

## RESEARCH ARTICLE OPEN ACCESS

# The Effect of a Default Nudge on Experienced and Expected Autonomy: A Field Study on Food Donation

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## ABSTRACT

Default nudges—making the desired option the standard option—are often criticized for hampering autonomy. However, laboratory research suggests this expectation of autonomy loss is not reflected in nudgees' experienced autonomy. In this study, we investigated whether this finding translates to a real-world setting by implementing a default nudge to increase food donations in the supermarket (Experiment 1). Upon entering the supermarket, customers were asked to donate a food item for charity and were handed a shopping cart/basket that was empty (control) or contained a food item meant for donation (default nudge). Donations were collected after checkout, and customers rated their experienced autonomy of their choice to donate. We replicated this study and added a vignette condition portraying the default nudge to measure expected autonomy for the same situation (Experiment 2). The results show the default nudge reduced participants' *expected* autonomy but not their *experienced* autonomy, shedding new light on the relation between nudging and autonomy. Furthermore, this novel form of the default nudge was found to be successful in increasing food donations in the supermarket, further expanding the field where this nudge has been successful.

## 1 | Introduction

Nudging is a technique from behavioral economics that focuses on making use of knowledge of human biases to adjust the choice environment in order to change behavior. Originally introduced by Thaler and Sunstein (2008), nudging has become a staple for policy makers when they aim to facilitate behavioral change. Nudging has been applied successfully to promote desirable behavior in many different contexts, ranging from health (e.g., Kroese, Marchiori, and De Ridder 2016) to finance (e.g., Thaler and Benartzi 2004), prosocial behavior (e.g., Michaelsen, Johansson, and Hedesström 2021), sustainability (Weijers et al. 2024), and education (e.g., Weijers, de Koning, and Paas 2021). However, there is still a debate on the ethicality of nudges, specifically on whether nudges harm the (experienced) autonomy of the nudgee. With two field experiments, we tested whether real-world nudges are effective in promoting donations in supermarkets and whether these nudges affect the experience of autonomy.

Although many different nudges exist, the most well known—and arguably the most effective (Hummel and Maedche 2019)—is the *default* nudge. When using this nudge, the option that the choice designer identifies as the desired option is made into the standard option. This means that the desired option is chosen if the nudgee does not indicate a preference themselves. Take, for example, a field study in which standing at the desk was promoted (Venema, Kroese, and De Ridder 2018). In a governmental organization in the Netherlands, employees were working at sit–stand desks, but only 2% of the time employees actually used the stand mode of their desk. During a 2-week intervention, signs were placed at all desks asking employees to return the desks to stand mode when leaving. Therefore, working in stand mode was the default option, whereas changing to sit mode was the alternative option. During the intervention, 13% of the time employees used the stand mode, and even 2 months after the intervention 8% of the time stand mode was used. Default nudges have been successfully applied in various contexts such

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as health, financial planning, and environmental behavior (for an overview, see Jachimowicz et al. 2019). Their effectiveness has been explained using various psychological mechanisms: endorsement, which means that the default choice implies an endorsement by the policy maker (McKenzie, Liersch, and Finkelstein 2006); ease of decision making, which means that the default option utilizes the inertia of the nudgee to steer their decision; and endowment, which means that the default option is interpreted as a reflection of the status quo (Dinner et al. 2011; Jachimowicz et al. 2019). It should be noted here that the notion that nudges are only effective when the nudgee is not aware of the existence of the nudge (Bovens 2009; House of Lords Report 2011) was investigated, and most evidence points to this not being the case (e.g., Bruns et al. 2018; Loewenstein et al. 2015; Paunov, Wänke, and Vogel 2019; see Michaelsen 2024 for an overview). Although the transparency debate surrounding nudges is a prominent one, especially tied to autonomy (e.g., Wachner, Adriaanse, and De Ridder 2020a), it is one that lies outside the scope of this article. For an overview of the debate of nudging and transparency, see, for example, Michaelsen (2024).

Despite its effectiveness, an increasingly voiced concern relating to nudging, and especially to the default nudge, is that it violates the autonomy of the nudgee during the decision-making process (Bovens 2009). To follow the reasoning behind this concern, a better understanding of the different conceptualizations of autonomy is needed. Vugts et al. (2020) investigated the different definitions of autonomy that were being used in the debate of the ethics of nudging. Ultimately, they formulated three general conceptualizations of autonomy: freedom of choice, self-constitution, and agency. Freedom of choice refers to the availability of options. We argue that this concept of autonomy is protected by the definition of the nudge, which usually states that no option should be taken away or take great effort to realize. The concept of agency refers to the decision maker determining their choice by reason and deliberation. This is usually the conceptualization of autonomy that is referred to when arguing that nudges harm autonomy. Finally, the concept of self-constitution defines a choice as autonomous when it is congruent with the decision maker's identity and self-chosen goals. We argue that this is the strictest conceptualization of autonomy, and if participants feel their choice is in line with their goals and personal values, they would also feel autonomous conceptualized as freedom of choice and agency, with agency being the most debated by nudge opponents (e.g., Bovens 2009).

Bovens argues that nudged decision makers, unfortunately, do not base their decisions on the values they find important. Rather, they rely on common biases in human decision making that are elicited by the default nudge instead of letting their decisions be guided by the characteristics of the choice itself. Also, nudgees indicate that they expect their autonomy to be hindered by a nudge when asked for it in a hypothetical scenario (Wachner, Adriaanse, and De Ridder 2020b; Wachner, Adriaanse, and De Ridder 2021). This is problematic, as numerous studies have found that the perception of autonomy is an important predictor for mental and physical well-being (e.g., Van den Broeck et al. 2016; Wei et al. 2005) and perceived hindered autonomy in a choice can lead to diminished autonomous motivation (Pavey and Sparks 2009), as well as lack of perceived utility in the promoted option (Walter and Lopez 2008). Many of these studies

were conducted in the context of self-determination theory (SDT), which defines autonomy as one of the three basic needs and states that a deficit need would lead to a decline in psychological growth and well-being (Ryan and Deci 2000). A recent study by Arvanitis, Kalliris, and Kaminiotis (2022), which investigated nudging in the context of SDT using a hypothetical scenario, indeed showed that participants expected their locus of control to be negatively affected by a default nudge. So far, it is unknown to what extent these findings regarding nudging and autonomy translate to real-life situations.

The criticism about nudging violating autonomy is often based on expectations of autonomy instead of empirical findings and as such are about *expected* autonomy (or reduction thereof)—the degree to which a person expects to feel (reductions in) autonomy in a certain situation. This stands in contrast with *experienced* (or perceived) autonomy, which refers to the amount of autonomy a person feels after being nudged. So far, few experimental studies have been conducted measuring this experienced autonomy. In an online study by Wachner, Adriaanse, and De Ridder (2021), participants were default nudged to fill in a longer compared to a shorter questionnaire. The results showed that participants' experienced autonomy was not impaired by the default nudge, even though this is what participants expected in advance. In an online study with real financial consequences done by Michaelsen, Johansson, and Hedesström (2021), participants were asked to allocate their bonus payment (50 cents) between themselves and making a charitable donation. Some participants were exposed to a default nudge in the form of a default donation amount to increase their donating behavior. This increased their likelihood to donate. The participants exposed to this default nudge did not report lower experienced autonomy than those in the control condition. In short, prior studies show that, in contrast to the expressed concerns about autonomy and the expectation that default nudges reduce autonomy (Wachner, Adriaanse, and De Ridder 2020a, 2020b), experienced autonomy is not reduced by the default nudge (Michaelsen, Johansson, and Hedesström 2021; Wachner, Adriaanse, and De Ridder 2021; van Roekel et al. 2023).

Although it is useful to know that nudges may not actually violate autonomy, we so far only know that this applies to using default nudges in controlled experimental studies that took place in an online setting and in which the chosen behavior had relatively minor consequences (Wachner, Adriaanse, and De Ridder 2020a, 2020b; Wachner, Adriaanse, and De Ridder 2021; Michaelsen, Johansson, and Hedesström 2021). We deem it important to investigate whether these findings persist when implemented in the real world due to the differences in context. For example, in a laboratory setting, demand characteristics (Nichols and Maner 2008) and the role of research participant being inherently reductive in autonomy (as they are expected to follow instructions) could be an explaining factor for the participants' experienced autonomy remaining stable. To both contribute further to the literature on the relation between nudging and autonomy and be of practical relevance for policy makers, we expand the research on default nudges to investigate whether these findings on experienced autonomy persist outside the lab. In two experiments, we therefore investigated whether these previous findings translate to a real-world scenario. We specifically chose a real-life donation setting to test

the effects of a default nudge on experienced autonomy for two reasons. First, earlier literature on experienced autonomy is also focused on prosocial default nudges (i.e., a default nudge that nudges prosocial behavior, which is not necessarily behavior that is in the nudgee's own best interest), making a close connection to previous studies. Second, the preservation of experienced autonomy is even more important when nudging behavior that is not directly in the nudgee's own best interest, increasing the relevancy for policy makers—it can be argued that a loss of autonomy is less negatively impactful if it happens to one's benefit. For example, policies aimed at individual welfare receive greater support from the public than those aimed at public welfare, as the individual directly benefits from the individual welfare policy (Hagman et al. 2015; Nilsson et al. 2021). Specifically, we tested the effect of a default nudge on experienced autonomy in a real-world setting, namely, food donations in a supermarket. We formulated the following research questions:

RQ1. *What is the effect of a default nudge on experienced autonomy in a real-world setting?*

Based on the previous findings by Wachner, Adriaanse, and De Ridder (2020b, 2021) and Michaelsen, Johansson, and Hedesström (2021), we formulate the following hypothesis:

**Hypothesis 1.** *Participants who are presented with the default nudge do not report a lower experienced autonomy than those who are not nudged.*

We suspect a possible effect of the default nudge on experienced autonomy (or rather the absence of this effect) to exist regardless of the nudge's effectiveness; if experienced autonomy was affected by the nudge, it would be because one is subjected to the nudge and not because one is affected by the nudge. The current article will therefore first analyze and report effects on experienced autonomy, so they can be interpreted without concerns about nudge effectiveness. Still, from a practical standpoint, we are interested in the success of this nudge in a real-world setting. Therefore, we formulate the following additional research question:

RQ2. *What is the effect of a default nudge on food donations in a supermarket?*

In concurrence with earlier research, where default nudges were used to successfully promote donating behavior (Michaelsen, Johansson, and Hedesström 2021; Ghesla, Grieder, and Schmitz 2019; Nelson, Partelow, and Schlüter 2019), we formulate the following hypothesis:

**Hypothesis 2.** *Participants who experience the default nudge donate more often than those who are not nudged.*

To directly compare the expectations and experiences of autonomy when subjected to the nudge and to ensure that our default nudge is not simply deemed acceptable and non-threatening, we also expose participants to a vignette about the experimental setup and compare their expected autonomy with participants' experienced autonomy when subjected to the same nudge. We formulate the following research question:

RQ3. *What is the difference between reported expected autonomy and experienced autonomy for participants who are subjected to a default nudge?*

Based on the previous literature on expected autonomy when nudged (Bovens 2009; Arvanitis, Kalliris, and Kaminiotis 2022) we formulate the following hypothesis:

**Hypothesis 3.** *The expected autonomy of participants who experience the hypothetical default nudge is lower than the experienced autonomy of participants who experience the real default nudge.*

In Experiment 1, we investigate Hypotheses 1 and 2 by experimentally testing a default nudge towards food donations in a supermarket. In Experiment 2, we repeat this experiment and add a vignette condition, where the same default nudge is presented as a hypothetical situation to investigate Hypothesis 3.

## 2 | Experiment 1

### 2.1 | Method

#### 2.1.1 | Participants

Visitors of two supermarkets in the Netherlands participated in this experiment. The supermarkets were situated in similar suburbs of the same large industrial city and served a similar clientele. In total, 1265 customers were approached during the experiment, with 616 in Supermarket 1 and 649 in Supermarket 2. Of these visitors, 499 were exposed to the default condition and 766 to the control condition. In total, 294 visitors also filled in a questionnaire when exiting the supermarket. Of these customers, visitors who were not approached by a researcher when they entered the store were excluded ( $n = 78$ ), and one visitor was excluded for not filling in the questionnaire completely, creating a final sample of 215 participants, of which 90 were in the default condition and 125 were in the control condition. Throughout this article, we refer to the larger group of people that was approached by experimenters as "customers." Persons who were both approached by experimenters and filled in the questionnaire when exiting the store are referred to as "participants." Of the participants, 84.7% were female, 14.4% were male, and 0.9% were identified differently or preferred not to say. The age of the participants varied from 20 to 87 ( $M = 53.50$ ,  $SD = 14.78$ ). No data were collected from customers when they entered the store. Participants, who filled in the questionnaire when exiting the store, were asked for informed consent.

#### 2.1.2 | Design

The current study is a field experiment across multiple days. Condition (default nudge and control) was used as independent variable manipulated between subjects. In the experimental condition, a default nudge was used to promote donating food to the food bank—a Dutch charity that hands out food to families in poverty. In the control condition, a similar donating opportunity was provided, but no default nudge was applied. A more detailed explanation of the experimental and control conditions

is provided in Section 2.1.3. As two supermarkets participated in the experiment, the experimental conditions were counterbalanced between days (see Table 1). This means that the experimental condition was not randomized between visitors, but between days and supermarkets (i.e., condition could differ per day and per supermarket, but visitors in the same supermarket on the same day experienced the same experimental condition). The dependent variables were experienced autonomy (Hypothesis 1), expected autonomy (Hypothesis 3), and number of food donations (Hypothesis 2). Experiment 1 was conducted in accordance with the code of ethics for the social and behavioral sciences endorsed by all universities in the Netherlands, as well as the guidelines of Erasmus School of Behavioral Sciences, Erasmus University Rotterdam. Experiment 2 obtained ethical approval from the Ethics Committee of the Faculty of Social and Behavioural Sciences of Utrecht University, filed under 23-0124.

### 2.1.3 | Nudge Intervention

As at the time of Experiment 1 in the Netherlands COVID-19 regulations were still in effect, all customers had to enter the store with a shopping cart. This was made use of in the experiment. In the control condition, the customer was handed a shopping cart by the experimenter and was explained that the supermarket participated in a charity event for the food bank and that they could pick items from the stand, buy them in the store, and donate them at the exit. The customers could then actively take one or more items from the stand. In the default nudge condition, visitors received the same instruction, but the experimenter had already put one of the items from the stand in the shopping cart before handing the cart to the customer. The customer was then explained that this product was meant to be donated for an ongoing charity action for the food bank by buying it at the store and then placing it in a designated box. It was also explained that they could put it back at the stand if they did not want to donate the item or that they could swap the item for another item from the stand or from the store.

### 2.1.4 | Measures

**2.1.4.1 | Questionnaire.** After checkout, an experimenter asked visitors to fill out a questionnaire. This questionnaire contained basic demographic questions, a manipulation check, a question whether they had made a donation to the food bank, and the autonomy measure, as are described below. The questionnaire can be found in Appendix A.

**2.1.4.2 | Number of Customers and Participants.** Throughout this article, we differentiate between visitors, customers, and participants (see Figure 1). All persons visiting the supermarket are considered visitors. A customer is a visitor who was approached by an experimenter at the entrance of the store. The number of customers that the experimenters approached in the supermarkets each day was tracked using a clicker. A participant is a customer who also filled in the questionnaire. To correctly determine the number of participants, we asked customers who filled in the questionnaire (see Appendix A) whether they were approached by experimenters when entering the store and excluded those who were not from the analyses.

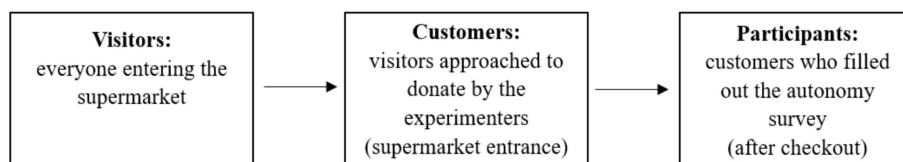
**2.1.4.3 | Donating Behavior.** Participants were asked whether they had donated to the food bank (for the questionnaire, see Appendix A), leading to a yes/no outcome. For the purposes of analysis, the proportion of donators was calculated by dividing the number of donators by the total number of participants.

**2.1.4.4 | Number of Food Donations.** As an additional measure, the number of food donations for the food bank was measured by counting the number of products in the donation box at the end of each day. To compare the conditions, the number of food donations was recalculated to be an average per customer, dividing the number of donations by the number of customers approached. As an exploratory measure, a further distinction was made between “selected products” (i.e., the total of products donated that were also presented in the stand) and “other products” (i.e., other products not available in

**TABLE 1** | Counterbalancing of conditions throughout the experiment.

	S1	Customers	Participants	S2	Customers	Participants	Products donated
Monday	Control	169	51	Default	110	22	340
Tuesday	Default	147	29	Control	193	19	332
Wednesday	Control	189	27	Default	131	16	339
Thursday	Default	111	23	Control	215	28	301

Note: S1 and S2 are used to indicate Supermarket 1 and Supermarket 2.



**FIGURE 1** | Overview of definitions of visitors, customers and participants in this study. Note: The vignette condition in Experiment 2 has no customers, as it has no donation intervention.

the stand that were donated even though these were not the ones promoted by the researchers).

**2.1.4.5 | Experienced Autonomy.** In the questionnaire administered to the participants (see Appendix A), participants first indicated their age and gender. They then filled in a Dutch translation of a scale measuring experienced autonomy also used in earlier experienced autonomy research (Wachner, Adriaanse, and De Ridder 2020b). This experienced autonomy measure is an adapted version from the Basic Psychological Needs in Exercise Scale (BPNES; Vlachopoulos and Michailidou 2006), consisting of four items (e.g., “My choice to donate or not reflects who I am”; see Appendix A for all items). The four items were rated on a 5-point scale (*strongly disagree* to *strongly agree*). The items were adapted to fit the choice scenario presented. The average of these scores was then taken as an experienced autonomy measure. The reliability of this measurement was excellent: Cronbach’s  $\alpha = 0.85$ .

### 2.1.5 | Procedure

Prior to the research, permission to execute the experiment in their supermarkets was obtained from the supermarket managers, as well as from the local foodbank to organize a donation event. Four days (from Monday, May 17, 2021, to Thursday, May 20, 2021) were agreed upon, during which the experiment was held from 11:00 to 15:00. This timeslot was chosen because the number of visitors was expected to be moderate at these times.

The experiment concerned a charity donation event in the supermarket for the local food bank, during which customers can buy relevant items in the supermarket and donate these in specified crates. At the entrance of the store, a table was set up (see Figure 2) with four items suggested by the food bank: spaghetti,



**FIGURE 2** | Donation stand used during the experiment in Supermarket 1. A similar setup was used in Supermarket 2.

canned tomatoes, flour, and toothpaste. These items were comparably priced, ranging from €0.38 to €0.69. We deliberately chose items that cost a relatively low amount to lower the barrier to donating. All visitors to the store passed the stand, as it was placed next to the supermarket entrance.

Store visitors were approached and subjected to the intervention. Due to the time it took to approach a customer, not all store visitors could be approached. These were not counted. Additionally, store visitors who appeared underage were not approached on purpose. In both conditions, a box for the food donations was clearly marked at the exit of the store. Here, a second experimenter asked people randomly if they were willing to fill in a short questionnaire. The second experimenter was clearly identifiable as being part of the donation initiative by signage with the logo of the foodbank and asked people to fill out a questionnaire about their opinion on the donating initiative, thereby aiming to also invite people who disapproved. The questionnaire was available on paper, on a laptop, and online, via a QR code. At the end of the questionnaire, an e-mail address of the researchers was provided where a participant could send any questions they might have.

### 2.1.6 | Analysis

All data were collected, merged, and analyzed using the statistical programme R (R Core Team 2021). We dealt with missing data by using data imputation using the MICE package (Van Buuren and Groothuis-Oudshoorn 2011) and present the analyses with this input, reporting when differences in significance are found compared to the analysis without this input. An independent samples *t*-test was used to investigate whether there was an effect of the default nudge on experienced autonomy (RQ1). To support testing for nonsignificance, we also followed up with equivalence testing using the TOST package (Lakens 2017) to confirm possible non-findings. Using this test, we determined whether the true effect is below a certain threshold to make it practically irrelevant. For this threshold, the smallest effect of interest (SESOI), we used the value between small and medium effect size (0.35) (Lakens 2017). To answer RQ2, a chi-square analysis was done to see if the donating behavior was significantly different between conditions. All data and scripts are available on Open Science Framework ([https://osf.io/krau5/?view\\_only=460a55e77be54514a2d72472a80c8f94](https://osf.io/krau5/?view_only=460a55e77be54514a2d72472a80c8f94)).

## 3 | Results: Experiment 1

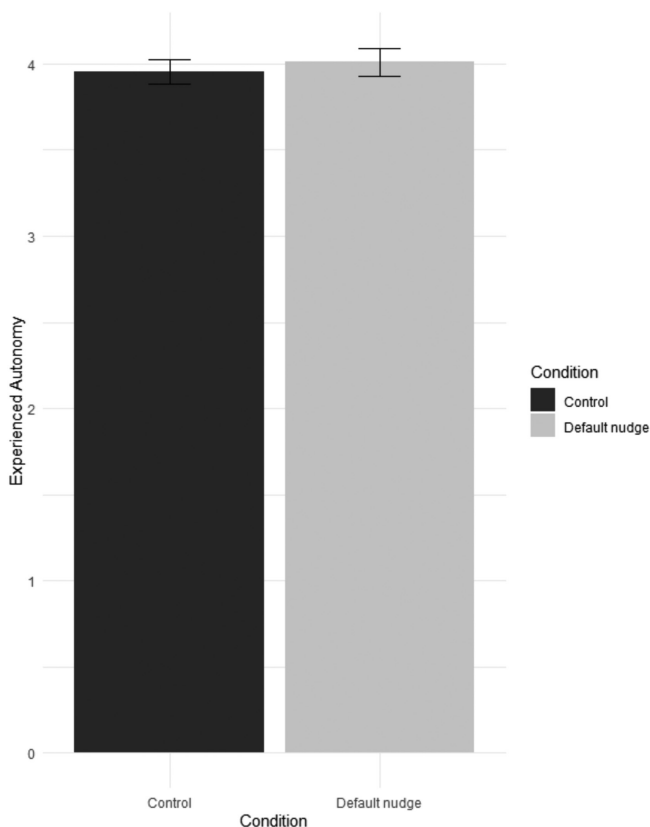
### 3.1 | Counterbalancing

First, it was investigated whether the sample was equally distributed over conditions. No initial difference in between the control condition ( $M = 54.40$ ,  $SD = 14.81$ ) and the default nudge condition ( $M = 52.23$ ,  $SD = 14.73$ ) was found based on participants’ age,  $t(188.1) = 1.05$ ,  $p = 0.29$ . Nor was a difference found based on participants’ gender between the control condition (84.8% female) and the default nudge condition (84.4% female),  $\chi^2(1, 213) < 0.001$ ,  $p = 0.99$ .

### 3.2 | Experienced Autonomy

The independent samples *t*-test on the difference in experienced autonomy between the conditions revealed no significant difference,  $t(194.43) = 0.54$ ,  $p = 0.59$ . Using two one-sided *t*-tests, equivalence testing indicated that effects were significantly smaller than our SESOI of 0.27 ( $t(213) = 1.965$ ,  $p = 0.02$ ). As such, we can reject possible effects with a size of 0.27 or higher. Participants in the default nudge condition ( $M = 4.01$ ,  $SD = 0.76$ ) reported a comparable experience of autonomy as those in the control condition ( $M = 3.95$ ,  $SD = 0.77$ ), confirming Hypothesis 1. A visual overview can be found in Figure 3.

The independent samples *t*-test on the difference in experienced autonomy between the conditions revealed no significant difference,  $t(194.43) = 0.54$ ,  $p = 0.59$ . Participants in the default nudge condition ( $M = 4.01$ ,  $SD = 0.76$ ) reported a comparable experience of autonomy as those in the control condition ( $M = 3.95$ ,  $SD = 0.77$ ), confirming Hypothesis 1. Equivalence testing was significant, with a mean difference of 0.06 between groups, and as such, we can reject possible effects with a size of 0.35 or higher,  $t(213) = 1.965$ ,  $p = 0.03$ . In an exploratory fashion, we compared the experienced autonomy of donating participants ( $n = 199$ ) and non-donating participants ( $n = 16$ ). We found a large difference in reported experienced autonomy,  $t(17.46) = 5.55$ ,  $p < 0.001$ , indicating that donating participants ( $M = 4.06$ ,  $SD = 0.72$ ) experienced higher autonomy than (the small sample of) non-donating participants ( $M = 3.02$ ,  $SD = 0.72$ ).



**FIGURE 3** | Experienced autonomy per condition.

### 3.3 | Donating Behavior

For Hypothesis 2, a chi-square analysis was done to test for a difference in donating behavior. The frequency of food donors between conditions can be found in Table 2. A significant difference,  $\chi^2(1, 125) = 4.89$ ,  $p = 0.03$ , was found between the percentage of food donors in the default nudge condition (97.8%) and the percentage of food donations in the control conditions (88.8%), confirming Hypothesis 2.

As an exploratory measure, we investigated the average food donations per day, as the subset of the customers who filled in the questionnaire are not necessarily representative of everyone who was approached. Descriptives can be found in Table 3. In total, 499 customers donated 583 products in the nudge condition, averaging 1.17 product per person. The 766 total customers in the control condition donated altogether 699 products, which is substantially less, averaging 0.91 product per person. This means that on average, a nudged consumer donated 28.6% more products than a consumer in the control condition. This finding corresponds with our earlier result regarding the percentage of food donations (Hypothesis 2).

In an exploratory fashion, we also made a distinction in donated products between selected food donations (which were the donations coming from the products on the stand) and other food donations (all donated products that customers bought themselves in the store for the purpose of donating). For the selected donations, the average food donation was approximately equal for the default nudge group and the control group. However, in the default nudge condition, more other products were also donated, although this happened less in the control condition. Interestingly, this seemed to explain the difference found between the nudge and control condition: The nudged group donated more “other” food items than those in the control condition, but not more “selected” food items.

## 4 | Discussion: Experiment 1

In Experiment 1, we found confirmation of our first two hypotheses: Our nudge did not harm experienced autonomy and increased donations to the food bank in a practical setting. We then repeated the experiment to check the robustness of the findings. Additionally, we made some changes to further explore the role of the default nudge on experienced and expected autonomy. We add a vignette condition to Experiment 2, where we measure expected autonomy in the same situation. Furthermore, we want

**TABLE 2** | Conditions throughout the experiment.

	Condition	Customers	Participants
S1	Control	239	43
S2	Control	162	25
S3	Default	172	49
S4	Default	159	40
S5	Vignette	N/A	30
S6	Vignette	N/A	74

**TABLE 3** | Average food donation for each donation type per condition.

	Selected donations (average per person)	Other donations (average per person)	Total donations (average per person)
Control (766 customers)	553 (0.72)	146 (0.19)	699 (0.91)
Default (499 customers)	395 (0.79)	218 (0.44)	583 (1.17)
Total (1265 customers)	948 (0.75)	364 (0.29)	1282 (1.01)

to measure the effects of the nudge and use a broader autonomy scale, as well as include choice satisfaction as an additional outcome variable more thoroughly.

## 5 | Experiment 2

In a second experiment, we replicated the setup of Experiment 1. We also added a vignette condition where the nudge was not executed but presented as a hypothetical situation that was explained to the participants, and they were asked to report how they would feel if they encountered this nudge in the supermarket. Recruitment for the survey for the vignette condition was done in the same way as for the survey in the control and experimental conditions. No donation initiative was held in the supermarkets where the vignette condition was held. For the vignette condition, the experienced autonomy questionnaire used in Experiment 1 was slightly altered to fit the hypothetical nature of the nudge (see Appendix B). Additionally, the questionnaire was expanded at several points to be able to distinguish between choice autonomy and choice satisfaction based on the scales of Michaelsen, Johansson, and Hedesström (2021). Choice autonomy consisted of six items, measured on a 9-point Likert scale. An example item is: “To what extent do you feel that the choices you ended up making were free from external influence?” The reliability of this scale was good in both the experimental settings ( $\alpha=0.86$ ) and the vignette setting ( $\alpha=0.84$ ). Choice satisfaction was measured using one item—“how satisfied are you with your choice of whether or not to donate?”—measured on a 9-point Likert scale.

As COVID-19 measures were no longer in effect at the time Experiment 2 was conducted, the experimenters could not hand customers a shopping cart with a product in it for the default nudge condition and instead addressed the customers for the intervention and, during the conversation, placed it in the basket or cart customers were holding when entering the supermarket.

The second experiment was carried out on 6 days between April 4 and April 13, 2023, in six different supermarkets. Each supermarket participated in the experiment for 1 day and hosted one experimental condition, which means that two supermarkets hosted the control condition, two hosted the experimental condition, and two hosted the vignette condition. The supermarkets were situated in similar suburbs of the same large city and served a similar clientele as those in Experiment 1. In total, 732 customers were approached during the experiment, with 331 in the default nudge condition (45.2%) and 401 in the control

condition (54.8%). In total, 294 customers filled in a questionnaire when exiting the supermarket. Of these customers, visitors who were not approached by a researcher when they entered the store were excluded ( $n=13$ , 11 in the control condition and 2 in the experimental condition), and 20 visitors (4 in the control condition and 16 in the vignette condition) were excluded for not filling in the questionnaire completely, creating a final sample of 261 participants, of which 68 were in the control condition, 89 were in the default nudge condition, and 104 were in the vignette condition. Of the total 261 participants, 62.4% were female, 36.4% were male, and 0.8% were identified differently or preferred not to disclose. The age of the participants varied from 18 to 82 ( $M=45.19$ ,  $SD=18.47$ ).

## 6 | Results: Experiment 2

Descriptive statistics can be found in Table 2.

### 6.1 | Counterbalancing

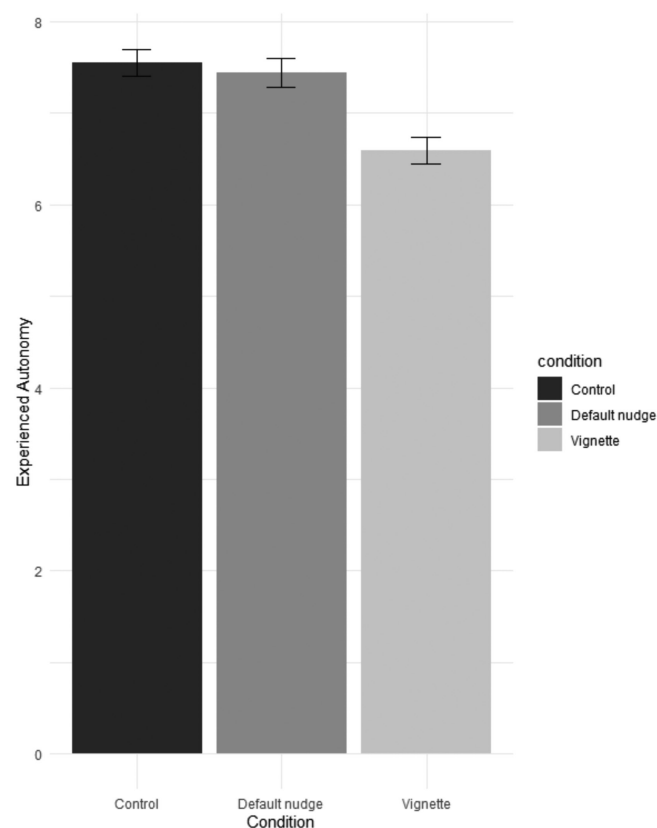
First, it was investigated whether the sample was equally distributed over the three conditions (nudge, control, and vignette). No initial difference in the conditions was found based on participants' gender,  $\chi^2(2, 258)=0.46$ ,  $p=0.79$  (control: 65.7% female; default nudge: 64.0% female; vignette: 60.8% female). A Kruskal–Wallis test revealed significant difference between participants based on age:  $H(2)=9.59$ ,  $p<0.01$ . Using Dunn's test as a post hoc test, we found the average age in the default nudge condition ( $M=49.47$ ,  $SD=17.15$ ) to be higher than in the vignette condition ( $M=41.99$ ,  $SD=18.88$ ),  $Z(2)=3.08$ ,  $p<0.01$ . Both the vignette and the default nudge condition did not significantly differ from the control condition ( $M=44.47$ ,  $SD=18.68$ ).

### 6.2 | Experienced Autonomy

To test Hypothesis 1, we compared experienced autonomy between participants in the default nudge and control condition. The independent samples  $t$ -test on the difference in experienced autonomy between the conditions revealed no significant differences,  $t(154.70)=0.50$ ,  $p=0.61$ . Participants in the default nudge condition ( $M=7.45$ ,  $SD=1.50$ ) reported a comparable experience of autonomy as those in the control condition ( $M=7.55$ ,  $SD=1.20$ ), confirming Hypothesis 1. Equivalence testing was significant, with a mean difference of 0.10 between groups, and as such, we can reject possible effects with a size of 0.35 or

higher,  $t(155)=1.723$ ,  $p=0.04$ . A visual overview can be found in Figure 4. In an exploratory fashion, we compared the experienced autonomy of donating participants and non-donating participants. Only six out of 157 participants did not donate to the foodbank, so we could not test whether autonomy was lower for non-donators. Descriptives pointed in this direction: Donating participants reported higher autonomy ( $M=7.53$ ,  $SD=1.36$ ) than those few who did not donate ( $M=6.44$ ,  $SD=1.39$ ).

Additionally, in an exploratory fashion, the choice satisfaction measure was investigated. This measure strongly and significantly correlated with self-reported choice autonomy,  $r=0.60$ ;  $p<0.001$ . Participants in both the default nudge condition ( $M=8.42$ ,  $SD=1.07$ ) and the control condition ( $M=8.16$ ,  $SD=1.04$ ) reported very high levels of choice satisfaction. No significant difference,  $t(132.6)=1.35$ ,  $p=0.18$ , was found in choice satisfaction between the control condition and the default condition. As only six participants did not donate, we could



**FIGURE 4** | Reported autonomy per condition.

**TABLE 4** | Average food donation for each donation type per condition.

	Selected donations (average per person)	Other donations (average per person)	Total donations (average per person)
Control (401 customers)	297 (0.74)	325 (0.81)	622 (1.55)
Default (331 customers)	304 (0.92)	300 (0.91)	604 (1.83)
Total (732 customers)	601 (0.82)	625 (0.85)	1226 (1.68)

not test for significance, but non-donators reported much lower choice satisfaction ( $M=6.33$ ,  $SD=1.97$ ) than those who donated ( $M=8.38$ ,  $SD=1.04$ ).

### 6.3 | Donating Behavior

For Hypothesis 2, we compare the percentage of donors between the default nudge and control condition. A chi-square analysis was planned to test for a difference in donating behavior between the default nudge and the control condition. However, due to the low number of non-donators, the analysis could not be conducted as two of four cells had expected values of less than 5. As the planned statistical test was not possible, we compared the percentage of donors between conditions and checked two additional measures to investigate Hypothesis 2 further by investigating the number and value of food donations per day between conditions. We found the percentage of donors in the default nudge condition (96.6%) to be slightly higher than that of the control condition (95.6%).

As a second measure, we investigated the average food donations per day, as the subset of the customers who filled in the questionnaire are not necessarily representative of everyone who was approached. Descriptives can be found in Table 4. In total, 331 customers donated 604 products in the nudge condition, averaging 1.83 product per person. The 401 total customers in the control condition donated altogether 622 products, which is substantially less, averaging 1.55 product per person. This means that on average, a nudged consumer donated 18.1% more products than a consumer in the control condition. Lastly, we also investigated the average value of the donated products. In the control condition, the average value of the donated product was €1.42 ( $SD=€0.72$ ), whereas in the nudge condition, the average value of the donated product was €1.56 ( $SD=€1.08$ ), indicating that the average donated product was 9.9% more expensive in the default nudge condition, further substantiating the findings. These three findings (percentage of customers donating, average number of donations, and average value of donations) all support Hypothesis 2.

In an exploratory fashion, following the results of Experiment 1, we also made a distinction in donated products between selected food donations (which were the donations coming from the products on the stand) and other food donations (all donated products that customers bought themselves in the store for the purpose of donating). Compared to the control condition, people in the default nudge condition donated 24.3% more selected



products and 12.3% more other products. This is in contrast with the earlier findings of Experiment 1, where no large difference between the groups was found for selected products but a large difference for other products. A possible explanation is the slightly different approach in the default nudge between the two experiments: In Experiment 1, the product was already in the cart when the customer was handed the cart, whereas in Experiment 2, the experimenter placed it in the cart when they addressed the customer.

## 6.4 | Experienced vs. Expected Autonomy

To test Hypothesis 3, we compared the autonomy scores of the default nudge condition with those reported in the vignette condition. In a bootstrapped linear regression model, autonomy was estimated to be significantly lower in the vignette condition compared to the default nudge condition ( $Estimate = -1.99$ ,  $SE = 0.59$ ,  $F(194.30) = 3.38$ ,  $p < 0.001$ ). We dealt with missing data by using data imputation using the MICE package (Van Buuren and Groothuis-Oudshoorn 2011) and present the analyses with this input, reporting when differences in significance are found compared to the analysis without this input. A visual overview can be found in Figure 4. In an exploratory fashion, we compared the two conditions using the same analysis, with choice satisfaction as dependent variable. Similarly, choice satisfaction was estimated to be significantly lower in the vignette condition compared to the default nudge condition ( $M = -0.87$ ,  $SE = 0.19$ , 95%  $CI [-1.26, -0.49]$ ). As we found significant differences between age groups, we also ran both these analyses while controlling for age and found the same results (the interaction between condition and age was significant ( $M = 0.03$ ,  $SE = 0.01$ , 95%  $CI [0.01, 0.05]$ ), indicating that the relationship between condition and autonomy score was moderated by age. The simple slope of condition on autonomy was significant at below average age ( $Estimate = -1.27$ ,  $SE = 0.31$ ,  $t = -4.10$ ,  $p < 0.001$ ) and average age ( $Estimate = -0.73$ ,  $SE = 0.21$ ,  $t = -3.45$ ,  $p < 0.001$ ) but not at above average age ( $Estimate = -0.19$ ,  $SE = 0.29$ ,  $t = -0.10$ ,  $p = 0.51$ ), indicating that, for older participants, the difference between expected and experienced autonomy is not as pronounced as for younger participants).

## 7 | General Discussion

In this field study, we investigated to what extent a default nudge affected experienced and expected autonomy in the context of food donation in a supermarket and whether this default nudge improved the number of food donations.

### 7.1 | Experienced Autonomy

Firstly, to answer RQ1, we compared reported autonomy between participants who were subjected to the default nudge and those who were not. In line with earlier laboratory studies (Wachner, Adriaanse, and De Ridder 2020a, 2020b; Wachner, Adriaanse, and De Ridder 2021; Michaelsen, Johansson, and Hedesström 2021) and our Hypothesis 1, but contrary to theoretical expectations (e.g., Bovens 2009; Hansen and Jespersen 2013;

Arvanitis, Kalliris, and Kaminiotis 2022), we find that a default nudge applied in practice does not decrease experienced autonomy of nudgees. Additionally, overall reported autonomy was high. These findings were further reinforced by using two different scales, which yielded comparable results: the scale used in Experiment 1 previously used by Wachner, Adriaanse, and De Ridder (2020a) scale and the one previously used by Michaelsen, Johansson, and Hedesström (2021) that we applied in Experiment 2. Furthermore, overall levels of choice satisfaction were high and were also not diminished by the default nudge.

In practice, we find that a nudgee's experienced autonomy is not jeopardized by a default nudge, even when the nudged option costs the nudgee money. This is an important contribution to the discussion whether nudging harms autonomy. The expected diminishing effect of nudges on autonomy is often brought up as a counterargument or limitation to nudging (e.g., Bovens 2009; Hansen and Jespersen 2013; Arvanitis, Kalliris, and Kaminiotis 2022), but, extending earlier lab studies, we find that this autonomy-diminishing effect is not experienced in practice.

It is possible, however, that some people perceived the nudge initially as a threat to their autonomy but reclaimed their experienced autonomy and still donated. We find evidence for this in Experiment 1—but not as much in Experiment 2—as customers in the default nudge condition donated significantly more other (non-nudged) products from the store than the customers in the control condition. Additionally, experimenters noted that throughout the experiment, customers who received the default nudge often indicated they wanted to swap their “default” donation item to one of the other three from the stand. This corresponds with the concept of reactance (Knowles and Linn 2004). Reactance is an emotional response when people perceive an influence attempt and feel that their autonomy is threatened. A person may resolve reactance by reclaiming this autonomy. Usually, this is done by resisting the influence attempt (in our study: not donating), but autonomy can also be reclaimed by showing the influenced behavior (here: donating food) but taking some control over how this happens. In the context of our experiment, it could be the case that swapping nudged items at the stand or in the store was enough to restore experienced autonomy, as we did not see a drop in experienced autonomy or in donated products. This would also be in line with findings by Wachner et al. (2022), which suggested that making an active choice after being nudged is linked to higher autonomy, than not being nudged but also not making an active choice. We, however, find that in Experiment 2, people did not donate other products as much but still report high levels of autonomy. An explanation here is that the slight change between experiments (the experimenter placing in the cart themselves instead of this being done beforehand) was more intrusive and made it more difficult to switch for the participants.

Alternatively, it is possible that the suggestion done by the experimenters that a nudgee is free to not donate is enough to restore experienced autonomy. This corresponds with the so-called “but you are free” technique (Gueguen and Pascual 2000), which restores freedom after a request is done, increasing subsequent compliance. Future research could investigate which of these explanations is most likely in explaining our results.

An interesting exploratory finding is that the non-donators reported *lower* experienced autonomy than the donators. It is a possibility that the nudge was not in line with the self-congruency (as per Vugts et al. 2020) of the participants, resulting in a lower autonomy score. It is also possible that participants who did not donate tried to justify this (antisocial) behavior by indicating that this choice did not align with their “real” preferences. This leaves the possibility that the non-donating participants gave “socially acceptable” answers, skewing the outcome. Conclusions should be carefully drawn, however, because the sample size of non-donators was very low in both experiments.

Overall, as we provide evidence that nudges in practice are not jeopardizing experienced autonomy, this diminishes concerns associated with a deficit in experienced autonomy discussed in the introduction of the current article, such as a decline in psychological growth and well-being (Ryan and Deci 2000). It should, however, be noted that implementing defaults may affect the public in a different way; it has, for example, been suggested that default nudges may shift moral judgments surrounding the behavior (Davidai, Gilovich, and Ross 2012). Attributing a larger change in public values towards charity to a one-time change in the supermarket for food donation seems ambitious; still, it could be a consideration for policy makers implementing a permanently employed, omnipresent nudge, like defaulting organ donation (see Johnson and Goldstein 2003; Steffel, Williams and Tannenbaum 2019) or children adopting both of their parents’ names.

## 7.2 | Donating Behavior

Secondly, to answer RQ2, we investigated a novel, successful method of implementing a default nudge to increase food donations in a real-world setting and measured the reported donating behavior and the total number of donations. In both experiments, we found an increase in donations with the default nudge, thus successfully increasing donating behavior. This is consistent with earlier findings on the effect of a default on donating behavior (e.g., Ghesla, Grieder, and Schmitz 2019; Michaelsen, Johansson, and Hedesström 2021; Nelson, Partelow, and Schlüter 2019). These earlier studies were done in the context of monetary donations. Our research extends these findings to donating behavior that is not directly money-related but rather product-related.

This effect of the nudge perhaps best corresponds with the proposed effect of a default nudge that it presents an endorsement of the behavior (McKenzie, Liersch, and Finkelstein 2006). A meta-review indeed showed that default nudges that relate to customer behavior and work via endorsement are generally more effective than those in other domains or work via other paths (Jachimowicz et al. 2019). This food-donation study in the supermarket extends the already substantial domains that the default nudge has proven to be successful in (Hummel and Maedche 2019). From a practical viewpoint, it should be noted that the absolute number of donations in the control condition was higher in both experiments, because this approach was less time intensive. As such, this approach allowed the researchers to approach more customers in an absolute sense, even if these customers donated less per person.

## 7.3 | Expected and Experienced Autonomy

Thirdly, to answer RQ3, we compared reported feelings of autonomy after being subjected to a default nudge in a real-world setting with the expected feelings of autonomy after being subjected to a description of the same nudge (vignette). Congruent with our third hypothesis, the reported expected autonomy was lower than the reported experienced autonomy. That people expect their autonomy to be reduced by nudges has been previously studied, but this study is among the first to compare experienced and expected autonomy (Wachner, Adriaanse, and De Ridder 2020a; Michaelsen, Johansson, and Hedesström 2021) and the first to do so in a real-world setting. Furthermore, we find choice satisfaction to behave in a similar pattern as autonomy. This connects to the findings of Wachner, Adriaanse, and De Ridder (2021), who state that lowered autonomy leads to lowered choice satisfaction.

Our findings correspond with earlier literature on expected and experienced autonomy (Wachner, Adriaanse, and De Ridder 2020a; Michaelsen, Johansson, and Hedesström 2021) and in a broader sense with literature describing that humans are generally bad at affective forecasting, that is, predicting their future emotional state (Buehler and McFarland 2001; Gilbert and Wilson 2000). Our study stresses once again that experienced and expected autonomy should be split conceptually. Expected autonomy gives us insights in how laymen and the public perceive nudging as a policy tool and becomes especially important when discussing transparent nudges, as they are easily identified by the public. Experienced autonomy provides information about the experiences after being nudged, which informs well-being (Van den Broeck et al. 2016; Wei et al. 2005), choice satisfaction (Wachner, Adriaanse, and De Ridder 2021), and future decisions (Wirtz et al. 2003). Both are crucial for nudge design in practice.

As a practical implication, policy makers may want to consider that a planned default nudge may be perceived as a threat to autonomy, but not experienced as such. When implementing this nudge, policy makers should therefore expect well-intentioned resistance on grounds of reduced autonomy, which is not what we find in our study. Hopefully, this study can help putting those fears to rest.

## 7.4 | Limitations

This research is subject to some limitations. First, although the setting was in a real-life context, it is still relatively low stakes—all suggested products cost no more than a euro. Future research could try to push the boundaries on the magnitude of the request to see if this plays a role in experienced autonomy. A start could be to encourage more expensive, and therefore more impactful, donations. A different route is to choose a different sort of impactful choice, one that is emotionally involved. A possible suggestion is “defaulting” a name change when couples get married and seeing how that affects experienced autonomy.

Second, we did not ask each participant how many products they had donated. It is possible that the found effect of the nudge on

food donations is attributable to a few visitors donating a large number of products, skewing the findings. However, given that the difference between average donated items corresponds with the indicated donating behavior in the questionnaire—which is not impacted by these possible outliers—it is unlikely that a few outliers (disproportionate donators) are driving our findings. Alternatively, products may have been donated by an unknown number of visitors who were not approached by a researcher. Any findings based on this measure should therefore be interpreted with caution. Therefore, we base our conclusion about donating behavior not only on intake but also on the report in the questionnaire, which shows the same pattern as the overall donations.

Third, a selection bias could play a role in our findings that are based on the questionnaire. The low number of non-donating customers who filled in the questionnaire is reason to speculate that the sample is nonrandom, with non-donating customers more often refusing to participate. The reason for this could be that customers who donated were more inclined to do the food bank another favor (“foot in the door” technique; Freedman and Fraser 1966) than customers who refused the first favor (i.e., donating). Unfortunately, this is a consequence of research in a real-world setting that is out of our control. Given the similar findings with earlier lab research (Michaelsen, Johansson, and Hedesström 2021; Wachner, Adriaanse, and De Ridder 2020b; Wachner, Adriaanse, and De Ridder 2020a; Wachner, Adriaanse, and De Ridder 2021), we do not expect a possible selection bias to have a large impact on the findings. Additionally, we do find the response rate to be consistently higher in the default nudge condition (26.9% in Experiment 1, 18.0% in Experiment 2) than in the control condition (17.0% in Experiment 1, 16.9% in Experiment 2). This would at least refute the idea that the default nudge causes people to reject filling in the survey. However, it remains possible that the large underrepresentation of non-donators skews the results.

Fourth, arguments that nudges are bad for autonomy conceptualize it as agency (see Vugts et al. 2020), which means that a choice is autonomous if the decision maker deliberated on it free of external influences. However, most questions on autonomy in the current two experiments were on the concept of self-constitution, which means that a decision is autonomous if is in line with one’s values. We theorized that this is the strictest conceptualization, and if participants feel their choice is in line with their values, they would also feel they were free in deliberating on it. As an exploratory analysis, we reran the analyses in Experiment 2 for Hypotheses 1 and 3 using only the item “to what extent did you feel your choice to donate to be thought-through?” as autonomy measure, as this was the only item on agency. We found no differences with the main analysis, suggesting that autonomy was also not harmed when conceptualized as agency. Future research should, however, measure autonomy as agency, as this is what critics argue is where nudges might be harmful (e.g., Bovens 2009).

Lastly, the experiments were carried out in supermarkets. The sample was representative for customers in a supermarket, but our findings may not generalize over the entire population, as our sample was largely female and over 40 years old. Additionally, the first experiment took place when COVID-19 measures were in effect, whereas the second experiment was

conducted after these measures were withdrawn. It is possible that the presence of autonomy-reducing measures was normalized during COVID-19 times or that general autonomy was lower in the population. Future research could replicate the experiment in different supermarkets (e.g., in on-campus supermarkets) or in a different context, for example, an online context like a web shop, to see if these findings persist. Similarly, food donation is not a context in which policy makers usually operate, and caution should be used when extrapolating our findings to other policy fields. The trustworthiness of the source of a nudge plays a role in its acceptability (Evers et al. 2018) and charity organizations are likely seen as more positive than the government. This difference in nudge source may affect how a default nudge affects experienced autonomy when this effect is tested in public policy.

## 8 | Conclusion

In this study, we investigated the effect of a default nudge on *experienced* autonomy in a real-life setting, namely, defaulting a food bank charity donation in a supermarket, and directly compared it to the same nudge as a hypothetical scenario. We found that a nudgee’s experienced autonomy after being subjected to a default nudge was *not* diminished compared to participants in a control condition, despite the expected autonomy being reduced when presented with the exact same nudge. This is in contrast with the often-posed idea of nudges hampering a nudgee’s autonomy. This is the first field study concerning decisions where money is at stake that demonstrates that a default nudge does not decrease experienced autonomy, and the first study directly comparing experienced and expected autonomy in a field setting. Additionally, the nudge was successful in increasing the average food donation per customer. The findings show the default nudge is a successful tool to promote food donations in practice. Moreover, the default nudge did not harm experienced autonomy in a real-world setting, making its use to change behavior both effective and acceptable.

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The authors have nothing to report.

### Conflicts of Interest

The authors declare no conflicts of interest.

### Data Availability Statement

The data that support the findings of this study are openly available in Open Science Framework at [https://osf.io/krau5/?view\\_only=460a55e77be54514a2d72472a80c8f94](https://osf.io/krau5/?view_only=460a55e77be54514a2d72472a80c8f94).

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## Appendix A

### Questionnaire Experiment 1

1. What is your gender? (Male, female, other, prefer not to say)
2. What is your age? (Open question)
3. Have you donated one or more products to the food bank today? (Yes/No)

4. Have you been approached by me or a colleague to donate a product to the food bank? (Yes/No)
5. My choice to donate or not corresponds with my goals and interests (5-point scale: *strongly disagree* to *strongly agree*)
6. My choice to donate or not fits me perfectly (5-point scale: *strongly disagree* to *strongly agree*)
7. My choice to donate or not reflects who I am (5-point scale: *strongly disagree* to *strongly agree*)
8. I feel that I was free in my choice to donate or not (5-point scale: *strongly disagree* to *strongly agree*)

Thank you for participating! Should you have questions about this research, you can ask them now or be in contact via [email address].

## Appendix B

### Questionnaire Experiment 2

#### Version for Control and Default Nudge Condition

1. What is your gender? (Male, female, other, prefer not to say)
2. What is your age? (Open question)
3. Choose the option that applies:
  - a. I donated a product from the stand
  - b. I did not donate a product
  - c. I donated a product from the stand and other products
  - d. I did not donate a product from the stand but donated other products.
4. Have you been approached by me or a colleague to donate a product to the food bank? (Yes/No/)
5. To what extent did you feel in control of your choice to donate? (9-point scale, 1 = *not at all*, 9 = *completely*)
6. To what extent did you feel your choice to donate to be thought-through? (9-point scale, 1 = *not at all*, 9 = *completely*)
7. To what extent did you feel that your choice belonged to you? (9-point scale, 1 = *not at all*, 9 = *completely*)
8. To what extent did you feel that your choice reflected your preferences? (9-point scale, 1 = *not at all*, 9 = *completely*)
9. To what extent do you feel that you can "stand for" your choice? (9-point scale, 1 = *not at all*, 9 = *completely*)
10. To what extent did you feel that the choice you ended up making were free from external influence? (9-point scale, 1 = *not at all*, 9 = *completely*)
11. How satisfied are you with your choice of whether or not to donate? (9-point scale, 1 = *not at all*, 9 = *completely*)

Thank you for participating! Should you have questions about this research, you can ask them now or be in contact via [email address].

### Version for Vignette Condition

Imaging walking into the supermarket and being approached by a person with a stand at the entrance who is collecting products for the food bank. In the stand are several products of about 1 euro like rice, pasta, oatmeal, and cans of tomato paste. The person at the stand approaches you, tells you they are collecting products for the foodbank, gives you a shopping cart/basket and places one of the products from the stand in the cart/basket. The person tells you that you can put the product back from the stand or switch it for a different product, and of course you can donate other products from the stand or the store after checkout. Try to answer the following questions, keeping this scenario in mind:

1. What is your gender? (Male, female, other, prefer not to say)
2. What is your age? (Open question)
3. Choose what you would do in this hypothetical situation:
  - a. I would donate the product that was placed in my shopping cart
  - b. I would place the product that was placed in my shopping cart back
  - c. I would donate the product that was placed in my shopping cart and donate extra products
  - d. I did not donate a product from the stand but donated other products.
4. Have you been approached by me or a colleague to donate a product to the food bank? (Yes/No/)
5. To what extent did you feel in control of your choice to donate?  
(9-point scale, 1 = *not at all*, 9 = *completely*)
6. To what extent did you feel your choice to donate to be thought-through?  
(9-point scale, 1 = *not at all*, 9 = *completely*)
7. To what extent did you feel that your choice belonged to you?  
(9-point scale, 1 = *not at all*, 9 = *completely*)
8. To what extent did you feel that your choice reflected your preferences?  
(9-point scale, 1 = *not at all*, 9 = *completely*)
9. To what extent do you feel that you can “stand for” your choice?  
(9-point scale, 1 = *not at all*, 9 = *completely*)
10. To what extent did you feel that the choice you ended up making were free from external influence?  
(9-point scale, 1 = *not at all*, 9 = *completely*)
11. How satisfied are you with your choice of whether or not to donate?  
(9-point scale, 1 = *not at all*, 9 = *completely*)

Thank you for participating! Should you have questions about this research, you can ask them now or be in contact via [email address].