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Supplementary Information for

The effectiveness of nudging: A meta-analysis of choice architecture interventions across behavioral domains

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This PDF file includes:

Supporting Information Text

Materials and Methods

The meta-analysis was conducted in accordance with guidelines for conducting systematic reviews (1) and conforms to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; 2) standards.

Literature search and review process. Figure S1 illustrates the literature search and review process. Our initial literature search identified a total of 10,480 published articles through the electronic databases PsycINFO, PubMed, PubPsych, and ScienceDirect as well as through the reference lists of relevant review articles. In addition, 71 unpublished articles were identified through governmental and non-governmental behavioral science units, the ProQuest Dissertations & Theses database, and calls for unpublished data in academic mailing lists. The final sample comprised 455 effect sizes from 214 publications.

Effect size calculation. To integrate the results of the publications identified as part of the literature search and review process, we calculated Cohen's d (3) for a standardized effect size measure of the mean difference between control and treatment conditions. For outcome variables that were measured on a continuous scale (e.g., the amount of money donated to charity), Cohen's d was calculated as the difference between means divided by the combined standard deviation. For dichotomous outcome variables (e.g., proportion of subjects donating to charity), Cohen's d was calculated using the arcsine transformation illustrated in the equations below, where p equals the proportion of respondents showing the behavioral outcome of interest (4).

$$\varphi = 2arcsin\sqrt{p}$$
$$\text{Cohen's } d = \varphi_{treatment} - \varphi_{control}$$

Positive Cohen's d values were coded to reflect behavior change in the predicted direction, whereas negative values reflected an unpredicted change in behavior. If more than one outcome measure were reported, we selected the outcome that was identified as the primary variable of interest by the authors of the respective study. If no clear distinction was made between outcome variables or more than one outcome was identified to be of primary interest, all relevant outcome measures were coded. In cases where a behavioral outcome was measured at multiple time points, we coded the effect closest in time to the intervention as using later follow-up measures may confound the true intervention effect with the persistence of the effect (4).

Missing data. In cases where studies did not report the respective sample size of their control and treatment conditions, we estimated sample sizes by dividing the overall size of the study sample by the number of conditions. Where effect sizes could not be calculated based on the information provided, we contacted authors for the missing information. Studies for which no effect size could be calculated even after contacting authors were excluded from the analyses ($n = 11$).

Moderator coding. Studies were coded by three raters (first and second authors of this paper as well as a graduate research assistant). Following an initial training phase in which raters coded and discussed a reduced set of 30 studies, each rater continued to independently code an assigned part of the remaining database. Given the large number of studies, this division of coding was deemed necessary to ensure a timely analysis of the data. Throughout the coding process, raters followed a written protocol that outlined the inclusion and exclusion criteria for studies, definitions and examples of key moderators, and detailed instructions for the extraction of data (see section *Effect size calculation* above.) Interrater reliability across a random sample of 20% of the publications was high, with Cohen's κ ranging from 0.76 to 1 ($M = 0.87$). Any disagreements in coding were resolved by discussion. Table S1 provides an overview of the categorization of studies across the three key moderators intervention category, intervention technique, and behavioral domain. The full dataset is publicly available on the Open Science Framework (https://osf.io/fywae/).

Classification of choice architecture interventions. Choice architecture interventions were classified using a taxonomy developed by Münscher and colleagues (5) which distinguishes three categories of choice architecture interventions: *decison information*, *decision structure*, and *decision assistance* (5). Each of these categories comprises specific intervention techniques that target different aspects of the choice environment, with decision information interventions targeting the way in which choice alternatives are described (e.g., framing, social reference points); decision structure interventions targeting the way in which those choice alternatives are organized and structured (e.g., choice defaults, effort); and decision assistance interventions targeting the way in which decisions can be reinforced (e.g., reminders, commitment devices). For an overview of the taxonomy including examples, see Table 1 in the manuscript.

Classification of behavioral domains. Based on a previous scoping review of the choice architecture literature (6) and inspection of our data, interventions were categorized to belong to one of six behavioral domains: health, food, environment, finance, pro-social behavior, and other behavior (Table S2 reports the distribution of effect sizes across behavioral domains). Studies were coded to fall only under a single behavioral domain (for a similar approach see 7–9). In cases where studies qualified for more than one domain, the more distinct domain was chosen. This was primarily the case in studies that investigated choice architecture interventions in a consumer context. Here, we only categorized studies under the domain of consumer choice if they did not fall under any of the other behavioral domains. For example, studies that investigated the effectiveness of choice architecture interventions in promoting the purchase of energy efficient appliances were categorized under the behavioral domain of environment rather than consumer choice. Overall, interrater reliability for behavioral domain was very high ($\kappa = 0.97$).

Classification of contextual study characteristics. Table S2 reports the distribution of effect sizes across the four contextual study characteristics investigated in our meta-analysis (i.e., geographical location, target population, type of experiment, and year of publication*). Type of experiment was classified using the taxonomy by Harrison and List (10), which distinguishes between conventional lab experiments, artefactual field experiments, framed field experiments, and natural field experiments.

Statistical analysis. All analyses reported in the paper are publicly available on the Open Science Framework (https://osf.io/fywae/).

Effect size estimation. Since the majority of publications included in our meta-analysis reported multiple relevant outcome variables and/or more than one study, we estimated the overall effect of choice architecture interventions using a three-level meta-analytic model (see below for model specification within R Package `metafor`, 11). This approach allowed us to account for the hierarchical structure in our data (i.e., the nesting of effect sizes within publications) that would otherwise violate the assumption of independence of traditional meta-analytic approaches (4). Specifically, our three-level model accounted for variance in the observed effect sizes (level 1), variance between effect sizes within the same publication (level 2), and variance between publications (level 3).

```
rma.mv_model -> rma.mv(cohens_d, variance_d, data = df,
  random = ~ 1 | publication_id/es_id, tdist = TRUE)
```

Although this multilevel approach accounts for the hierarchical dependence among effect sizes, it does not control for any dependence in sampling errors due to overlapping samples (e.g., in cases where multiple treatment conditions are compared to the same control condition). We therefore calculated cluster-robust standard errors, confidence intervals, and statistical tests for each effect size estimate (see below for specification within R Package `metafor`, 11–13). Since samples only overlapped on a study level, we defined clusters on the basis of study rather than publication†.

```
robust(rma.mv_model, cluster = df$study_id, adjust = TRUE)
```

Sensitivity analysis. To test the robustness of the effect size of choice architecture interventions, we first examined the data for influential outliers. Influential outliers were defined as effect sizes with standardized residual values above 3 (14) and Cook's distance values above 0.009. Following Fox (15), this cut-off value was based on the calculation of $4/(n - k - 1)$, where n refers to the overall number of effect sizes included in the analysis and k refers to the number of parameters of interest‡. Based on these criteria, we identified three influential outliers, with Cohen's d values ranging between 3.08 and 4.69 (16, 17). To analyze the extent to which these outliers drove the overall effect size of choice architecture interventions, we removed them from our analysis and re-estimated the effect of choice architecture interventions on behavior. Complementing the analysis of influential outliers, we ran two additional robustness checks that estimated the impact of each individual effect size and publication on the overall effect of choice architecture interventions. To this end, we followed a leave-one-out procedure in which the effect of choice architecture was repeatedly re-estimated while leaving out one effect size or one publication at a time.

*Note that some previously unpublished studies have been published since the literature search for this meta-analysis was completed. The year of publication reported here and in the main manuscript reflects the latest publication status of studies.

†Note that studies were defined based on samples rather than experiments to adequately reflect dependence. In cases where two or more independent samples were reported within the same experiment (e.g., experiments with more than one categorical independent variable or multiple intervention sites), unique study IDs were assigned to each observation; in cases where multiple treatment conditions within an experiment were compared to the same control condition, the same study ID was assigned to each observation.

‡Note that this approach produces a conservative estimate of influence; others have suggested using a Cook's distance value of > 1 as a cut-off (14).

Moderator analyses. In order to identify systematic differences between choice architecture interventions, we ran multiple moderator analyses in which we independently tested for the effects of type of intervention, behavioral domain, and contextual study characteristics. For these analyses, we extended our meta-analytic model to include fixed effects for each moderator of interest. To analyze the effect of type of intervention, for example, we extended the model to include dummy coded variables for the three intervention categories and nine intervention techniques defined by Münscher et al.'s taxonomy (5), respectively. Similarly, we introduced dummy coded variables for the six behavioral domains we identified during coding to analyze potential differences in the effectiveness of choice architecture interventions across domains. Both models were combined to determine the specific effect of each intervention category in each individual behavioral domain. In all four of these moderator analyses, we included year of publication as a standardized covariate to control for contextual confounds and thus render more precise effect size estimates. Introducing additional study characteristics as covariates did not improve the model fit. For parsimony reasons, we therefore restrained the number of covariates in the model to year of publication (see below for sample specification within R Package `metafor`, 11). Finally, to test the extent to which general study characteristics influenced the effect of choice architecture interventions, we extended our meta-analytic model to include dummy coded variables for type of location, target population, type of experiment, and a standardized variable for the year in which the data were published, respectively.

```
rma.mv(cohens_d, variance_d, mods = ~ factor(intervention_category) * factor(domain) +
      scale(year), data = df, random = ~ 1 | publication_id/es_id, tdist = TRUE)
```

Results

Heterogeneity across moderators. Introducing intervention category as a moderator in our meta-analytic model marginally decreased the ratio of true to total variability in effect sizes from $I^2 = 99.67\%$ to $I^2 = 99.57\%$. Likewise, including behavioral domain as a moderator decreased heterogeneity to $I^2 = 99.58\%$. As illustrated in Table S3, both moderators had a stronger effect on the heterogeneity between publications than within publications. Introducing general study characteristics as moderators similarly decreased the ratio of true to total heterogeneity to $I^2 = 99.62\%$. Entering all moderators into our meta-analytic model decreased heterogeneity among effect sizes to $I^2 = 99.53\%$.

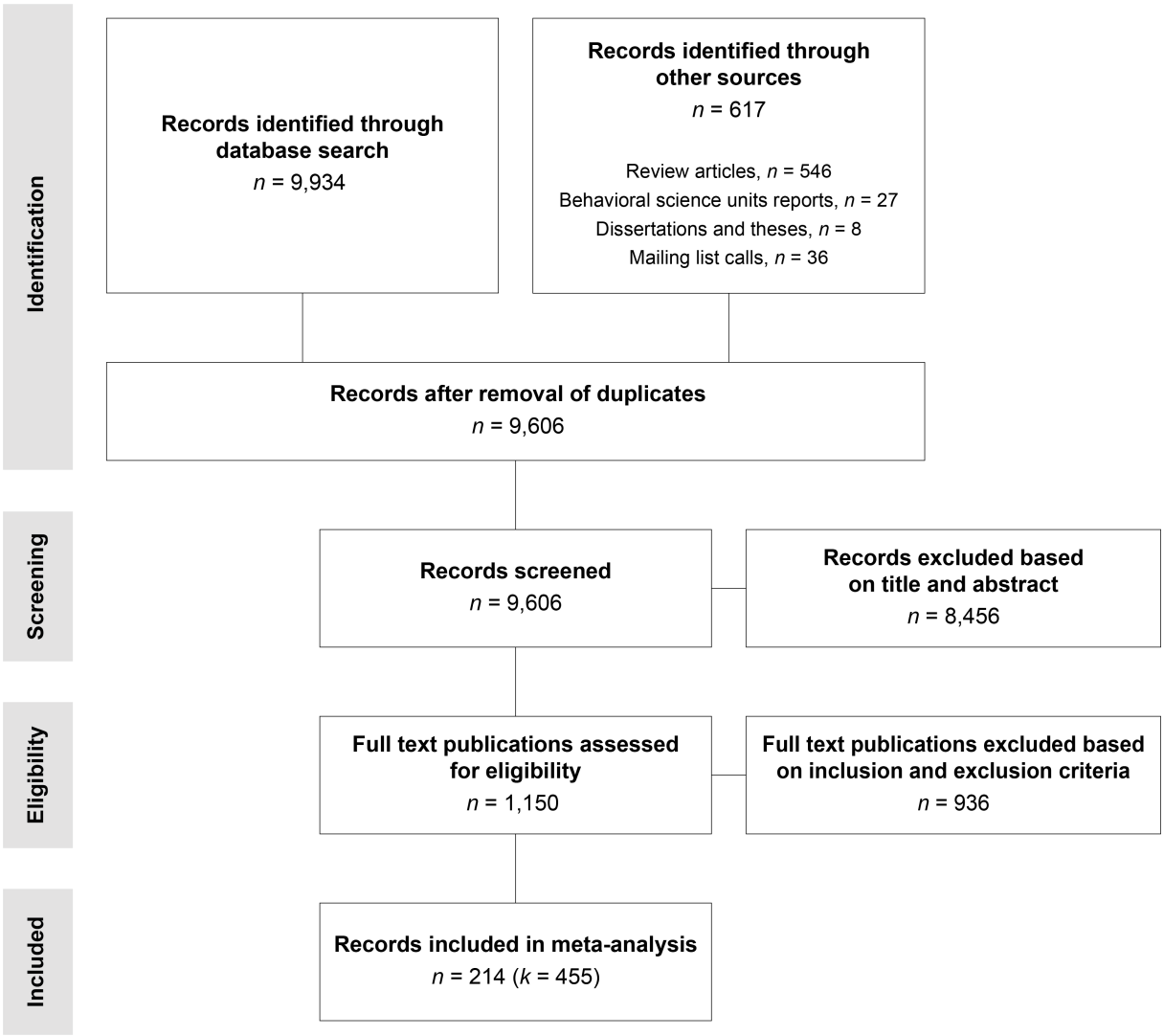

Fig. S1. Flow diagram illustrating the literature search and review process.

Table S1. Categorization of studies across key moderators.

	Categorization		
Reference	Intervention category	Intervention technique	Behavioral domain
Abhyankar et al. (2014)	Structure	Default	Health
Alemany et al. (2019)	Information	Visibility	Other
Alinia et al. (2011)	Structure	Effort	Food
Ansher et al. (2013)	Structure	Default	Health
Antonuk & Block (2006)	Information	Translation	Food
Anzman-Frasca et al. (2018)	Assistance	Reminder	Food
Araña & León (2013)	Structure	Default	Environment
Bachman & Katzev (1982)	Assistance	Commitment	Environment
Bacon & Krpan (2018), treatment 1	Information	Social reference	Food
Bacon & Krpan (2018), treatment 2	Structure	Composition	Food
Baek et al. (2014)	Structure	Default	Other
Bamberg (2002)	Assistance	Commitment	Environment
Banks (1995)	Information	Translation	Health
Barnes et al. (2021), experiment 1, treatment 1	Information	Visibility	Finance
Barnes et al. (2021), experiment 2, treatment 1	Assistance	Reminder	Finance
Bartke et al. (2017), treatment 1	Information	Social reference	Pro-social
Basu & Savani (2017), experiment 1	Structure	Composition	Other
Basu & Savani (2017), experiment 2–7	Structure	Composition	Finance
Behavioural Economics Team of the Australian Government (2017)	Information	Visibility	Other
Behavioural Economics Team of the Australian Government (2018)	Information	Translation	Environment
Behavioural Economics & Research Team, Behavioural Economics Team of the Australian Government (2018), treatment 1	Information	Visibility	Health
Economics Team of the Australian Government (2018), treatment 2	Information	Social reference	Health
Behavioural Economics Team of the Australian Government (2019), treatment 1–3	Assistance	Reminder	Finance
Behavioural Insights Team (2013), treatment 1–3	Information	Social reference	Pro-social
Behavioural Insights Team (2013), treatment 4–5	Information	Visibility	Pro-social
Bergeron et al. (2019)	Structure	Default	Food
Bhanot (2017)	Assistance	Commitment	Finance
Bogliacino et al. (2015), treatment 1	Structure	Default	Health
Böhm & Theelen (2016), experiment 1	Information	Translation	Pro-social
Böhm & Theelen (2016), experiment 2	Information	Translation	Environment

Note. Unless otherwise noted, the categorizations displayed here reflect the coding of all treatment conditions and studies reported in the respective publication.

Table S1 (continued).

	Categorization		
Reference	Intervention category	Intervention technique	Behavioral domain
Bohnet et al. (2016)	Structure	Composition	Other
Broman et al. (2014), experiment 1	Structure	Default	Environment
Bronchetti et al. (2011)	Structure	Default	Finance
Brook & Servátka (2016)	Information	Visibility	Pro-social
Bruns et al. (2018), treatment 1	Structure	Default	Environment
Bucher et al. (2014)	Structure	Composition	Food
Burns & Rothman (2015), experiment 2	Structure	Composition	Food
Byrd et al. (2018), treatment 2–3	Information	Visibility	Food
Camilleri & Larrick (2014)	Information	Translation	Environment
Capraro et al. (2018)	Assistance	Reminder	Pro-social
Carrera et al. (2018)	Assistance	Commitment	Health
Carroll et al. (2018)	Structure	Composition	Food
Carter & González-Vallejo (2018), treatment 1	Assistance	Reminder	Food
Castleman & Page (2015), treatment 1	Assistance	Reminder	Other
Castleman & Page (2016)	Assistance	Reminder	Other
Catlin & Wang (2013), experiment 1	Structure	Consequence	Environment
Chapman et al. (2010)	Structure	Default	Health
Chen et al. (2016)	Structure	Consequence	Pro-social
Cheung et al. (2017)	Information	Social reference	Food
Chou & Murnighan (2013), experiment 2	Information	Translation	Pro-social
Courtright et al. (2017)	Structure	Composition	Health
Coventry et al. (2016)	Information	Social reference	Other
D'Adda et al. (2017), treatment 1	Structure	Default	Pro-social
D'Adda et al. (2017), treatment 2	Information	Social reference	Pro-social
Damgaard & Gravert (2018)	Assistance	Reminder	Pro-social
De Wild et al. (2015)	Structure	Composition	Food
Demarque et al. (2015)	Information	Social reference	Environment
Dickerson et al. (1992), treatment 2	Assistance	Reminder	Environment
Dickerson et al. (1992), treatment 3	Assistance	Commitment	Environment
Diliberti et al. (2004)	Structure	Default	Food
Dinner et al. (2011)	Structure	Default	Environment
Dogruel et al. (2017)	Structure	Default	Other
Dos Santos et al. (2020)	Assistance	Reminder	Food
Ebeling & Lotz (2015)	Structure	Default	Environment
Engell et al. (1996)	Structure	Effort	Food
Evans et al. (2011)	Structure	Default	Finance

Note. Unless otherwise noted, the categorizations displayed here reflect the coding of all treatment conditions and studies reported in the respective publication.

Table S1 (continued).

	Categorization		
Reference	Intervention category	Intervention technique	Behavioral domain
Everett et al. (2015), experiment 1, 3	Structure	Default	Pro-social
Everett et al. (2015), experiment 2	Structure	Default	Environment
Faralla et al. (2017)	Information	Translation	Finance
Firmino-Machado et al. (2018)	Assistance	Reminder	Health
Fisher (2018)	Information	Visibility	Food
Frydman & Rangel (2014)	Information	Visibility	Finance
Ganzach & Karsahi (1995)	Information	Translation	Finance
Gärtner (2018)	Structure	Default	Pro-social
Geier et al. (2012)	Structure	Composition	Food
Gerend (2009)	Information	Visibility	Food
Goldstein et al. (2011), experiment 2–5	Structure	Consequence	Pro-social
Goldzahl et al. (2018), treatment 1, 3	Information	Social reference	Health
Gomez et al. (2016)	Structure	Composition	Other
Gong et al. (2017)	Information	Translation	Environment
Gopalan et al. (2014)	Information	Translation	Health
Goswami & Urminsky (2016)	Structure	Default	Pro-social
Grant et al. (2018)	Information	Translation	Health
Grépin et al. (2019), treatment 3a, 3b	Assistance	Reminder	Health
Hainmueller et al. (2018), treatment 1, 2	Assistance	Reminder	Other
Hainmueller et al. (2018), treatment 4	Structure	Effort	Other
Hallsworth et al. (2015), experiment 1, treatment 1	Structure	Effort	Health
Hallsworth et al. (2015), experiment 2, treatment 1	Information	Translation	Health
Halpern et al. (2013)	Structure	Default	Health
Handgraaf et al. (2013)	Information	Visibility	Environment
Harnack et al. (2008), treatment 1	Information	Visibility	Food
Haward et al. (2012)	Structure	Default	Health
Hedlin & Sunstein (2016)	Structure	Default	Environment
Hershfield et al. (2014), experiment 2	Information	Translation	Environment
Hilton et al. (2014), experiment 1	Assistance	Reminder	Environment
Hou (2017), experiment 1	Information	Social reference	Food
Hu et al. (2018)	Information	Social reference	Other
Impact and Innovation Unit (2018), treatment 2	Structure	Consequence	Pro-social
Impact and Innovation Unit (2018), treatment 3–4	Information	Visibility	Pro-social

Note. Unless otherwise noted, the categorizations displayed here reflect the coding of all treatment conditions and studies reported in the respective publication.

Table S1 (continued).

Reference	Categorization		
	Intervention category	Intervention technique	Behavioral domain
Impact and Innovation Unit (2018), treatment 5–6	Information	Social reference	Pro-social
Impact and Innovation Unit (2018), treatment 7	Information	Translation	Pro-social
Isaksen et al. (2019)	Information	Translation	Pro-social
Jin (2011)	Structure	Default	Other
Johnson & Goldstein (2003)	Structure	Default	Pro-social
Johnson et al. (1993), experiment 4	Information	Translation	Finance
Johnson et al. (1993), experiment 6	Structure	Default	Finance
Johnson et al. (2002)	Structure	Default	Other
Johnston et al. (2018)	Information	Social reference	Other
Junger et al. (2017), treatment 2	Assistance	Reminder	Other
Keller et al. (2011)	Structure	Default	Health
Keller et al. (2015)	Structure	Effort	Food
Kersbergen et al. (2018)	Structure	Default	Food
Kesternich et al. (2019)	Structure	Default	Environment
Klotz et al. (2010)	Structure	Default	Environment
Knowles et al. (2019)	Structure	Effort	Food
Korn et al. (2018), treatment 1	Structure	Consequence	Health
Korn et al. (2018), treatment 2	Information	Social reference	Health
Kressel & Chapman (2007), experiment 1, treatment 1	Structure	Default	Health
Kressel & Chapman (2007), experiment 2	Structure	Default	Health
Kressel et al. (2007), treatment 1	Structure	Default	Health
Kuester et al. (2015)	Structure	Default	Environment
Kulendran et al. (2016)	Assistance	Commitment	Health
Lalor & Hailey (1989)	Information	Translation	Health
Larrick & Soll (2008), experiment 3	Information	Translation	Environment
Lehmann et al. (2016)	Structure	Default	Health
Libotte et al. (2014)	Structure	Default	Food
Lieberman et al. (2019), experiment 4	Information	Translation	Health
Liu et al. (2016), treatment 1	Assistance	Reminder	Health
Loeb et al. (2017)	Structure	Default	Health
Löfgren et al. (2012)	Structure	Default	Environment
Loibl et al. (2018), experiment 1	Assistance	Reminder	Finance
Loibl et al. (2018), experiment 2	Structure	Default	Finance
Maas et al. (2011)	Structure	Effort	Food

Note. Unless otherwise noted, the categorizations displayed here reflect the coding of all treatment conditions and studies reported in the respective publication.

Table S1 (continued).

Reference	Categorization		
	Intervention category	Intervention technique	Behavioral domain
Mann & Bryant (2019)	Assistance	Reminder	Other
Marchiori et al. (2012), treatment 1	Structure	Default	Food
Marek (2018)	Structure	Composition	Environment
Martin & Norton (2009), experiment 4	Structure	Composition	Other
Martins & Szrek (2019)	Information	Translation	Other
McCalley & Midden (2002)	Assistance	Commitment	Environment
McCaul & Kopp (1982)	Assistance	Commitment	Environment
Meeker et al. (2014)	Assistance	Commitment	Health
Mehta et al. (2018)	Structure	Default	Health
Meng & Trudel (2017), experiment 2	Assistance	Reminder	Environment
Mertens et al. (2020), experiment 2	Information	Translation	Environment
Meyerowitz & Chaiken (1987)	Information	Translation	Health
Milkman et al. (2011)	Assistance	Commitment	Health
Miller et al. (2016), treatment 1	Assistance	Commitment	Food
Missbach & König (2016)	Structure	Effort	Food
Muñoz et al. (2017)	Assistance	Reminder	Health
Narula et al. (2014)	Structure	Default	Health
Neale & Bazerman (1985)	Information	Translation	Other
Nelson et al. (2019)	Structure	Default	Environment
Niven et al. (2019)	Information	Visibility	Food
Nyer & Dellande (2010)	Assistance	Commitment	Health
O'Leary et al. (2015)	Assistance	Reminder	Health
Or et al. (2014)	Structure	Default	Health
Paese (1995)	Information	Translation	Other
Park et al. (2010)	Information	Translation	Health
Patel et al. (2018), treatment 1	Structure	Default	Health
Pichert & Katsikopoulos (2008), experiment 3–4	Structure	Default	Environment
Prinsen et al. (2013), experiment 2–3	Information	Social reference	Food
Privitera & Zuraikat (2014)	Structure	Effort	Food
Pugatch & Wilson (2018), treatment 1	Assistance	Reminder	Other
Putnam-Farr & Riis (2016)	Structure	Default	Health
Raue et al. (2019)	Information	Social reference	Finance
Raynor & Wing (2007), treatment 1	Structure	Default	Food
Raynor & Wing (2007), treatment 2	Structure	Composition	Food
Reiter et al. (2012)	Structure	Default	Health

Note. Unless otherwise noted, the categorizations displayed here reflect the coding of all treatment conditions and studies reported in the respective publication.

Table S1 (continued).

	Categorization		
Reference	Intervention category	Intervention technique	Behavioral domain
Rigtering et al. (2019), experiment 1, treatment 1	Structure	Default	Other
Roberto et al. (2010)	Information	Visibility	Food
Rodriguez & Saavedra (2019), treatment 1–2	Assistance	Reminder	Finance
Rohlfs Domínguez et al. (2013)	Structure	Composition	Food
Rosenkranz et al. (2017), treatment 1	Structure	Effort	Environment
Rothman et al. (1999), experiment 2	Information	Translation	Health
Ruback et al. (2014), treatment 1	Information	Visibility	Finance
Sacarny et al. (2018)	Information	Social reference	Health
Samek et al. (2016), treatment 2	Structure	Effort	Other
Saß et al. (2017)	Structure	Effort	Other
Saulais et al. (2016)	Assistance	Reminder	Food
Schram & Sonnemans (2011)	Structure	Composition	Finance
Schulz et al. (2018)	Structure	Default	Pro-social
Schwartz (2007)	Assistance	Reminder	Food
Schwartz et al. (2019), experiment 2, treatment 3 & 6	Structure	Consequence	Other
Schwartz et al. (2019), experiment 3a-3b, treatment 2	Structure	Consequence	Other
Sharif & Shu (2021), experiment 1	Structure	Consequence	Health
Sharif & Shu (2021), experiment 2–4a	Structure	Consequence	Other
Sharp & Sobal (2012)	Structure	Default	Food
Shealy & Klotz (2015)	Structure	Default	Environment
Shealy et al. (2016)	Structure	Default	Environment
Shealy et al. (2018), treatment 1	Information	Social reference	Environment
Shevchenko et al. (2014)	Structure	Default	Other
Shimizu et al. (2010)	Assistance	Reminder	Food
Shu et al. (2012), experiment 1 & 2	Assistance	Commitment	Pro-social
Small & Loewenstein (2003)	Information	Visibility	Pro-social
Sonntag & Zizzo (2015)	Assistance	Reminder	Pro-social
Soon et al. (2018)	Structure	Composition	Health
Stämpfli & Brunner (2016)	Assistance	Reminder	Food
Stämpfli et al. (2017), experiment 1	Assistance	Reminder	Food
Steffel et al. (2016), experiment 1a–b, 2a–4	Structure	Default	Other
Steffel et al. (2016), experiment 1c	Structure	Default	Food

Note. Unless otherwise noted, the categorizations displayed here reflect the coding of all treatment conditions and studies reported in the respective publication.

Table S1 (continued).

	Categorization		
Reference	Intervention category	Intervention technique	Behavioral domain
Stephen & Lehmann (2016), experiment 1	Assistance	Reminder	Finance
Stikvoort et al. (2016)	Structure	Composition	Environment
Stok et al. (2014), treatment 1	Information	Social reference	Food
Tannenbaum et al. (2013), experiment 1a & 2	Structure	Composition	Other
Tannenbaum et al. (2013), experiment 1b	Structure	Composition	Finance
Tannenbaum et al. (2013), experiment 3–4	Structure	Composition	Food
Tasoff & Letzler (2014), treatment 1	Information	Social reference	Finance
Tasoff & Letzler (2014), treatment 2	Assistance	Reminder	Finance
Tasoff & Letzler (2014), treatment 3	Structure	Effort	Finance
Tavernier & Adam (2017)	Assistance	Reminder	Health
Taylor et al. (2015), treatment 3–4	Information	Social reference	Health
Theotokis & Manganari (2015), experiment 2	Structure	Default	Environment
Thorndike et al. (2016), treatment 1	Information	Social reference	Food
Thunström et al. (2018)	Assistance	Reminder	Other
Trevana et al. (2006)	Structure	Default	Other
Trudel et al. (2015), experiment 4	Assistance	Reminder	Food
Ubel et al. (2001)	Structure	Composition	Health
Van Bavel et al. (2019)	Assistance	Reminder	Other
Van Dalen & Henkens (2014)	Structure	Default	Pro-social
Van der Zanden et al. (2015), treatment 1	Assistance	Reminder	Food
Van Kleef, Otten, et al. (2012), experiment 1, treatment 1	Structure	Effort	Food
Van Kleef, Otten, et al. (2012), experiment 1, treatment 2	Structure	Composition	Food
Van Kleef et al. (2018), experiment 2	Structure	Default	Food
Van Kleef, Shimizu, et al. (2012)	Structure	Default	Food
Veldwijk et al. (2016)	Information	Translation	Health
Verplanken & Weenig (1993)	Information	Translation	Environment
Wansink & Hanks (2013)	Structure	Effort	Food
Wansink & Kim (2005)	Structure	Default	Food
Wansink & van Ittersum (2003)	Structure	Default	Food
Wansink, Cardello et al. (2005)	Structure	Default	Food
Wansink, Painter et al. (2005)	Structure	Default	Food
Wansink et al. (2017)	Structure	Composition	Food
Wansink et al. (2006)	Structure	Default	Food
Wansink et al. (2014), experiment 1	Structure	Default	Food
Xue et al. (2017), treatment 1	Structure	Consequence	Finance

Note. Unless otherwise noted, the categorizations displayed here reflect the coding of all treatment conditions and studies reported in the respective publication.

Table S1 (continued).

	Categorization		
Reference	Intervention category	Intervention technique	Behavioral domain
Yeomans & Herberich (2014)	Information	Social reference	Environment
Young et al. (2009), experiment 2	Structure	Default	Health
Zarghamee et al. (2017), experiment 1	Structure	Default	Pro-social
Zarghamee et al. (2017), experiment 3	Information	Visibility	Pro-social
Zeinstra et al. (2010)	Structure	Composition	Food
Zikmund-Fisher et al. (2011)	Information	Social reference	Health
Zuraikat et al. (2018)	Structure	Consequence	Food

Note. Unless otherwise noted, the categorizations displayed here reflect the coding of all treatment conditions and studies reported in the respective publication.

Table S2. Distribution of effect sizes across key moderators.

Moderator	% of effect sizes	Information	Structure	Assistance	Total
Behavioral domain					
Health	18.46	28	41	15	84
Food	24.40	24	69	18	111
Environment	16.70	30	33	13	76
Finance	9.89	12	18	15	45
Pro-social	14.51	23	27	16	66
Other	16.04	13	39	21	73
Consumer choice	3.08	2	10	2	14
Education	1.54	1	1	5	7
Organization	5.49	6	17	2	25
Politics	1.76	0	0	8	8
Privacy	4.18	4	11	4	19
Location					
Outside United States	40.88	71	77	38	186
Inside United States	59.12	59	150	60	269
Population					
Children and adolescents	5.93	3	11	13	27
Adults	94.07	127	216	85	428
Type of experiment					
Conventional lab	27.25	45	65	14	124
Artefactual field	35.16	45	95	20	160
Framed field	17.80	17	37	27	81
Natural field	19.78	23	30	37	90
Total	100.00	130	227	98	455

Table S3. Heterogeneity of effect sizes across key moderators.

Moderator	I^2 [a]	$I^2_{(2)}$ [b]	$I^2_{(3)}$ [c]
Baseline	99.67	4.88	94.79
Intervention category	99.57	7.13	92.44
Behavioral domain	99.58	5.02	94.56
Intervention category × behavioral domain	99.52	7.67	91.86
Study characteristics	99.62	5.27	94.35
All moderators	99.53	7.53	92.00

[a] proportion of true to total heterogeneity
[b] proportion of true to total heterogeneity within publications
[c] proportion of true to total heterogeneity between publications

Table S4. Effect size estimates across intervention categories in the food domain, with and without influential outliers.

		Effect size			
Intervention	*k*	*d*	95% CI	*t*	*P*
Full sample					
Decision information	24	0.52	[0.20, 0.84]	3.22	.001
Decision structure	69	0.86	[0.56, 1.17]	5.54	< .001
Decision assistance	18	0.44	[0.28, 0.59]	5.50	< .001
Average effect	111	0.72	[0.49, 0.95]	6.16	<.001
Sample excluding influential outliers					
Decision information	24	0.43	[0.18, 0.67]	3.44	<.001
Decision structure	66	0.74	[0.50, 0.98]	6.07	<.001
Decision assistance	18	0.43	[0.27, 0.59]	5.37	<.001
Average effect	108	0.62	[0.44, 0.80]	6.83	< .001

Note. *k* = number of effect sizes; *t* = test of statistical difference to zero.

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