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A World-Wide Consensus on Nudging? Not Quite, But Almost

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Abstract

Nudges are choice-preserving interventions that steer people's behaviour in specific directions while allowing people to go their own way. Some nudges have been controversial, because they are seen as objectionably paternalistic. This study reports on nationally representative surveys in eight diverse countries, investigating how people actually think about nudges and nudging. The study covers Australia, Brazil, Canada, China, Japan, Russia, South Africa, and South Korea. Generally, we find strong majority support for nudges in all countries, with the important exception of Japan, and with spectacularly high approval rates in China and South Korea. We connect the findings here to earlier studies involving the United States, the United Kingdom, Italy, Denmark, France, Germany, and Hungary. The largest conclusion is that while citizens generally approve of health and safety nudges, the nations of the world appear to fall into three distinct categories: (1) a group of nations, mostly liberal democracies, where strong majorities approve of nudges whenever they (a) are seen to fit with the interests and values of most citizens and (b) do not have illicit purposes; (2) a group of nations where overwhelming majorities approve of nearly all nudges; and (3) a group of nations that usually show majority approval, but markedly reduced approval rates. We offer some speculations about the relationship between approval rates and trust.

Keywords (5): nudges; public approval; behavioural insights; regulation

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1. INTRODUCTION

Over the past decade, officials in many nations have used behavioural insights to improve policies in areas that include health, savings, finance, highway safety, employment, discrimination, the environment, and consumer protection (Halpern 2015; OECD 2017a; SBST 2016; Sunstein 2013; Sunstein & Reisch 2017). Some of these policies take the form of mandates, incentives, and bans, but a prominent set of behaviourally informed tools includes information, warnings, reminders, social norms, and default rules (Thaler & Sunstein 2008). Insofar as they steer people in certain directions without imposing significant costs, tools of this kind are called "nudges"; there is a lively and continuing debate about their use (Bubb & Pildes 2014; Conley 2012; Halpern 2015).

While more than 150 governments worldwide make use of "nudges" to influence consumer behaviour and consumer choices (OECD 2017a; Sousa Lourenco 2016; Sunstein 2016a), there remains relatively little work on whether citizens approve of them. Existing work is limited to the United States (Jung & Mellers 2016; Sunstein 2016b) and several nations in Europe (Hagman *et al.* 2015; Reisch & Sunstein 2016). Our goal here is to explore the reactions from a diverse array of citizens and to use those reactions to begin to "map" people's views across the globe. As we will see, such mapping indeed appears feasible; it is increasingly clear that the world's nations fall into discernible categories.

Current literature on public acceptance of nudges (e.g., Diepeveen *et al.* 2013; Felsen *et al.* 2013; Hagman *et al*. 2015; Jung & Mellers 2016; Junghans *et al.* 2015, 2016; Tannenbaum *et al*. 2015) offers five general lessons. First, citizens in diverse nations generally approve of nudges, at least of the kind that have been adopted or under serious consideration in recent years (Jung & Mellers 2016). Second, citizens do not approve of nudges that they perceive to be inconsistent with the interests or values of most choosers (Reisch & Sunstein 2016), such as a default rule by which men's last name would automatically change to that of their wives (Sunstein 2016b). Third, citizens do not approve of nudges that are perceived as having an illicit goal, such as religious or political favoritism (Sunstein 2016b). Fourth, citizens object to manipulation, but they define it quite narrowly, as in the cases of visual illusions to reduce speeding (Jung & Mellers 2016) and subliminal advertising (Reisch & Sunstein 2016). Fifth, and quite surprisingly, political affiliation is generally a weak predictor of citizens' reactions to the tested nudges (Reisch & Sunstein 2016).

With respect to cross-national differences, there seems, thus far, to be only one major fault line. In an impressively wide array of democratic nations, including the United States, the United Kingdom, Italy, Germany, France, and Sweden, all five lessons apply (with relatively minor variations), and citizen evaluations are unexpectedly similar. But in two nations, approval rates are significantly lower. These nations are Denmark and Hungary. Importantly, majorities in both nations do tend to approve of the tested

nudges, but the level of approval is consistently lower, and in some cases, approval rates fall below 50 percent (Reisch & Sunstein 2016). A full explanation for these lower approval rates has yet to be provided, but greater distrust or fear of government undoubtedly provides part of the picture.

In this study, we offer results from Australia, Brazil, Canada, China, Japan, Russia, South Africa, and South Korea. These nations were chosen in order obtain a broad sample of countries with diversity along identifiable lines, including countries widely distributed on a scale from liberal democracies with freedom of speech to authoritarian one-party regimes; four of the five BRICS countries;[1] countries with markedly different levels of GDP and welfare; countries representing the "cultural clusters" explored in cultural studies literature (see, e.g., Gupta *et al.* 2002, House *et al.* 2004, 2014)[2]; and (least interestingly) countries with sufficient Internet penetration rates[3] to conduct meaningful online representative surveys.

We conducted such surveys (representative for age, gender, region, education), providing data from about 1,000 respondents per country, who were asked whether they approve or disapprove of 15 selected nudges. Consistent with earlier studies, we asked simply for a statement of approval or disapproval, without measuring the intensity of approval or disapproval on any kind of scale. (In the future, it would be valuable to obtain measures of intensity.) In order to be able to compare and enlarge the overall data set, we used the same survey instrument and largely the same methodology applied in an earlier European study (Reisch & Sunstein 2016).

In view of the highly preliminary state of existing research, and what we saw as the inevitability of surprises, our goal was to learn about national similarities and differences, and we did not begin with firm hypotheses. Tentatively, however, the existing research made for a plausible expectation (we must label it as such rather than as a hypothesis, because the background literature did not justify the requisite level of confidence):

Expectation 1: *The apparent cross-national consensus with respect to nudges, reflected in the five lessons from earlier studies, would be found, with modest variations, in most of the nations in our survey.*

Before our own study, citizens of authoritarian nations had not been surveyed with respect to nudges. Very tentatively, we had a second expectation:

Expectation 2*: As authoritarian nations, China and Russia would show overwhelmingly high levels of support for nudges of all kinds, either because of a belief that disapproval might be punished (even though we guaranteed anonymity), or because disapproval of government policies would be distinctly rare among citizens who are accustomed to autocratic rule.*

As we shall see, the first expectation was generally supported, but with one important (and puzzling) qualification: The first three lessons, and the fifth, can indeed be found in essentially all of the nations that we studied, but the fourth (forbidding manipulation via subliminal advertising) cannot. As we shall also see, the second expectation was supported with respect to China but not with respect to Russia (whose citizens look more like those of the United States and Europe). In addition, we found a number of surprises, above all involving Japan (which showed unusually low approval rates) and South Korea (which showed unusually high approval rates).

The most general lesson is that majority support for nudges cuts across many nations with diverse cultures, political inclinations, and histories. At the same time, our largest finding, which we did not anticipate, is that the nations of the world can be provisionally grouped into three categories. The first, consistent with the first expectation and the existing U.S. and European data, and including several of the nations studied here, reflect all of the five lessons sketched above. Of the nations for which data are available, this is the largest group.

The second category, consistent with data from Denmark and Hungary, shows significantly lower approval rates; Japan now joins this category. The third category, identified for the first time here, consists of nations with massively high approval ratings. China and South Korea are the current examples. (Recall that Russia is not included.) We suspect that many and probably most other nations would fall into one of these three categories. We cannot, of course, exclude the possibility that some nations would show an altogether different pattern – with, for example, far lower approval ratings than what we find in Denmark, Hungary, and Japan.

We emphasize that because of our focus, we did not explore some important issues that have been explored in other work. One such issue involves individual differences. Preliminary evidence suggests that people with an "individualistic worldview," specified through appropriate tests, are less likely to approve of nudges than those without such a worldview (Hagman *et al.* 2015). Similarly, that people with libertarian leanings show lower approval ratings (Jung & Mellers 2016). We suspect that such differences emerge because of the particular nudges being tested; some nudges (for example, promoting entrepreneurship) might receive higher levels of approval from individualists and libertarians. But we did not explore individual differences here, and we did not investigate the question, independent of approval rates, of whether people think that nudges interfere in any way with freedom of choice. Similarly, we did not explicitly test for differences between "nudges for oneself" (as in automatic enrollment in savings plans) and "nudges to help others" (as in automatic enrollment in green energy). Some evidence suggests that people prefer the latter (Hagman *et al.* 2015), though our high approval rates, for both, raise questions about that idea.

Our main goal here is to report on the various national findings, and without offering a full account of why nations fall in one of the three categories. By themselves, our findings do not provide any such account, and in view of limits in existing knowledge, any speculations will inevitably have an ad hoc character. Nonetheless, we shall not refrain from offering some such speculations here, largely as an invitation for further research on the intriguing question of what explains differences across nations, and on the development of testable hypotheses.

2. THE STUDY

2.1 SAMPLING

Sampling and survey were performed with the support of Qualtrics[4], a leading international market research company. To ensure the necessary level of rigor, we monitored and commented on each step of the sampling and survey implementation.

We intended the eight country samples to be online representative with respect to age, gender, educational level and region. To reach this high level or representativeness, several steps were undertaken. For each country, we predefined country-specific quotas for sociodemographic variables on the basis of the respective national census data to be reached in the sampling. In Australia, Brazil, Canada and Japan, quotas for age, gender and region could be reached. In China, Russia, South Africa, and South Korea, it turned out to be impossible to recruit the needed numbers of low-educated[5] respondents – which is not so surprising light of the fact that we used a web-based instrument. After several extensions of field time, we had to loosen the quotas for education in all countries. To make up for this shortcoming, we used oversampling and weighting. To ensure representativeness with respect to gender, age, region and education for China, Russia, South Africa, and South Korea, a professional RIM weighting was conducted.[6] The same procedure was conducted for the samples of Australia, Brazil, Canada and Japan (which were already representative with respect to age, gender and region) in order to ensure representative results regarding education levels. Observations with and without RIM weighting are presented in Table 1 below.

Table 1: Observations weighted / unweighted for all countries

	Weighted sample		Unweighted sample	
Country	Frequency	Percent	Frequency	Percent
Australia	1000	12,5	1001	12,6
Brazil	1000	12,5	1000	12,6
Canada	1000	12,5	1137	14,3
China	1000	12,5	985	12,4
Japan	1000	12,5	1005	12,7
Russia	1000	12,5	918	11,6
South Africa	1000	12,5	949	12,0
South Korea	1000	12,5	932	11,8
Total	8000	100,0	7927	100,0

2.2 THE SURVEY

As noted, we applied the same instrument as in our earlier studies in the US and Europe (Sunstein 2016b; Reisch & Sunstein 2016, p. 314). The core is a simple questionnaire with 15 different nudges.[7] Respondents were asked to indicate for each item whether they "approve" or "do not approve" of this specific "hypothetical policy." The potentially confusing word "nudge" (or the respective translation) was deliberately not used in the survey; rather, the policy instrument was described as simply and intelligibly as possible. We did not intend to frame the policies in a way that would skew people's answers. The items were designed to cover a wide variety of policy domains and different levels of governmental intrusion, from educational campaigns for healthy eating to governmental mandates requiring energy providers to offer energy tariffs with a default for renewable energy.

We also deliberately included one item (denominated Nudge 8) that we would not characterize as a nudge: subliminal advertising against overeating and smoking is a form of hidden manipulation, and so inconsistent with the standard definition of nudges (Thaler & Sunstein 2008). We expected people to disapprove of its use, because it operates without conscious awareness. Similarly, a meat-free day in cafeteria (denominated Nudge 15) does not qualify as a nudge, because it imposes a prohibition on the customer, who cannot easily opt out in favor of a meat dish (except by having to choose another restaurant). As noted, we began with two tentative expectations, expecting to find strong cross-national similarities.

Table 2 shows the 15 items of the questionnaire.

Table 2: The 15 nudges

1. The federal government requires calorie labels at chain restaurants (such as McDonald's and Burger King).
2. The federal government requires a "traffic lights" system for food, by which healthy foods would be sold with a small green label, unhealthy foods with a small red label, and foods that are neither especially healthy nor especially unhealthy with a small yellow label.
3. The federal government encourages (without requiring) electricity providers to adopt a system in which consumers would be automatically enrolled in a "green" (environmentally friendly) energy supplier, but could opt out if they wished.
4. A state law requiring people to say, when they obtain their drivers' license, whether they want to be organ donors.
5. A state law requires all large grocery stores to place their most healthy foods in a prominent, visible location.
6. To reduce deaths and injuries associated with distracted driving, the national government adopts a public education campaign, consisting of vivid and sometimes graphic stories and images, designed to discourage people from texting, emailing, or talking on their cell phones while driving.
7. To reduce childhood obesity, the national government adopts a public education campaign, consisting of information that parents can use to make healthier choices for their children.
8. The federal government requires movie theatres to provide subliminal advertisements (that is, advertisements that go by so quickly that people are not consciously aware of them) designed to discourage people from smoking and overeating.
9. The federal government requires airlines to charge people, with their airline tickets, a specific amount to offset their carbon emissions (about 10 EUR per ticket); under the program, people can opt out of the payment if they explicitly say that they do not want to pay it.
10. The federal government requires labels on products that have unusually high levels of salt, as in, "This product has been found to contain unusually high levels of salt, which may be harmful to your health".
11. The federal government assumes, on tax returns, that people want to donate 50 EUR to the Red Cross (or to another good cause) subject to opt out if people explicitly say that they do not want to make that donation.
12. The federal government requires movie theatres to run public education messages designed to discourage people from smoking and overeating.
13. The federal government requires large electricity providers to adopt a system in which consumers would be automatically enrolled in a "green" (environmentally friendly) energy supplier, but could opt out if they wished.
14. To halt the rising obesity problem, the federal government requires large supermarket chains to keep cashier areas free of sweets.
15. For reasons of public health and climate protection, the federal government requires canteens in public institutions (schools, public administrations and similar) to have one meat-free day per week.

The items of our questionnaire were first entered in the Qualtrics web interface in October 2016. Qualtrics checked the items in order to ensure that they were understandable and consistent to an English-speaking audience. The questionnaire was translated from English (the blueprint for all country studies) into the respective languages (Brazilian Portuguese, Canadian French, Mandarin, Japanese, Russian, and Korean) and was back translated by native speakers and corrected accordingly. This additional step was designed to ensure that people would have the same understanding of the items in the different countries and that infrequently used words or concepts would be fully understood and interpreted in the same way. Monetary amounts used in some items were adapted to the specific countries based on the exchange rate of the currency and its average income. The questions were presented in a randomized order.

To ensure high quality samples, we included a range of validity and robustness checks. Apparently inattentive or careless respondents were excluded by employing a time filter (sorting out respondents who used less than half of the median time needed to answer the survey) as well as by adding two attention filters in the survey[8] (Meade & Craig 2011). Responses were allowed to enter the final sample only when they met these attention standards and were provided by adults (18 years and older) who lived in the respective country and used its official language. The latter was ensured by a language default using the language of the browser of a participant. In Canada, participants could choose between French and English. Respondents also were forced to answer all questions (i.e., no skipping and "cherry picking"). Only fully completed questionnaires were accepted.

Field work started with a soft launch of 10 percent of the data in all countries concurrently on November 22nd 2016. Results were checked for consistency, validity, and robustness. Minor adaptations were made for the remaining 90 percent of the sampling. Field time ended on December 28th 2016 (hence, overall field time was about five weeks). Final weighted samples for all countries were received in January 2017.

2.3 Socio-demographics and political attitudes

We collected information on socio-demographic variables and political attitudes.[9] Comparability of socio-demographic variables among the eight countries was given for gender (male/female), age (years), city size (number of inhabitants), relationship status (married/civil partnership; long-term relationship; single; divorced; widowed; others), and number of children. .

Comparability is less clear-cut for region, education, and income. "Region" is country-specific, and so we used the categories provided by national statistics; these data are more relevant for the discussion of the results *within* the respective countries than for comparison of countries. "Education" was measured in two ways: (1) the usual brackets of the countries' statistics ("highest degree reached"), allowing limited comparability and (2) "number of years of formal education," which can more easily be compared

against the backdrop of the respective country specifics such as average education level. "Income" must be understood in light of the country's income distribution and level to be useful; we therefore developed and applied an algorithm based on the gross household median income in each country.

Political attitude was measured in two ways: first, by choosing "political party voted for in the latest election" (except for China, which has a one-party system) from the full set of available political parties in the respective country that received at least 5% of the votes in the last countrywide election; and second, by a self-assessment political preference item presented as a Likert scale ranging from (1) denoting "liberal" to (7) denoting "conservative." The second approach was introduced as a robustness check, and it also provided quantitative input in the multilevel analysis (MLA), described in the following paragraph. Admittedly, both measures are rough, and hence our results should be interpreted cautiously.[10]

2.4 Statistical analysis

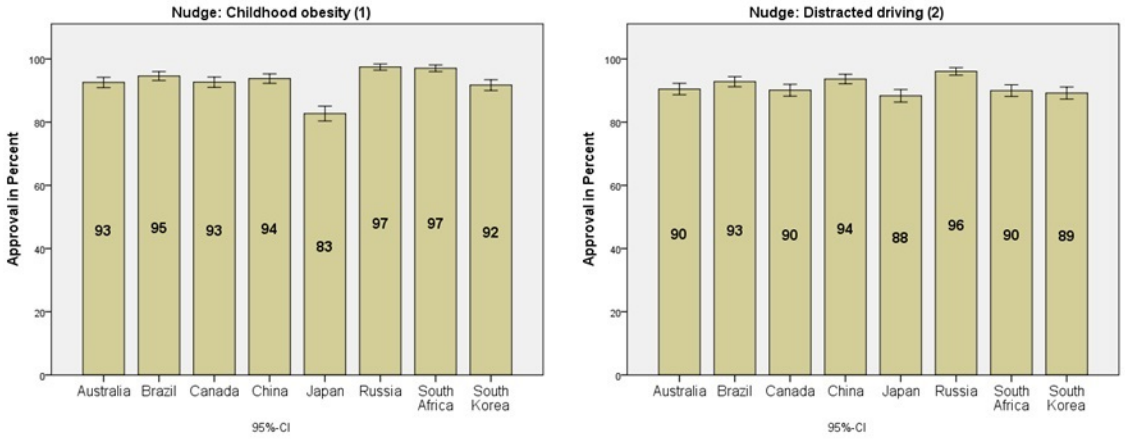
The country data sets were merged into one dataset "worldwide." Approval rates were calculated per nudge and per country. Due to its nested character, the data were suited for a multilevel analysis. For the latter, five independent variables were constructed, mirroring the analysis of the European country data. The 15 nudges were clustered with respect to their level of intrusiveness; average approval rates for each dependent variable were calculated (see Reisch & Sunstein 2016). Coding and analysis was done with SPSS. Analyses were conducted for unweighted and weighted samples (as presented in Table 1 above).[11]

3. Results

3.1 Types of nudges along level of intrusion

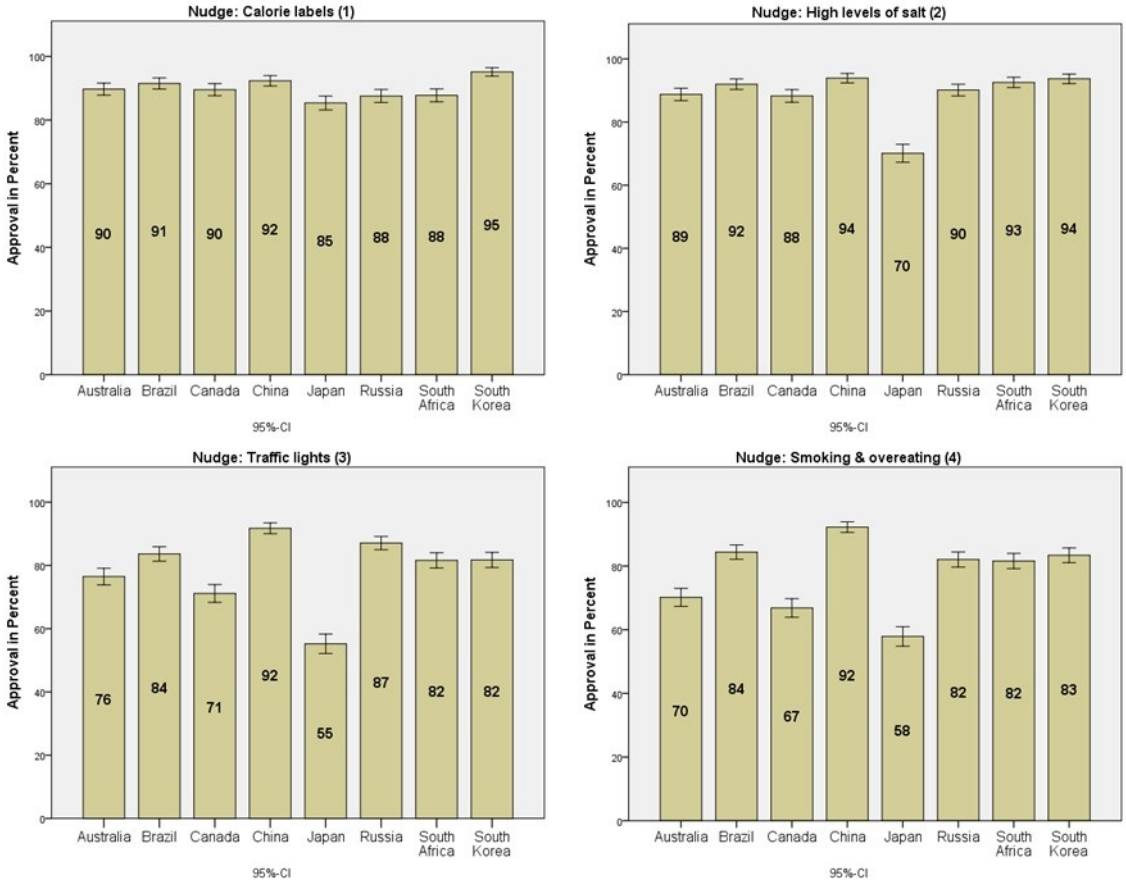
As noted, we categorized the 15 nudges in five levels of depth of intervention: governmental information campaigns (Nudges 6 and 7) (Figure 1); mandatory information disclosure requirements imposed by governments (Nudges 1, 2, 10 and 12) (Figure 2); mandatory default rules imposed by governments (Nudges 3, 4, 5, 9, 11 and 13) (Figure 3); mandatory subliminal advertising ("Non-nudge" 8) (Figure 4); and mandatory choice architecture in supermarkets and public cafeterias (Nudge 14 and "Non-nudge" 15) (Figure 5).

Figure 1: Governmental information campaigns



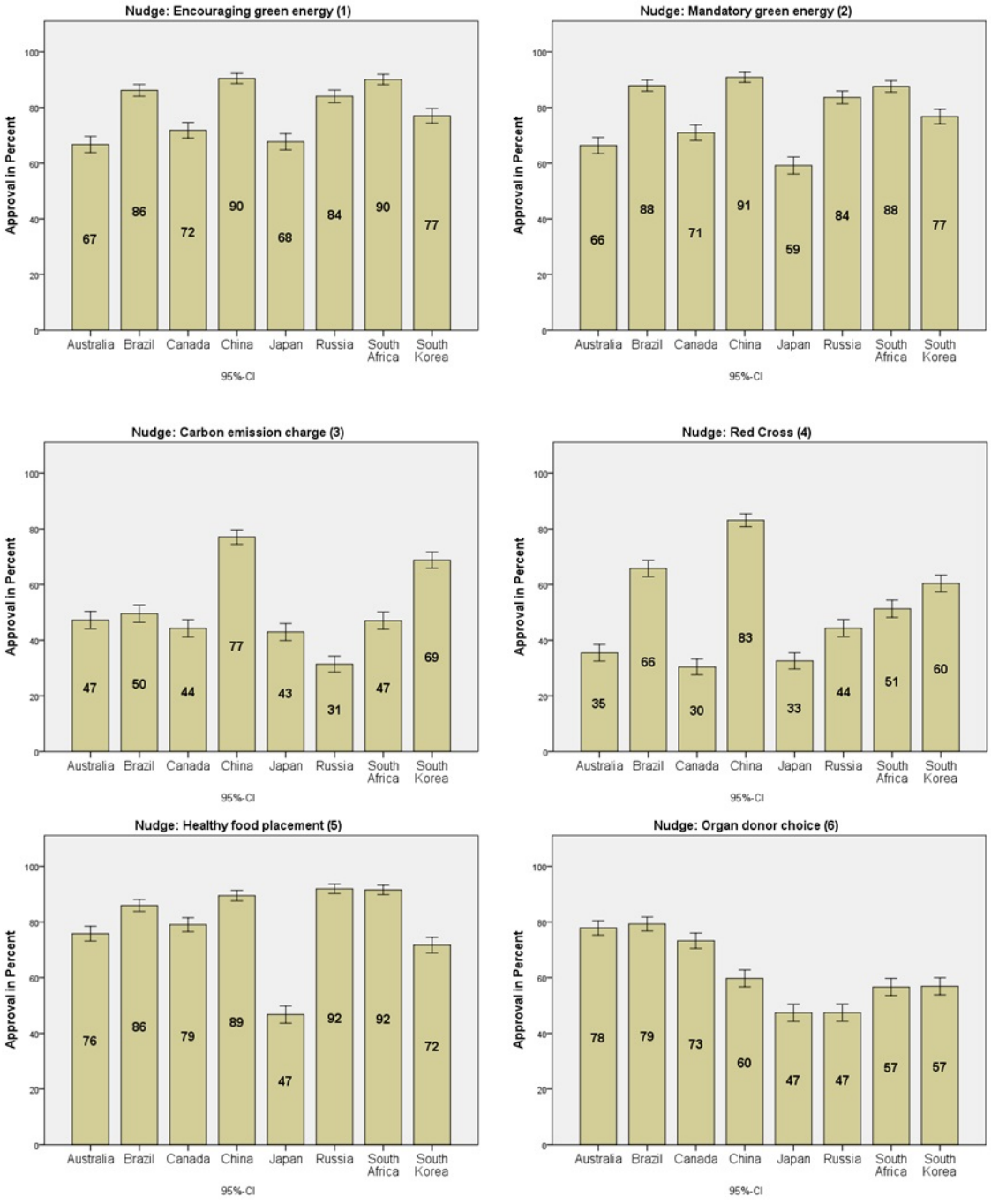
As noted, our findings are generally consistent with Expectation 1. With respect to information campaigns, we observe majority support in all eight nations, and consistent with that expectation, the similarities are far more noteworthy than the differences. For childhood obesity and distracted driving, the level of support is overwhelming.

Figure 2: Mandatory information imposed by governments



Consistent with Expectation 1, mandatory information disclosure also receives very high levels of support, and here too, the similarities dwarf the differences. Japan is the obvious and only outlier; majorities do approve, but in all cases, Japan shows the highest levels of disapproval, in particular for traffic lights and educational messages against smoking and overeating.

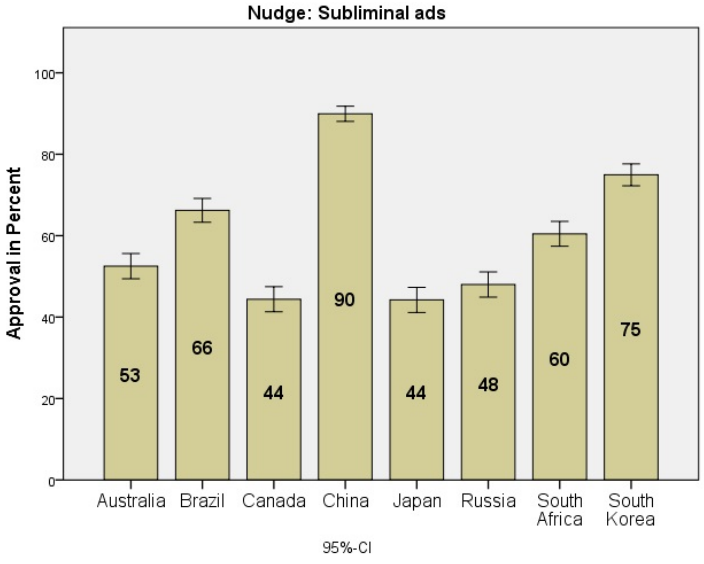
Figure 3: Mandatory default rules imposed by governments



With respect to default rules, approval levels diminish, and in some cases, majorities disapprove. Here again, we find general support for Expectation 1. Consistent with findings in the United States and Europe (Reisch & Sunstein 2016), strong majorities favor not only encouragement of automatic enrollment in green energy but also a mandate to that effect. (To be sure, approval rates should be expected to decrease if people were told that the cost of green energy was higher than that of other sources.) Also consistent with earlier findings, majorities disapprove of a default carbon charge and also a default charitable donation. The basic principle here seems to have something to do with loss aversion: In general, people do not favor default rules that would take people's money without their explicit consent. Because of their high approval rates, China, South Korea, and (to a lesser extent) Brazil are outliers here. It is worth underlining the fact that in both China and South Korea, strong majorities favor default rules that are widely disapproved in most other nations. Here is evidence against Expectation 2; the unusually high approval ratings come from China and South Korea, not China and Russia.

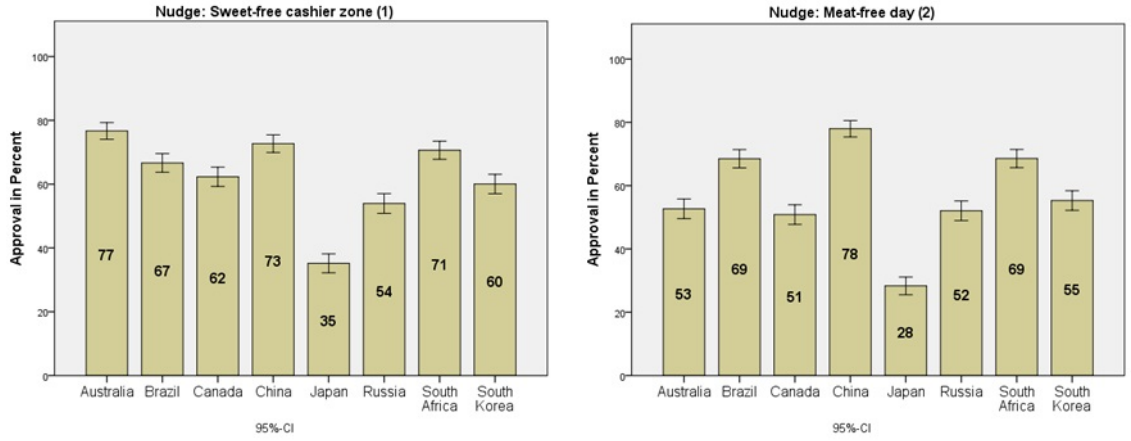
With respect to healthy food placement and active choosing for organ donation, the picture is broadly consistent across nations. For healthy food placement, Japan is yet again the evident outlier. (We treat that nudge as a default, even though it is not technically that, because it makes healthy food salient and visible and in that sense a kind of default.) For organ donation, China and South Korea show what is, for those nations, anomalously low approval ratings. Majorities disapprove in Russia as well as Japan; the Russian case is interesting and we cannot explain it, though it is likely connected with identifiable (though to our knowledge not yet identified) aspects of the political and cultural backdrop.

Figure 4: Mandatory subliminal advertising



As we have noted, previous work shows high levels of disapproval of subliminal advertising (along with significant support), even for what might seem to be a good cause, and the standard pattern is roughly observed in Canada, Japan, and Russia. One possible way to think about such data is that the minority approval rates (often in excess of 40 percent) represent the upper bound on the degree to which people will approve of violations of autonomy when the goals of the policy are deemed laudable. But puzzlingly, and in a partial but important rejection of Expectation 1, we find overwhelmingly high approval rates in China and South Africa, and majority support as well in Australia, Brazil, and South Africa. We did not anticipate this result and are unsure how to explain it. One possibility is that the very idea of subliminal advertising is not perceived as especially troubling in those nations. Another possibility is that the public policy goals are taken to be sufficiently compelling as to justify the use of a presumptively unacceptable tool.

Figure 5: Mandatory choice architecture



Sweet-free cashier zones and meat-free days produced strikingly similar patterns of results. The former – a kind of choice architecture designed to promote health – did obtain majority support in all nations except Japan, but with a significant spread between the highest rate (in Australia) and the lowest (in Russia). Meat-free days also obtained majority support in all nations with the exception of Japan, but here China was the most supportive and Australia the least.

Consistent with Expectation 1, the patterns that we observe here are similar to those found in previous work involving European nations (Reisch & Sunstein 2016). With respect to sweet-free cashier zones, for example, Australia, China, and South Africa look a lot like Italy, France, and the United Kingdom. With respect to meat-free days, Italy and France are quite similar to Brazil, China, and South Africa.

3.2 MULTILEVEL REGRESSION

We estimated the multilevel regression for each of the five levels of depth of intervention with the approval rates of the 15 nudges being dependent variables. We calculated mean approval in percentages by level of intervention. Gender, age, educational level (in years of schooling), and political attitude (self-assessed) were used as independent variables on individual level, and country on the country level. Results are presented in Table 3 and briefly put into perspective below.

Table 3: Estimates of selected socio-demographics and political attitude on nudge approval per nudge cluster: Results of a multilevel analysis

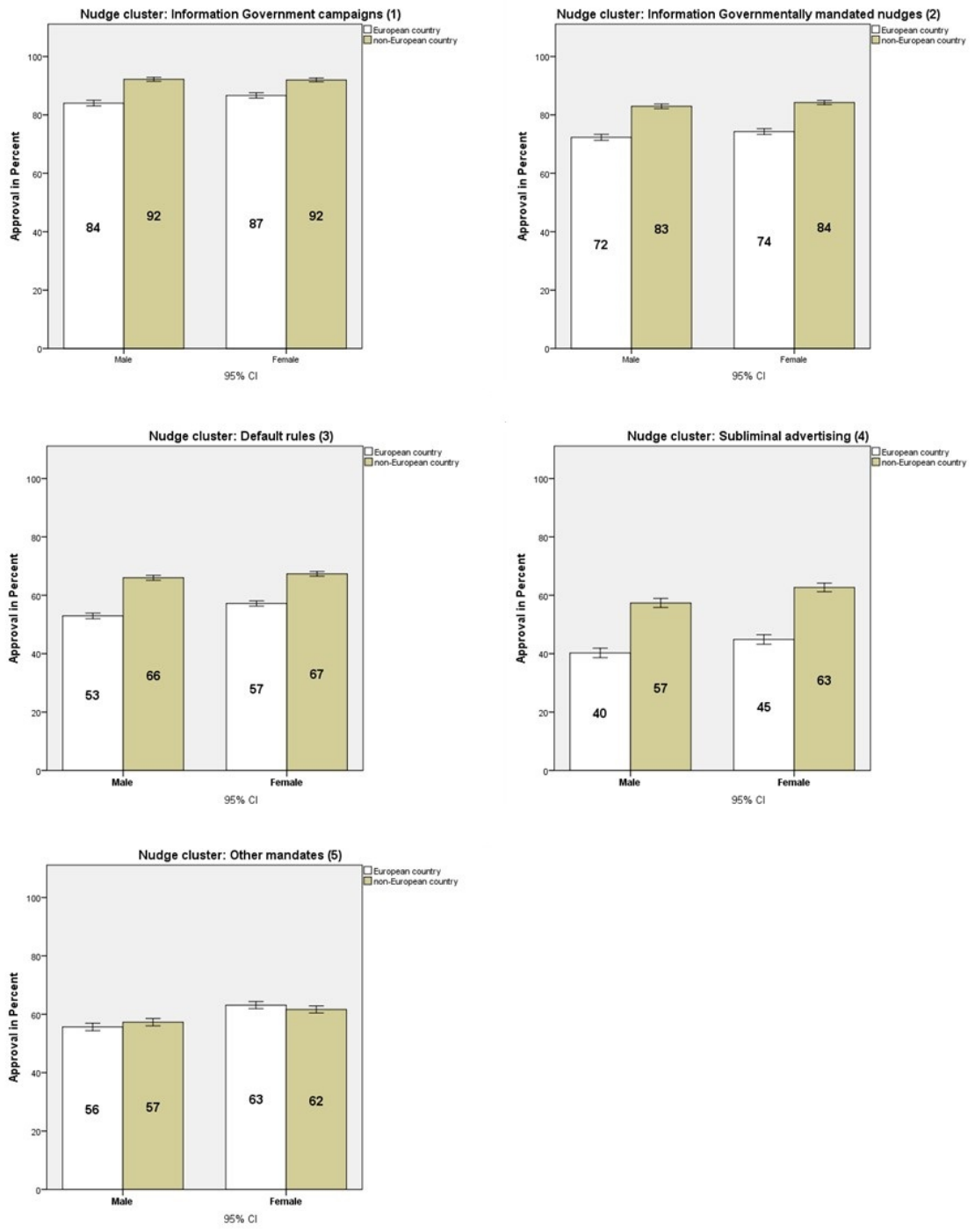
Nudge clusters	(1) Information: Government campaigns	(2) Information: Governmentally mandated nudges	(3) Default rules	(4) Subliminal advertising	(5) Other mandates
Male	.281	-1.429**	-1.707**	-5.767***	-4.024***
	(.459)	(.531)	(.574)	(1.065)	(.862)
Age (in years)	.034*	.068***	-.060***	-.069*	.191***
	(.014)	(.017)	(.018)	(.034)	(.028)
School (in years)	.005	.179**	-.091	-.235*	-.037
	(.049)	(.057)	(.061)	(.114)	(.092)
Political attitude (from 1= liberal to 7=conservative)	-.008	-.448*	-.533*	1.544***	-.760*
	(.186)	(.215)	(.233)	(.432)	(.350)
Obs.	7594	7594	7594	7594	7594
ICC (intercept= country)	.024	.098	.118	.101	.112
P-Value intercept variance	(.056)	(.048)	(.047)	(.048)	(.047)

Legend: * p≤.05; ** p≤.01; *** p≤.001;

Note: Estimates of a 2-level random intercept model. Standard errors in parentheses. Dependent variables are the average nudge groups by intrusiveness (Min: 0; Max: 100). The intraclass correlation coefficient (ICC) is the proportion of total variance that is attributed to the cluster "country".

Notably, Table 3 shows that *gender* has a systematic influence on participants' approval of nudges: Women approve four out of five nudge types (2, 3, 4, 5) significantly more than men do (Figure 6).

Figure 6: Gender differences about all nudges in the European Study and the current study



We would take this finding with some caution; undoubtedly there are some nudges that would show the opposite pattern (nudges that encourage boxing, gambling, drinking, and hunting?). If females are more supportive of the nudges tested here, it is probably because of the particular goals of those nudges. In this connection, it has been speculated women are in general more empathetic and more interested in the fate of

other persons than men (Jung & Mellers 2016), which would lead them to be more supportive of health and safety nudges.

The influence of *age* is strong but operates differently for different nudges. Older people tend to favor less intrusive interventions – such as information campaigns and information nudges that are mandated by the government – significantly more than younger people. Similarly, a meat-free day and sweet-free cashier zones are favored more strongly by older survey participants. At the same time, younger people are more likely than older people to approve of more intrusive interventions (such as manipulative messages and default rules).

Education (measured by school attendance in years) has a weaker influence, and it cuts in intriguingly different directions: the higher the number of years in school, the higher the approval level for governmentally mandated information nudges and the lower the approval level for subliminal advertising. It is plausible to speculate that more formally educated people are highly receptive to information as a regulatory tool; and they might be more skeptical of any use of government power to manipulate people.

A mixed picture emerges with respect to the influence of participants' self-assessed *political attitude*. As expected, acceptance for nudges rises with the grade of "liberalism" (meaning left-of-center) for three out of the five nudge types (2, 3, 5). Interestingly, the opposite is true for subliminal advertising, which is more likely to be supported by conservatives than by liberals. In general, and importantly, political attitudes have only a modest effect on approval rates, consistent with previous work (Sunstein 2016b; Reisch & Sunstein 2016).

3.3 LIMITATIONS

We should note three limitations to our survey. We do not believe that any of them is likely to undermine the central findings, but we cannot rule out that possibility.

First, there are well-known methodological limitations to online surveys (e.g., Sue & Ritter 2012). As noted, we took a variety of steps to overcome those limitations, but distortions cannot be ruled out. There is a possibility of selection bias in the sample, and how this leads to an under- or over-estimate of the results. For instance, the data suggest that more highly educated citizens are more accepting of some types of nudging (particular information campaigns) and less accepting of subliminal advertising. Since all subjects had internet access, and internet access may well be correlated with education, we cannot exclude the possibility that our results may overestimate approval of information-based nudges and underestimate approval for subliminal advertising.

Second, field time started two weeks after the election of the new US president, and we cannot exclude some effects from this surprising change in world politics. Third, our screening instruments for political attitude are crude. Asking "Who did you vote for at the last election?" and then clustering the political parties can result only in rough

results; political parties rarely present clear cut ideologies. Moreover, not all of the relevant countries allow free speech and open party political competition. The self-assessment item might also suffer from a lack of respondents' understanding what "liberal" or "conservative" really means, in general and in the country-specific case.

4. Discussion: Three Categories of Nations?

Expectation 1 is strongly supported (with a few qualifications). Overall, the level of approval of the presented nudges in our survey countries is generally high. The majority of respondents approve of most of the nudges in nearly all of the countries. In general, we find more similarities than differences among the surveyed countries. The same holds true when we compare the results with the U.S. and European studies (Reisch & Sunstein 2016). There appears to be a large category of nations where majorities are likely to approve of nudges so long as they have legitimate ends and are consistent with the interests and values of most people. This, then, is the first of the three categories of nations that we are now in a position to describe; for the sake of simplicity, call them "principled pro-nudge nations," emphasizing that in such nations, identifiable principles separate majority approval from majority disapproval (Reisch & Sunstein 2016).

The category of principled pro-nudge nations includes the industrialized Western democracies of our sample (Canada, Australia, Germany, Italy, France, the UK, the US), where we find exceptionally similar approval rates. Apparently such nations have similar norms and values, at least with respect to nudges. It may also be relevant that in much of the Anglo-Saxon world and in some of our sample countries in particular, nudges have been used and publicly debated for many years. *Australia* and *Canada* have institutionalized Behavioral Insight Teams, central or decentralized, consulting national or regional governments (OECD 2017a).

Russia, Brazil, and *South Africa* show broadly similar patterns, and with appropriate qualifications, they can be placed in the same category as Western democracies. Of the three, Russia is the most surprising (and in partial rejection of Expectation 2). More research on the three nations would be necessary to explain the basic findings here.[12]

By contrast, the three Confucian Asian countries look very different. Contrary to our expectations, *Japan* is – like Denmark and Hungary in Europe – a clear outlier, with systematically and significantly lower approval rates than all other countries in 13 out of 15 cases. (The two exceptions are that Russians show higher disapproval rates of the carbon emission charge and that Canadians are more likely to disapprove of the Red Cross default donation.) In this light, it seems safe to say that a cluster of nations shows distinctly lower enthusiasm for nudges – and that in the fullness of time, we will have a clearer sense of which nations will join the category now containing Denmark, Hungary, and Japan. Call these nations "cautiously pro-nudge nations"; there may turn out to be "anti-nudge nations" as well, though we have not yet found any.

It should also be possible to obtain a much clearer understanding of exactly why approval rates are lower in those nations. It is plausible to speculate that there is, in those nations, relatively less enthusiasm for the ends that the relevant nudges are designed to promote. If, for example, reducing smoking does not seem so important, then there will be less support for nudges that are designed to reduce smoking. We suspect that lower levels of enthusiasm for the relevant end do explain some of our findings. But with respect to Denmark, Hungary, and Japan, the more natural (though also speculative) explanation points to reduced levels of trust in government. Many people might follow a kind of heuristic: *If the government plans to do it, it is probably a bad idea*. More systematic analysis would, of course, be necessary to test this explanation, and to understand why trust would be reduced in the relevant periods.

At the current time, there is only limited recent data on levels of confidence in government, and it does suggest that reduced levels do help to explain the data for Hungary in particular (OECD 2015, 2017b). Also consistent with our findings, Japan's confidence in government level is slightly below the OECD average (yet rising since 2007)[13], but puzzlingly, Denmark sticks out – as do all Scandinavian countries – with high trust levels (OECD 2015, 2017b).

South Korea and *China* are also outliers, but in the other direction, generally showing overwhelmingly high approval rates for all nudges. It therefore seems safe to say that there is a third category of nations, showing especially high enthusiasm for nudges. Call these "overwhelmingly pro-nudge nations."

We do not yet know how many nations falls in this category, nor do we know what accounts for their high levels of enthusiasm. A tempting though again speculative explanation, paralleling that just given, is that there is a consensus, in those nations, that particular nudges have compelling justifications – say, because of a widespread belief that distracted driving is a serious problem. Another explanation is that in those nations, trust in government is particularly high, so that strong majorities are inclined to support any policy, even if it is hypothetical. They follow a kind of heuristic: *If the government plans to do it, it is probably a good idea*. There is survey evidence that in China, levels of trust in government are indeed high and rising.[14]

We suspect, though we cannot prove, that these explanations capture a large part of the picture – but not all of it. Begin with China, where approval rates tend to be highest of all. One reason could be that environmental issues in most of China are severe, and the adverse effects can be felt directly by the citizens, leading to general enthusiasm for nudges that involve the environment, health, or safety. Air pollution has received sustained attention in China, and during our field time, Premier Li publicly called for cleaner energy sources to adhere to the Paris Agreement; 23 Chinese cities had issued "red alerts" in December 2016 due to alarmingly unhealthy air pollution levels. It is also

possible that Chinese people do indeed trust their government strongly and they genuinely approve most of its policies (Wang 2005).

But it may also be relevant that in China, people are used to an authoritarian regime, run by the Chinese Communist Party, which intrudes on people's private decisions through mandates and bans (as, for example, through the one child policy and a recent plan to introduce a national smoking ban in public places). If mandates and bans are background facts, nudges might seem entirely unobjectionable. Yet another possibility is that even though they were guaranteed anonymity, our respondents felt some pressure to declare support for the relevant policies. Consider the "Citizens Score," used by the Chinese government to classify its citizens into "good" or "bad" citizens; the existence of the score might act as a strong incentive to approve (online) everything the government plans.[15] In short, our results, showing stunningly high approval rates, might reflect a form of "preference falsification" (Kuran 1995).

What about *South Korea*? We did not expect to find the patterns there, and a full account would require a detailed investigation. The markedly high approval rates for most nudges might again be a product of enthusiasm for the policy goals (Tannenbaum *et al.* 2015) and of general trust in government. In addition, there has been considerable discussion of nudging in the South Korean press, and the book "Nudge" (Thaler & Sunstein 2008) has been a bestseller. Though we did not use the term "nudge," and though we would not claim that press discussions are causal here, the idea of choice-preserving interventions, designed to promote health and safety goals, may well be familiar in the South Korean culture.

On the other hand, the high approval rates can be seen as surprising against the background of the two-month-long mass protests during our field time against President Park Geun-hye, who was accused of corruption. There was a threat of declaration of martial law to quell public protests. In the recent past, people in South Korea showed low levels of confidence in their government, and their suspicion with respect to corruption equaled that of Hungary (OECD 2015). Apparently public concerns about corruption, and about the current government, were insufficient to produce significant levels of disapproval of the kinds of policies tested here – a fact that may well attest to the deep cultural receptivity, in South Korea, to those policies.

5. Conclusion

Studying diverse nations, we find strong majority support for nudges, with the important exception of Japan, and with spectacularly high approval rates in China and South Korea. The largest conclusion is that the nations of the world appear to fall into three groups: (1) a sizeable group of nations, mostly liberal democracies, where strong majorities approve of health and safety nudges; (2) a small group of nations where overwhelming majorities approve of nearly all nudges; and (3) a small group of nations

where majorities generally support nudges, but where the level of support is markedly lower than in nations that fall in category (1).

For public officials, the major lesson is simple and positive: So long as the underlying end is legitimate, and so long as nudges are consistent with people's values and interests, most citizens are offering an enthusiastic permission slip or green light. They are hardly troubled by nudges as such (Tannenbaum *et al.* 2015). Notably, the level of public support is likely to be significantly lower for mandates and bans (Sunstein 2016b), though of course the relevant subject area is important (people do not object to prohibitions on murder and assault).

It is important to emphasize that surveys hardly tell officials everything they need to know. A full evaluation of the welfare effects of nudges (Allcott & Kessler 2015), and of the underlying ethical issues (Kemmerer *et al.* 2017), would be necessary to decide whether and how to nudge. A nudge might receive widespread public approval even though it would do little good and considerable harm – and even if it would, on reflection, raise troublesome questions on either utilitarian or deontological grounds. But insofar as officials are concerned about public opinion, they generally need not worry, at least with respect to the most of the nudges tested here.

With respect to cross-national differences, much remains to be learned and our explanations have been tentative and speculative; this is an important domain for further work and for the development of testable hypotheses. For example, we do not know whether the very high levels of support in China reflect trust in government, enthusiasm about the policy goals, adaptation to the extensive use of government power (see Elster 1984), or some form of "preference falsification" (Kuran 1995), producing misleadingly high levels of support in surveys. Nor do we know, as yet, whether many countries fall within the category of overwhelmingly pro-nudge nations, now containing only China and South Korea, or whether the category of more cautiously pro-nudge nations is small and greatly dominated, in terms of sheer numbers, by the principled pro-nudge consensus among democratic nations (as now appears). It also remains possible that some nations would show only minority support for the nudges tested here.

We have speculated that for Hungary and Japan, a lack of trust in government is a significant part of the picture. It would be parsimonious to show that trust, across nations and across time, provides the principal explanation of cross-national differences, and that view receives at least indirect support from other work (Tannenbaum *et al.* 2015). But further research, with close attention to the particular countries, would be necessary to show whether that explanation is ultimately correct.

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[1] India was unfortunately not possible to be seriously covered with our online survey design due to many different languages, a high sample size needed to capture the different regions and minorities, and a surprisingly low internet penetration rate.

[2] The ten "culture clusters" used typically in cultural studies (e.g. in the GLOBE study, House *et al.* 2014) are: South Asia, Anglo, Arab/Middle Eastern, Germanic Europe, Latin Europe, Eastern Europe, Confucian Asia, Latin America, (Sub-Sahara) Africa, and Nordic Europe. Together with European data collected in 2015, we cover all clusters except for two ("Southern Asia" and "Middle Eastern").

[3] http://www.internetlivestats.com/internet-users-by-country/

[4] https://www.qualtrics.com/

[5] The education quota "3rd grade or less" was impossible to reach, so it was loosened.

[6] The Random Iterative Method (RIM) is a weighting technique that allows adjusting multiple characteristics in a dataset all at the same time in a way that it ultimately keeps the different characteristics proportionate as a whole.

[7] A full exemplary questionnaire (for Australia) can be found in Appendix 1.

[8] Attention filter 1 (after Nudge 7): "This is an attention filter. Please click on '3' to go on with the survey"). Attention filter 2 (after Nudge 15): „This is an attention filter. Please click 'approve' to go on with the survey "– with the order of the two answer categories being switched. See also Appendix 1.

[9] Detailed data are available in Appendix 2.

[10] For more details see Appendix 2.

[11] There were only marginal differences between the two approaches. Regarding the approval rates, the largest difference between weighted and unweighted samples exists for the nudge "healthy food placement" in Japan with 5 percentage points (weighted sample: 47%, unweighted sample: 42%). For all other nudges, maximum deviation is 3 percentage points between the weighted and unweighted sample in all countries. With respect to significant coefficients in the MLA (Table 3), there were only two differences between weighted and unweighted samples: the age-coefficient in Column 1 turns insignificant when using the unweighted sample; the coefficient of "years in school" turns significant when using the unweighted sample.

[12] There are some examples for interventions based on behavioral insights in these countries: According to Moscow Times, Russia plans the introduction of "traffic light" food labeling in 2017. Brazil adopted a law in 1997 regarding organ donor choice when getting the driver's license; however, the law was repealed in 1998. (http://news.bbc.co.uk/1/hi/health/7733190.stm).

[13] http://www.oecd.org/gov/GAAG2013_CFS_JPN.pdf.

[14] "The Chinese trust in *their* government has been rising steadily as Chinese perceive that their government is acting for their best interests – rather than for a privileged few" https://www.quora.com/Do-Chinese-citizens-trust-their-government (accessed 2/20/2017). See also Pew Research Center, Global Attitudes and Trends (http://www.pewglobal.org/2013/05/23/chapter-1-national-and-economic-conditions/). For potential reasons and an academic discussion of this phenomenon – however from a decade ago – see Wang 2005).

[15] https://www.aclu.org/blog/free-future/chinas-nightmarish-citizen-scores-are-warning-americans.

APPENDICES

APPENDIX 1 – QUESTIONNAIRE FOR AUSTRALIA

What country do you currently live in?

- ❍ Australia (1)
- ❍ Brazil (2)
- ❍ Canada (3)
- ❍ China (4)
- ❍ Japan (5)
- ❍ Russia (6)
- ❍ South Africa (7)
- ❍ South Korea (8)

In which region do you currently live in?

- ❍ Australian Capital Territory (1)
- ❍ New South Wales (2)
- ❍ Northern Territory (3)
- ❍ Queensland (4)
- ❍ South Australia (5)
- ❍ Tasmania (6)
- ❍ Victoria (7)
- ❍ Western Australia (8)

What is your gender?

- ❍ Male (1)
- ❍ Female (2)

What is the highest level of school you have completed or the highest degree you have received?

- ❍ 3rd Grade or less (1)
- ❍ Associate Degree (2)
- ❍ College Degree (such as B.A., B.S.) (3)
- ❍ Completed some college, but no degree (4)
- ❍ Completed some graduate, but no degree (5)
- ❍ Completed some high school (6)
- ❍ Doctoral degree (7)
- ❍ High school graduate (8)
- ❍ Master's degree (9)
- ❍ Middle School - Grades 4 to 8 (10)
- ❍ Other post high school vocational training (11)
- ❍ None of the above (12)

What is your age?

_____ Years

Do you approve or disapprove of the following hypothetical policy? The federal government requires calorie labels at chain restaurants (such as McDonald's and Burger King).

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? The federal government requires a "traffic lights" system for food, by which healthy foods would be sold with a small green label, unhealthy foods with a small red label, and foods that are neither especially healthy nor especially unhealthy with a small yellow label.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? The federal government encourages (without requiring) electricity providers to adopt a system in which consumers would be automatically enrolled in a "green" (environmentally friendly) energy supplier, but could opt out if they wished.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? A state law requiring people to say, when they obtain their drivers' license, whether they want to be organ donors.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? A state law requires all large grocery stores to place their most healthy foods in a prominent, visible location.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? To reduce deaths and injuries associated with distracted driving, the national government adopts a public education campaign, consisting of vivid and sometimes graphic stories and images, designed to discourage people from texting, emailing, or talking on their cellphones while driving.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? To reduce childhood obesity, the national government adopts a public education campaign, consisting of information that parents can use to make healthier choices for their children.

- ❍ Approve (1)
- ❍ Disapprove (2)

This is an attention filter. Please click "3" to go on with the survey.

- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)

Do you approve or disapprove of the following hypothetical policy? The federal government requires movie theaters to provide subliminal advertisements (that is, advertisements that go by so quickly that people are not consciously aware of them) designed to discourage people from smoking and overeating.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? The federal government requires airlines to charge people, with their airline tickets, a specific amount to offset their carbon emissions (about AUD$15 per ticket); under the program, people can opt out of the payment if they explicitly say that they do not want to pay it.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? The federal government requires labels on products that have unusually high levels of salt, as in, "This product has been found to contain unusually high levels of salt, which may be harmful to your health."

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? The federal government assumes, on tax returns, that people want to donate AUD$70 to the Red Cross (or to another good cause) subject to opt out if people explicitly say that they do not want to make that donation.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? The federal government requires movie theaters to run public education messages designed to discourage people from smoking and overeating.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? The federal government requires large electricity providers to adopt a system in which consumers would be automatically enrolled in a "green" (environmentally friendly) energy supplier, but could opt out if they wished.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? To halt the rising obesity problem, the federal government requires large supermarket chains to keep cashier areas free of sweets.

- ❍ Approve (1)
- ❍ Disapprove (2)

Do you approve or disapprove of the following hypothetical policy? For reasons of public health and climate protection, the federal government requires canteens in public institutions (schools, public administrations and similar) to have one meat-free day per week.

- ❍ Approve (1)
- ❍ Disapprove (2)

This is an attention filter. Please click "Approve" to go on with the survey.

- ❍ Disapprove (1)
- ❍ Approve (2)

In the following, you will be asked questions about yourself and your current situation

---

How many years did you attend school and university?

_____ Years (1)

What size is the city you live in?

- ❍ Up to 10,000 inhabitants (1)
- ❍ More than 10,000 up to 100,000 inhabitants (2)
- ❍ More than 100,000 up to 500,000 inhabitants (3)
- ❍ More than 500,000 up to 1,000,000 inhabitants (4)
- ❍ More than 1,000,000 inhabitants (5)

What is your relationship status?

- ❍ Married/ civil relationship (1)
- ❍ Long term relationship (2)
- ❍ Single (3)
- ❍ Divorced (4)
- ❍ Widowed (5)
- ❍ Other (6)

How many children do you have?

_____ Number of children (1)

What is your total monthly household income in Australian Dollar, before taxes? Please include income from wages and salaries, remittances from family members living elsewhere, farming, and all other sources. Again, please provide your total monthly household income.

- below 3,000 A$ (1)
- 3,000 A$ up to under 3,500 A$ (2)
- 3,500 A$ up to under 4,000 A$ (3)
- 4,000 A$ up to under 4,500 A$ (4)
- 4,500 A$ up to under 5,000 A$ (5)
- 5,000 A$ up to under 6,250 A$ (6)
- 6,250 A$ up to under 7,500 A$ (7)
- 7,500 A$ up to under 8,750 A$ (8)
- 8,750 A$ up to under 10,000 A$ (9)
- 10,000 A$ up to under 12,500 A$ (10)
- 12,500 A$ and more (11)
- Do not want to answer this question (20)

When you think about the last national election, which party did you vote?

- Australian Labor Party (1)
- Liberal Party of Australia (2)
- Australian Greens (3)
- Liberal National Party (4)
- National Party of Australia (5)
- Others (6)
- Did not vote (13)
- Do not know (14)

Here is a 7-point scale on which the political views that people might hold are arranged from extremely liberal (left) to extremely conservative (right). Where would you place yourself on this scale?

_____ Political Ideology (1-7)
Or (Do not want to answer)

APPENDIX 2 – INFORMATION ON SOCIO-DEMOGRAPHIC VARIABLES AND POLITICAL ATTITUDES (WEIGHTED DATA)

Table A1: Information on gender, education, city size, relationship status and household income

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	3911	48,9	48,9	48,9
	Female	4089	51,1	51,1	100,0
Age	18-24	1184	14,8	14,8	14,8
	25-34	1562	19,5	19,5	34,3
	35-44	1548	19,3	19,3	53,7
	45-54	1388	17,3	17,3	71,0
	55-64	1117	14,0	14,0	85,0
	65+	1202	15,0	15,0	100,0
Education	3rd Grade or less	74	,9	,9	,9
	Associate Degree	545	6,8	6,8	7,7
	College Degree (such as B.A., B.S.)	2755	34,4	34,4	42,2
	Completed some college, but no degree	950	11,9	11,9	54,1
	Completed some graduate, but no degree	437	5,5	5,5	59,5
	Completed some high school	347	4,3	4,3	63,8
	Doctoral degree	196	2,4	2,4	66,3

	High school graduate	1185	14,8	14,8	81,1
	Master's degree	732	9,2	9,2	90,3
	Middle School - Grades 4 - 8	261	3,3	3,3	93,5
	Other post high school vocational training	446	5,6	5,6	99,1
	None of the above	72	,9	,9	100,0
City size	Up to 10,000 inhabitants	612	7,7	7,7	7,7
	More than 10,000 up to 100,000 inhabitants	1438	18,0	18,0	25,6
	More than 100,000 up to 500,000 inhabitants	1807	22,6	22,6	48,2
	More than 500,000 up to 1,000,000 inhabitants	1424	17,8	17,8	66,0
	More than 1,000,000 inhabitants	2718	34,0	34,0	100,0
Relation-ship status	Married/ civil relationship	4511	56,4	56,4	56,4
	Long term relationship	573	7,2	7,2	63,6
	Single	2099	26,2	26,2	89,8
	Divorced	509	6,4	6,4	96,2
	Widowed	226	2,8	2,8	99,0
	Other	81	1,0	1,0	100,0
Total		8000	100,0		

Table A2: Information on school attendance and political ideology

	Mean	Std. Deviation	N	Median
How many years did you attend school and university?	13,8193	4,82637	7999	15,0000
Political Ideology (1=very liberal; 7 = very conservative)	3,8691	1,24714	7082	4,0000