = 927) = 19.35$, $p < .001$, odds ratio = 1.82, 95% CI [1.39, 2.37], or their interaction, Wald $\chi^2(1, N = 927) = 19.35$, $p < .001$, odds ratio = 1.82, 95% CI [1.39, 2.37].

In addition, participants indicated greater predicted difficulty when ordering from the healthy default restaurant than from unhealthy default restaurant, $M = 2.77$ vs. 2.38, Mean Difference = 0.38 ($SD = 1.32$), paired sample t (202) = 4.16, $p < .001$, Cohen's $D = 0.29$. They also found the healthy default restaurant less appealing than the unhealthy default restaurant, $M = 3.20$ vs. 3.63, Mean Difference = 0.43 ($SD = 1.66$), paired sample t (202) = 3.72, p < .001, Cohen's $D = 0.26$.

5.3. Discussion

The results of Study 4 expand on the results of Studies 1–3 by demonstrating another stage in the purchase process that can be negatively impacted by healthy defaults. A restaurant advertising a healthy default was chosen less frequently than a similar restaurant advertising an unhealthy default. Participants also found it less appealing, and expected it to be more difficult to order in a healthy default restaurant than in an unhealthy default restaurant. This suggests that advertising healthy defaults, and essentially giving consumers a heads-up before they visit the restaurant, may lead to consumers dodging the healthy default by choosing not to try healthy default restaurants, driving away sales before the potential consumers even get in the door.

6. Study 5

In Study 3 we found that consumers who experienced a restaurant with a healthy default had a reduced likelihood of returning to the restaurant compared to those who experienced a restaurant with an unhealthy default, and in Study 4 we found that consumers were less likely to choose a restaurant advertised with a healthy default compared to one advertised with an unhealthy default. Both studies used a within-subject design to examine the effect of the default. In Study 5, we test the

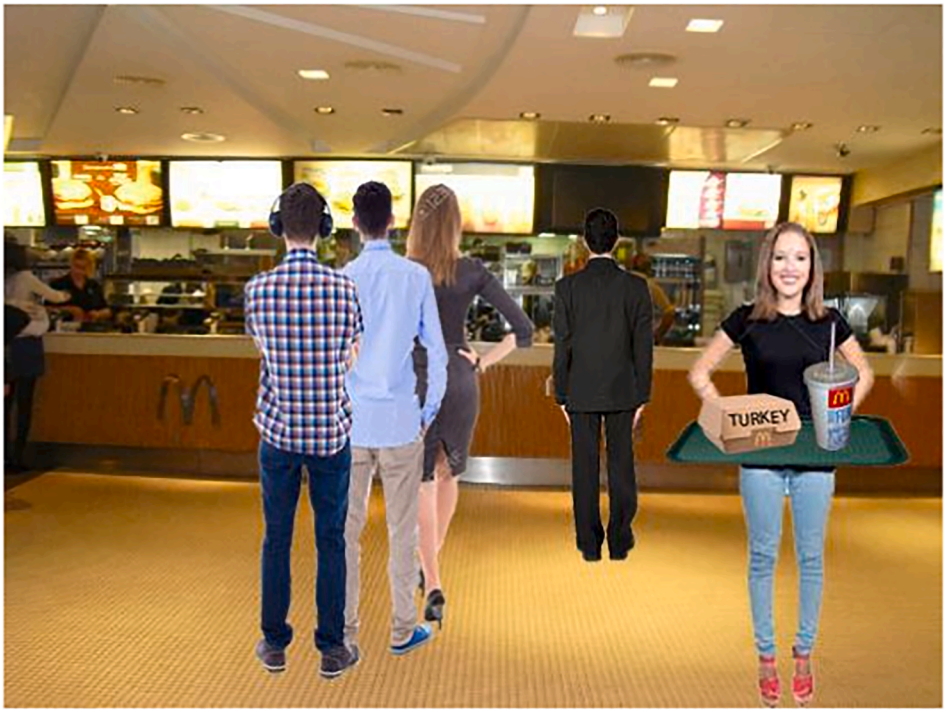

Fig. 4. Example stimulus from study 5.

dodge effect but with a somewhat different design. We utilized a between-subject design, and in addition we used a social default manipulation. That is, we allowed the consumer to see what other people were ordering ahead of them, mimicking a real restaurant ordering experience. Specifically, in Study 5, participants were told what the restaurant default was (turkey or beef burgers) and they also saw five people ahead of them in line order the default menu item. We compared two conditions (healthy default with other customers ordering the healthy item vs. unhealthy default with other customers ordering the unhealthy item). This design instantiates what realistically happens when a restaurant sets a default – not only does the default set restaurant practice but this practice then influences what the majority of customers receive and hence what each customer observes.

6.1. Method

Five hundred and nine individuals participated via Amazon Mechanical Turk for a small payment. Participants were presented with a scenario about McDonald's®, a ubiquitous fast-food restaurant, with locations in more than 100 countries (McDonalds.com). Individuals were presented with a story stating:

> *"Imagine that you have just started a new job, and for lunch you decide to go to the McDonald's across the street. You stand in line while the five people in front of you order and receive their food."*

Participants were randomly assigned to either a healthy (turkey patty) or unhealthy (beef patty) default condition. In each condition, the default was presented in two ways: both through the food orders from previous customers, and through a text description of the default right before participants were ready to order. Participants first saw a picture story with a series of five individuals in front of them in line at a McDonald's® ordering food and then walking away with a tray, one at a time. To better represent the likely experience of ordering in a restaurant with a default, all five individuals in the picture story received the default option. This set up is likely to reinforce the default, as social norms can also be experienced as a form of default (Huh, Vosgerau, & Morewedge, 2014). Each tray showed a drink and a burger box with either "Turkey" (healthy default condition) or "Beef" (unhealthy default condition) and the McDonald's® logo printed on it (see Fig. 4 for an example picture). After seeing all five consumers in front of them order and receive their food, participants were told that it was their turn to order. At the top of the screen they saw the default description in bold, which was always consistent with the food choice of the five previous consumers: "All burgers are made with turkey [beef] burger patties, but beef [turkey] burger patties can be substituted upon request at no additional charge", depending on the default condition participants were assigned to. Participants saw the menu including a choice of a variety of burgers and drinks to choose from, as well as a text box that said "special requests".

After ordering, participants saw a picture of their meal including a drink and a burger box that said "turkey" or "beef" depending on their choice. Participants then indicated how likely they were to return to this McDonald's® next time they felt like a burger, on a scale of 1 (extremely unlikely) to 7 (extremely likely). Participants also rated how conflicted they felt about what to order when ordering their burger on a scale from 1 (not at all) to 7 (an extreme amount). Finally, they answered a comprehension check question asking "What was the default at the restaurant you visited? (That is, what would you receive if you did not make any special requests)", with "Beef burger patty" "Turkey burger patty, and "Vegetarian burger patty" as options.

6.2. Results

Out of 509 participants, 483 (94.9%) responded to the check question correctly. The analysis below includes only these participants, although including all participants did not alter the findings. Among these participants, there was a strong default effect: When beef burger was the default (n = 247), 218 (88.3%) participants stuck to the beef default, 25 (10.1%) switched to turkey burger, and 4 (1.6%) requested another option not offered in the scenario (e.g., veggie burger); When turkey burger was the default (n = 236), 83 (35.2%) participants switched to beef burger, 149 (63.1%) stuck with the turkey default, and 4 (1.7%) requested an option not in the scenario. For simplicity, we excluded the 8 participants who requested a non-beef and non-turkey

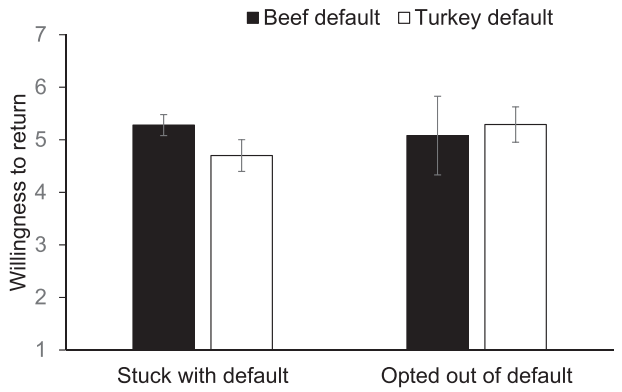

Fig. 5. Return ratings by among participants in study 5. Note: Error bars = ±2SE.

burger (such as a veggie burger) in the remaining analysis. A Chi-square test shows that the effect of default condition on food choice was significant, $\chi^2(1, N = 475) = 148.74$, $p < .001$. Note that including participants with the non-beef and non-turkey choice in the analysis yielded similar results, Fisher's exact test = 159.63, $p < .001$.

Next, we again tested the dodge effect, this time with default manipulated between-subjects. Participants were less willing to return to the restaurant if the default burger was a healthy option—turkey ($M = 4.91$, $SD = 1.76$) compared to an unhealthy option—beef ($M = 5.26$, $SD = 1.52$), $t(473) = 2.60$, $p = .02$, Cohen's $D = 0.21$. Participants did not show different levels of conflict between default conditions, $M = 2.15$, $SD = 1.71$ vs. $M = 2.24$, $SD = 1.76$, $t(473) = 0.56$, $p = .58$, Cohen's $D = 0.05$.

We then test the dodge effect among participants who responded to the default manipulation, that is, among participants who stuck with the default in their experimental condition (Fig. 5). There were 367 participants who stuck with the default, and a *t*-test found that they were less willing to return to the restaurant if the default burger was a healthy option—turkey ($M = 4.70$, $SD = 1.84$) compared to an unhealthy option—beef ($M = 5.28$, $SD = 1.48$), $t(365) = 3.31$, $p = .001$, Cohen's $D = 0.35$. Interestingly, when we analyzed the results among the 108 participants who switched away from the default, the dodge effect did not emerge, with similar return ratings in healthy vs. unhealthy default conditions, $M = 5.29$, $SD = 1.53$ vs. $M = 5.08$, $SD = 1.87$, respectively, $t(106) = 0.57$, $p = .57$, Cohen's $D = 0.11$. These means are illustrated in Fig. 5. These results, combined with the results from a similar analysis in Study 2, point to the possibility that the dodge effect is concentrated among those who are most influenced by the default effect and stick with whatever default they are given.

6.3. Discussion

The results of Study 5 replicated the dodge effect shown in Studies 1–4 using a between-subject manipulation of default, a real brand, and a bolstered default manipulation with a realistic social norm occurring to reinforce the healthy or unhealthy default. The use of McDonald's® as the setting also excludes a potential alternative explanation of the finding: One potential reason that customers would avoid going back to a restaurant is that they may expect restaurants to "specialize" in whatever default food option they offer, and if a restaurant offers turkey burgers by default, consumers may suspect their beef burgers to be subpar. Therefore, consumers who prefer beef may avoid the restaurant offering turkey burgers by default because even if they switch to a beef burger in this restaurant, the quality of the beef burger may be questionable. However, given that McDonald's® is such a household name with standardized operations, such suspicions are unlikely to occur. In addition, the results showed that the dodge effect is robust among consumers who stuck with the default, but not among consumers who switched food options, providing further evidence against the explanation that the dodge effect merely reflects attributions about food quality to the restaurants.

Taken with the previous studies, Study 5 provides strong evidence that even though healthy defaults encourage selection of healthy foods, they also promote dodging: Consumers are less likely to return to a restaurant that uses a healthy default than one that uses a more indulgent default.

7. General discussion

Our studies demonstrated a dodge effect: Consumers avoid purchasing the product if it has a healthy default in place (Study 1), select a different meal-kit brand when the default is healthy (Study 2), avoid returning to a restaurant with a healthy default (Studies 3, and 5), and avoid selecting a restaurant advertising a healthy default (Study 4). Note that the current studies demonstrate two variants on the dodge effect: (i) choosing to purchase something else (or nothing at all) when the defaults is healthy (Studies 1, 2, 4) and (ii) choosing the healthy default when presented with it, but then avoiding that store/restaurant in the future (Studies 3, 5). This dodge effect can reduce the impact of default manipulations, as consumers with preferences that do not match the default will avoid being exposed to that default. Simultaneously, the dodge effect could inflate the apparent impact of a default manipulation in a non-experimental setting, as the large percentage of consumers sticking with the healthy default may in part reflect a self-selecting effect: consumers who do not wish to consume the healthy option may have simply been chased away.

The current results point to the importance of examining the effect of defaults and other nudges not only in the local environment where they are in place, but also in upstream decisions when decision makers select which environment to enter and in downstream decisions where decision makers choose whether to return to an environment. Our results suggest that consumers may avoid environments where it is difficult to satisfy their preferences (e.g., when the environment has a healthy but unappealing food default in place).

The current studies do not pinpoint the mechanism behind the dodge effect. We speculate that one likely mechanism is that many consumers mindlessly accept the default. Consequently, they experience a meal that is not tasty and attribute that poor experience to the restaurant, rather than to their own acceptance of the default. Note, however, that it is not necessary for the consumer to experience the default healthy outcome for a dodge effect to manifest, as Study 4 demonstrates that consumers dodge healthy defaults when initially selecting a restaurant. Other mechanisms are also possible. For example, opting out of healthy default (to obtain the unhealthy food) may incur physical or psychological costs relative to obtaining the same unhealthy food by accepting an unhealthy default. Opting out of healthy default requires some effort, but it may also signal vice to the decision maker or others, or it may make the decision maker feel guilty or feel angry that others appear to be trying to make her feel guilty about her choice. Testing these and other specific mechanisms is outside the scope of the current paper but is an interesting topic for future research. Regardless of the mechanism, restaurants that set a healthy default risk losing customers.

Thus, while healthy defaults have a strong positive effect on food consumption, they may not be the easy answer to the obesity crisis that some have suggested, as the dodge effect may present serious hurdles for business owners interested in implementing healthy defaults. However, consumers may be less likely to dodge healthy defaults when it is not feasible to leave one environment and move to another. For example, in school lunchrooms and workplace cafeterias where customers have few other options but to eat within the facility, implementing healthy defaults could provide large health benefits without driving down sales or driving away customers.

It is important to note that the current results indicate that the dodge effect will reduce the effect of healthy defaults on consumptions of

Table 1
Comparison of the default effect and dodge effect.

Study	N	Default effect	Dodge effect	Net default effect [a]	Net dodge effect [b]
1	22	88% stuck with healthy default, 100% stuck with unhealthy default	0.106 vs. 0.372 mugs sold per unit of sale (across 3 measures) under healthy vs. unhealthy default	44%	N/A[cc]
2	957	61.92% stuck with healthy default; 75.30% stuck with unhealthy default [d]	42.9% chose the meal kit with the healthy default	19%	7%
3	352	91.57% stuck with healthy default; 94.57% stuck with unhealthy default	46% return to healthy default restaurant	43%	4%
4	203	Not measured	38.9% chose healthy default restaurant	N/A[c]	11%
5	509	63.1% stuck with healthy default; 88.3% stuck with unhealthy default	Rated willingness to return was 4.91 when default was healthy vs. 5.26 when default was unhealth. Cohen's D = 0.21	26%	N/A[c]
Weighted mean				26%	7%

[a] Difference between default effect and 50%, the value expected if no default effect is present.
[b] Difference between dodge effect and 50%, the value expected if no dodge effect is present.
[c] Cannot calculate a percentage rate for dodge effect.
[d] Sticking with the default is narrowly defined here as keeping all 3 default meals, resulting in a conservative estimate of default effect.

healthy food relative to what would be expected given no dodge; however, the net effect of the healthy default on consumption is nevertheless still positive: more healthy food is consumed under a healthy default than under an unhealthy default. The current studies found large default effects but modest sized dodge effects. We computed the net size of default effect as the difference between the proportion of participants' choices that stuck with the default and 50%, the proportion expected from the hull hypothesis. Similarly, we computed the net size of the dodge effect as the difference between the observed proportion of participants choosing the healthy default establishment and 50%, as expected from the null hypothesis (see Table 1). The weighted means of net default effect and net dodge effect were 25.6% and 6.9%, respectively, suggesting that the magnitude of dodge effect is roughly 27% of the size of the default effect. Thus, although consumers are somewhat less likely to patronize a restaurant with a healthy default, compared to one with an unhealthy default, once the consumers are inside the healthy default restaurant, the default will have a notable effect of food choice.

The primary beneficiary of healthy defaults are consumers, who are encouraged to eat foods that benefit their long-term health. An equally important set of stake holders, however, are the restaurants and other businesses with the power to set healthy defaults. If customers dodge healthy defaults, even to a limited extent, businesses stand to lose revenue if they set healthy defaults, relative to setting defaults as the less healthy but tastier alternative. Consequently, the dodge effect poses a barrier to public health initiatives to encourage businesses to set healthy defaults. Future research can examine whether alternatives to healthy defaults, such as having no default but always asking consumers to make a choice among healthy and unhealthy food options, can eliminate the dodge effect and are hence more palatable for businesses.

Defaults can be a powerful tool to promote healthy eating behavior. The current studies provide new evidence and insights into the limitations of default manipulations. Because consumers can dodge the effects of defaults, the long-term effects of default manipulations are likely to be smaller than previously thought. Such findings can help health officials as well as business owners decide what healthy defaults might be appropriate to implement, so that people will make more healthy choices, and stick with them.

CRediT authorship contribution statement

Helen Colby: Conceptualization, Methodology, Investigation, Writing - original draft, Writing - review & editing. **Meng Li:** Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft, Writing - review & editing. **Gretchen Chapman:** Conceptualization, Methodology, Investigation, Writing - original draft, Writing - review & editing, Funding acquisition.

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