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How many migrants are people willing to welcome into their country? The effect of numerical anchoring on migrants' acceptance.

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### Abstract

How many migrants are people willing to welcome into their country? Relying on a classical anchoring paradigm, we investigated the effect of numerical anchors reported in communication media echoing political positions regarding how many immigrants should be accepted in one country. Four studies ( $N = 601$ ) tested the effect of a numerical anchor within a politician's statement on the number of migrants that people think should be accepted in their home country. Across studies, we found a strong anchor effect (average Cohen's  $d = 1.40$ , 95% CI [1.18, 1.63]): participants were willing to accept a higher (vs. lower) number of migrants following a high (vs. low) anchor. Importantly, the effect occurred amongst both left-wing and right-wing oriented participants, although being slightly smaller amongst the latter (Study 3). Moreover, it was independent from the political party serving as the source for the anchors as well as participants' attitude towards these political parties (Study 4). Relevance of the present findings for persuasion and political decision-making literature is discussed.

*Keywords:* anchoring; numerical anchoring; political orientation; migrants acceptance

Over the past few years, Europe has faced an immigration situation unprecedented since World War II. The situation reached a peak in 2015 with more than 1.3 million people arriving on the continent in a single year. With respect to the Schengen and Dublin Agreement, refugees had to register in the first country they set foot in. However, capacities and facilities were quickly overflowed, and all refugees did not want to stay in the country they had arrived in; hence, the European Union authorities and several countries concerned asked for a breakdown of these refugees between the European countries. A fierce political debate ensued, at the European Union level as well as within each country, regarding the number of migrants the countries could or should take in. Globally speaking, right-wing parties in general express reluctance to accept migrants and would only allow small numbers in; some even call for a total border shutdown. Conversely, left-wing parties support taking in migrants and put forward high numbers; some even call for accepting absolutely all migrants. These partisan political positions are echoed in communication media sometimes with the clear purpose of influencing public opinion regarding the number of migrants to be accepted (upwards or downwards), given that public opinions, once formed, can then easily lead to the acceptance of congruent policies (Page & Shapiro, 1983).

Most often, social psychologists have investigated this issue of influence through the lens of political ideology and party affiliation (e.g., Hartevelde, Kokkonen, & Dahlberg, 2017) or persuasion theories (e.g., Feinberg & Willer, 2015; Mutz, Brody, & Sniderman, 1996). However, little attention has been given to the effect of the actual numbers advocated by political actors, although this mere information could influence public opinion, as numbers can have unexpected effects that are grounded on anchoring and adjustment bias effects (Tversky & Kahneman, 1974). In the present research, we suggest that the number of immigrants to be accepted does not only constitute a core element of the debate, but could also be strategically used in order to influence the public opinion, and to increase citizens'

favourability towards one's own point of view and the policies it entails, regardless of the strength of the presented arguments.

With respect to immigration, there is some uncertainty regarding different numbers and statistics. This uncertainty is found at the policy-making level, with some observers alerting about unrepresentative, partially wrong, inaccessible, or unreported data (Mouzourakis, 2014; Singleton, 2016) as well as the individual level: citizens are often unsure about the actual number of migrants taken in their country, as well as about the potential consequences (positive and/or negative) of accepting many or few migrants (*European Social Survey Round 8 Data*, 2016). Given this global uncertainty, numbers can easily be distorted and used dishonestly, inflated or deflated depending on the aim of the communicator; and, transmitted through the media and/or by politicians, they can influence the public in one direction or the other. Such a strategy could constitute a new form of "organisational politics", which are defined as the use of influence or power in conflictual decisions (Walmsley & Zald, 1973), most often as a nasty technique to push forward one's own agenda or to promote self-interest against the rest of the group (Batten & Swab, 1965; Pettigrew, 1973).

As it turns out, historical examples suggest that numbers are often used in such a way. In the early 1980s, the homeless activist Snyder opposed Reagan's administration claiming that three million people were homeless in the USA at that time. Reagan's administration, trying to elude the problem, estimated the number of homeless to 250'000 nationwide (the real number was probably between 600'000 and one million; *Washington Post*, 1990). Framing poverty differently can give the public a different vision of who is responsible for the situation (see Iyengar, 1990). Evidently, each party was using numbers this way, advocating the one best serving their own purposes, probably with the aim of giving citizens (and ultimately, voters) the impression that the situation constituted a major national issue or was of minor importance, respectively.

A more recent example can be found regarding immigration in Germany and Hungary. In the last months of 2017 and following Angela Merkel's reappointment as chancellor, German politicians discussed the specific number of migrants the country would accept per year, eventually agreeing on a "200'000 refugees cap" (Guardian US, 2017) – a number then widely advertised in the media. Since then, it has frequently been said that Germany was one of the countries that took in the most migrants (e.g., Eurostat Press Office, 2018) with a number of "one million refugees" in 2015 also widely advertised (e.g., Huffington Post, 2017). At the opposite, Hungary closed its doors to immigration and it was repeatedly said that the country took in near zero refugees and would keep going on that track (e.g., Al Jazeera, 2016; Politico, 2016). However, these striking numbers of one million versus zero might have been inflated or deflated, depending on the direction media and politicians may want to influence the population. Indeed, it seems that Germany finally took in much less than a million persons, given that the country received a total of "only" 441'800 asylum seekers applications in 2015 (Guild & Carrera, 2016). On the other hand, Hungary probably accepted far more refugees than zero, considering that the country received 174'435 asylum seekers applications this same year.

It is well known that the general public can readily rely on heuristics when deciding how to vote or which policy to defend. Such heuristics include party affiliation, that is, where a politician probably stands with respect to a particular issue (Lodge & Hamill, 2014), or normative information, for example, opinion polls showing where voters similar to oneself stand with respect to this issue (Mutz, 1992). How many migrants are people willing to welcome into their country? We contend that the answer might simply depend on the use of such a heuristic, according to the number thrown on the table and depending on strategic inflation or deflation of this number such as illustrated above. Thus, the aim of the present paper is to investigate whether the mere numbers that are highlighted in the debate influence

people's decisions on the number of migrants they are willing to accept, as these numbers can serve as anchors from which people adjust their position. If something as simple as throwing numbers can change public opinion on such a relevant issue, the strategic use of numbers may constitute a useful and very simple political tool to influence public opinion. Furthermore, we examine whether these numbers are consequential over and above political ideology and party affiliation.

### **Anchoring Effects**

Anchoring effects depict the influence of an initially presented value on a subsequent judgment or decision. More specifically, the anchoring-and-adjustment heuristics concerns the disproportionate influence of any number present in a situation, either relevant or incidental. It has been described as one of the most robust cognitive heuristics (Furnham & Boo, 2011). To illustrate how people use values as anchors and adjust their judgement from them, Tversky and Kahneman (1974) asked participants to indicate whether the percentage of African countries in the United Nations was greater or smaller than a number produced by a spinning wheel (the wheel stopped on either 65 or 10, depending on the condition). When asked to estimate the actual percentage of countries, participants were influenced by the wheel's number and gave higher answers in the former case (mean of 45%) than in the later (mean of 25%). Since this seminal work, anchoring effects have received much attention from psychology researchers. They have in general been found very robust (Furnham & Boo, 2011; Turner & Schley, 2016) and able to impact a large range of different outcomes, as for example: change in self-perception (Mussweiler & Strack, 2000), appraisal of weather forecasts (Joslyn, Savelli, & Nadav-Greenberg, 2011), estimation of spending in a restaurant (Critcher & Gilovich, 2008), personal and consumer decisions such as food intake (Marchiori, Papiés, & Klein, 2014) and willingness-to-pay for a product (Ariely, Loewenstein, & Prelec, 2003), and economic decisions (Galinsky & Mussweiler, 2001; Stewart, 2009).

In accordance with the generality of the anchoring effect, we hypothesise that when communication media echoes political positions regarding the number of immigrants to be accepted, this number acts as a (relevant) numerical anchor and would therefore impact public opinion (i.e., the number of migrants that nationals are willing to welcome in their home country). Furthermore, as this content is highly politicised, we aim to investigate whether the impact of these anchors is moderated by individuals' political orientation and their preferences regarding political parties, or whether the anchors influence individuals' judgements independently of their political positions. As anchoring effects seem to rely to some extent on non-thoughtful or automatic processes (see Critcher & Gilovich, 2008; Wilson, Houston, Etling, & Brekke, 1996), they could be expected to be relatively independent from contextual elements, such as the source of the number serving as an anchor, or personal relevance of the topic, such as approximated by political orientation.

### **Overview of the Studies**

We conducted a set of four studies, in which we tested the effect of a numerical anchor within a politician's statement echoed by press media on the number of migrants that people think should be accepted in their home country. Furthermore, we examined whether this anchoring effect is moderated by variables that often affect political judgements, such as participants' political orientation or party preference (e.g., Dunlap & McCright, 2008; McCright & Dunlap, 2011). The first study directly tested the anchoring effect. Study 2, drawing from previous work on anchoring and uncertainty (Simmons, LeBoeuf, & Nelson, 2010), additionally included a verbal anchor that could reduce participants' uncertainty about the direction in which they should correct their estimation. Studies 3-4 examined the potential moderation effect of participants' political orientation, and political affiliation of the source providing the numerical anchor. Before detailing each specific study, we describe below the basic procedure common to all studies.

## Common method

**Participants.** Across all studies, participants were students in a Swiss university who were contacted by email and accepted to participate to a “short opinion survey.” Students from all faculties and all degrees (undergraduates to PhD students) were represented. Details of all samples are reported in Table 1. All samples were recruited in a similar way. For the first study, we aimed to recruit at least 50 participants per cell (i.e., minimum  $N$  of 150), which is considered a standard for research in psychology (Simmons, Nelson, & Simonsohn, 2013) to detect a small-to-medium size effect at 80% power. For the second study, we estimated that a smaller sample would be enough for two reasons. First, the anchoring manipulation yielded a very large effect size in the first study and second, as both manipulations in Study 2 were manipulations of the anchor itself, they should both benefit from this large effect size. Thus, we decreased the sample size to at least 30 participants per cell (i.e., *minimum*  $N$  of 120). Then, in Study 3 we introduced two predictors related not to the anchor itself but to participants’ political orientation and political implication, which could produce smaller effects, if any. We hence increased the sample size to approx. 200 in order to be able to detect possible effects of these variables with sufficient power. Finally, for Study 4, as only one additional predictor was included (i.e., the political party serving as the source of the anchor), a sample size of approx. 120 was estimated sufficient. We report sensitivity analyses (conducted with G\*Power; Faul, Erdfelder, Lang, & Buchner, 2007) for the different effects of interest in the description of each study.

## Measures

**Numerical anchoring.** We relied on Switzerland’s geopolitical situation to determine which number to use as anchors. According to official statistics, by the midpoint of 2016 Switzerland counts over 8’000’000 permanently residents, of which more than 2’000’000 of foreign nationality. An additional 90’000 men and women were currently registered as non-

permanently foreign residents, and 68'000 were in the asylum process. About half of those asylum seekers arrived in the country during the preceding year and was still in the “process of procedure” (32'118; Federal Statistical Office, 2016). Accordingly, we estimated the midpoint between the number of “new” migrants per year and the total number of migrants in the country to be near 50'000. From this number, we determined two approximately equidistant anchors. Our aim was that both numerical anchors would be seen as rounded and credible propositions from the political chessboard, and that one was a manifest multiplier of the other. Thus, we chose to use 1'000 as the low anchor and 100'000 as the high anchor.

Participants initially read: “This year, there has been a wave of migrants arriving in Europe.” Depending on the anchor condition (low versus high), it was said that “Politicians from one political party have proposed that Switzerland should welcome 1'000 (vs. 100'000) migrants.” The political party in question was not mentioned in the first three studies. However, in Study 4 we manipulated which political party had emitted the statement.

***Number of migrants' estimation.*** Drawing from Tversky and Kahneman (1974)'s original procedure, participants first indicate whether Switzerland should welcome *more* or *fewer* migrants than the proposed number (1'000 vs. 100'000), and then indicate in an open field the specific number of migrants they think the country should welcome; this last question constituted the main dependent variable. Across studies, we excluded from the analyses participants who answered with extremely high numbers, that is, above 500'000 (see Table 1). This threshold was chosen because it exceeded two standard deviations from the mean, and equated to more than 5% of the Swiss population at the time the studies were conducted.

**Analytical strategy.** For each study, we conducted a linear regression model testing the main effect of anchoring on the number of migrants that participants were willing to accept. In Studies 2-4, we also tested for the effect of controlled or additional variables. Hierarchical

linear regression models were conducted, in order to assess the variance covered by the anchor manipulation with and without the additional variables as well as the additional variance covered by these variables. Given the open format of the question allowing participants to indicate any value, one could fear for the presence of extreme values drastically driving the mean and, thus, advocate for a logarithmic transformation of the scores. We conducted analyses on both raw and transformed scores, which yield similar results for all studies. Hence, for simplification purposes, we only present results obtained on raw scores. Results based on the transformed scores can be obtained upon request from the first author.

### Study 1

Study 1 ( $N = 167$ ) tested the direct effect of the numerical anchor on the estimated number of migrants that should be accepted in the country. In this first study, we included a control condition with no anchor, thus adopting a 3-cell (1'000 vs. no anchor vs. 100'000) design. We expected that the low anchor would reduce the estimated number of accepted migrants as compared to the control condition, while the high anchor would increase it. Our hypothesis was reflected in the coding of the conditions (-1 = number of 1'000; 0 = no anchor; +1 = number of 100'000), to which we added the orthogonal contrast (-1 = 1'000; +2 = no anchor; -1 = 100'000) in order to best approximate residuals. A power sensitivity analysis (fixed-effect ANOVA, omnibus effect for 3 groups) indicated that the sample size would allow detection of an effect of  $d = .48$  at 80% power.

### Results

The contrast of interest yielded a significant main effect,  $b = 52.8$ , 95% CI [38.3, 66.7],  $t(164) = 7.48$ ,  $p < .001$ , Cohen's  $d = 1.16$ , while the orthogonal contrast did not,  $b = 1.27$ , 95% CI [-8.10, 10.64],  $t(164) = 0.27$ ,  $p = .79$ , Cohen's  $d = 0.04$ . As expected, the number of migrants was lower in the low anchor condition than in the control condition,  $b = 35.0$ , 95% CI [18.1, 51.9],  $t(165) = 4.08$ ,  $p < .001$ , and higher in the high anchor condition as

compared to the control condition,  $b = 30.7$ , 95% CI [13.1, 48.2],  $t(165) = 3.45$ ,  $p = .001$ .

Means are illustrated in Figure 1. In this first study, comparisons with the control condition confirmed that the numbers chosen as anchors were indeed perceived as low and high values with respect to values that people would consider by default, without anchor.

## Study 2

Study 2 ( $N = 128$ ) aimed to replicate the numerical anchoring effect and investigate the effect of a verbal information suggesting a direction for adjusting from the anchor. Indeed, Simmons et al. (2010) showed that people's (un)certainty about the direction of the adjustment to be made from the anchor determines the strength of the anchoring effect – the effect being stronger under uncertainty. Hence, the effect observed in our first study could be somewhat inflated because participants were uncertain about the adjustment's direction, and the presence of the verbal information could reduce uncertainty and, in turn, modify the anchoring effect (see also Mussweiler & Strack, 1999).

Thus, in this study, we additionally manipulated the verbal label associated to the number, i.e., “at least” versus “a maximum of”, suggesting that the suitable answer was respectively above or below the anchor. This resulted in four anchor conditions: at least 1'000, at least 100'000, a maximum of 1'000, and a maximum of 100'000 migrants. We expected a main effect of numerical anchoring, so that participants would indicate higher numbers of migrants to be accepted following a high than a low anchor. Additionally, if the verbal label influences the direction in which people adjust from the anchor, we could expect a main effect of this verbal anchoring, so that participants would indicate higher numbers when the anchor is labelled “at least” than when it is labelled “a maximum”. A power sensitivity analysis (fixed-effect ANOVA, main effects and interactions) indicated that the sample size would allow detection of a main effect of  $d = .50$  at 80% power.

## Results

To test the respective and additive effect of each factor, we conducted a hierarchical regression analysis including, first, numerical anchoring (-1 = 1'000; +1 = 100'000), then verbal anchoring (-1 = at least; +1 = a maximum of), then finally their interaction. Results are reported in Table 2. Only the main effect of numerical anchoring was significant (Cohen's  $d = 1.43$ , 95% CI [1.04, 1.82]) and showed that the number of accepted migrants was lower following an anchor of 1'000 as compared to 100'000 (see Figure 2). The verbal anchor main effect and the interaction were not significant, and their addition did not significantly improve the proportion of explained variance.

Thus, this study replicated our previous finding that numerical anchor impacted the number of migrants participants were willing to welcome. In contrast, the verbal anchoring had no effect, which suggests that (un)certainty about the direction of the adjustment to be made from the anchor did not determine the strength of the anchoring effect in this paradigm. It should be noted that in Simmons and colleagues' study, the content being anchored was general knowledge, for which participants' answers could be considered as more or less accurate. In contrast, the present study focuses on opinions that are not right or wrong per se; hence, the level of (un)certainty could be somewhat less relevant in our paradigm than it was for a general knowledge task. In other words, it is possible that uncertainty plays a more central role when aptitudes and competence are at stake (such as in a general knowledge task) than when the matter is about opinion (Quiamzade, Mugny, & Butera, 2013). As it is, this finding strengthens the reliability of our numerical anchoring effect, showing that it is not inflated by participants' potential uncertainty.

### Study 3

Study 3 ( $N = 192$ ) aimed to examine the impact of participants' political orientation and implication on the willingness to accept migrants. One can expect that positions on

immigration policies strongly depend on the respondents' political orientation: left-wing (compared to right-wing) participants should be willing to accept higher numbers of migrants (Citrin, Green, Muste, & Wong, 1997; E. G. T. Green, 2009). However, whether political orientation moderates (or not) the observed anchoring effect remains open to debate. In order to investigate this issue, participants rated their political orientation at the end of the questionnaire (7-point scale, 1 = left-wing oriented, 7 = right-wing oriented;  $M = 3.24$ ,  $SD = 1.52$ ; the sample being more inclined to the left, difference with the midpoint of the scale:  $t(191) = -6.93$ ,  $p < .001$ ). They also rated how much they felt concerned about politics (1 = not at all, 7 = very much;  $M = 4.48$ ,  $SD = 1.86$ ). As in previous studies, we expected a main effect of anchoring. We additionally expected a main effect of political orientation, so that the more participants were left-wing oriented, the more migrants they would accept to take in. A power sensitivity analysis (fixed-effect ANCOVA, main effects and interactions) indicated that the sample size would allow detection of a main effect, or a  $2 \times$  continuous interaction, of  $d = .41$  at 80% power.

## Results

We again computed a hierarchical regression analysis. The first model included only numerical anchoring ( $-1 = 1'000$ ;  $+1 = 100'000$ ), the second added political orientation and political concern (standardised), and the third included all interactions (see Table 3). The main effect of anchoring was significant (Cohen's  $d = 1.64$ , 95% CI [1.31, 1.97]). As observed previously, participants followed the numerical anchor and wanted to welcome a larger number of migrants in the high than in the low anchor condition. In the second and third model, the main effect of political orientation was also significant: as expected, the more participants were left-oriented, the larger number of migrants they wanted to welcome. Political concern, in contrast, was not a significant predictor. The third model also revealed a significant anchoring  $\times$  political orientation interaction (see Figure 3). No other effect reached

significance. Adding political orientation and concern significantly improved  $R^2$ , and adding the interaction terms marginally improved it.

Decomposition of the interaction revealed, first, that reaction to the low anchor was not function of political orientation,  $\beta = -.08$ ,  $b = -6.32$ , 95% CI [-18.4, 5.75],  $t(188) = -1.03$ ,  $p = .30$ . Reaction to the high anchor, however, was impacted by political orientation: in this condition, the more participants were left-wing oriented, the larger number of migrants they indicated,  $\beta = -.33$ ,  $b = -27.5$ , 95% CI [-40.9, -14.2],  $t(188) = -4.07$ ,  $p < .001$ . As a result, the difference between low and high anchor was greater amongst left-wing oriented participants ( $-1 SD$ ),  $\beta = .79$ ,  $b = 65.8$ , 95% CI [52.9, 78.6],  $t(188) = 10.1$ ,  $p < .001$ . Although smaller, the difference remained largely significant amongst right-wing oriented participants ( $+1 SD$ ),  $\beta = .53$ ,  $b = 44.5$ , 95% CI [32.0, 57.1],  $t(188) = 7.00$ ,  $p < .001$ .

Hence, this study replicated the anchoring effect and demonstrated that it existed over and above political orientation and political concern. It also reveals two new results. First, left-wing oriented participants were more impacted by the high anchor than the more right-wing oriented, while no difference appeared for the low anchor. A simple explanation could be that people are more impacted by anchors that fit their political stance because they are less inclined to adjust, hence, a stronger effect of the high anchor for more left-wing oriented participants. As the low anchor is near zero, however, a floor effect could have impeded the more right-wing oriented participants to show the same (reverse) polarisation. Second and more important, in spite of this asymmetry and whatever its cause, a large anchor effect appeared regardless of the political orientation, that is, on the left as well as the right side of the political spectrum.

#### Study 4

In Study 4, we grounded our anchoring paradigm in a more realistic, social political perspective. In real life, those who propose to accept a certain number of migrants are usually

members of parties and well known as such. Moreover, people usually have a more positive (versus negative) impression of the parties on their side (versus the opposite side) of the political spectrum. For example, previous research on attitudes and politics showed that partisanship (Peterson, 2004) or initial attitude towards a policy (Anand & Krosnick, 2003) positively predict the evaluation of political candidates. Thus, in this study ( $N = 114$ ) we investigated whether associating the numbers to a political party would affect the anchoring effect, in interaction with participants' political party preferences. We experimentally manipulated the source of the proposition including the anchor: the Socialist Party versus the Swiss People Party. These two parties are well known in Switzerland to be, respectively, a left-wing party in clear favour of accepting migrants and a right-wing party in clear opposition of accepting migrants. Thus, the study adopted a 2 (anchoring: 1'000 vs. 100'000)  $\times$  2 (source: Socialist vs. Swiss People's Party) design. Moreover, in order to control for a possible bias linked to a differential perception of the two parties, participants also indicated at the end of the study how they perceived these parties (counterbalanced order) on 7-point scales (1 = very bad opinion, 7 = very good opinion). We expected a main effect of numerical anchoring. Moreover, to the extent that people take into account the source of the anchor, we would additionally expect a numerical anchoring by source interaction, so that the simple effect of the anchors would be more pronounced when the source is similar to the self than when it is not; given that our students samples were generally more left-wing oriented, it would mean that the anchors would yield stronger effects when attributed to the Socialist party rather than the Swiss People Party. A power sensitivity analysis (fixed-effect ANOVA, main effects and interactions) indicated that the sample size would allow detection of a main effect, or a 2-way interaction, of  $d = .53$  at 80% power.

## **Results**

**Perception of the political parties.** No bias appeared in the measure of perception of the two parties, as those scores were independent from the experimental conditions,  $t_s(84) < |.52|$ ,  $p_s > .61$ . Congruently with Study 3, in which participants were more left-wing oriented, the Socialist party was more positively evaluated than the Swiss People Party in the present (and comparable) sample (Socialist party:  $M = 4.32$ ,  $SD = 1.03$ ; Swiss people party:  $M = 2.69$ ,  $SD = 1.20$ ; difference between the means:  $F(1, 87) = 67.2$ ,  $p < .001$ ,  $\eta^2_p = .44$ ).

**Supported number of migrants.**

We conducted a hierarchical regression analysis including first numerical anchoring (-1 = 1'000; +1 = 100'000), then the source (-1 = Swiss People's Party; +1 = Socialist Party), then their interaction (see Table 4). A preliminary analysis also including perception of the political parties showed, first, that these variables played no role in explaining the dependent variable (neither main effect nor interactions), and second that the effects of anchoring and source were not modified by the presence or absence of these variables in the statistical model. Therefore, these variables are not included in the presented analysis. Only the anchoring main effect was significant (Cohen's  $d = 1.39$ , 95% CI [1.00, 1.78]; see Figure 4). Neither the source main effect nor the source  $\times$  anchoring interaction reached significance, and the addition of these predictors did not increase the proportion of explained variance.

These findings extend those of the previous studies by demonstrating that the numerical anchor determines the number of migrants that participants are willing to accept independently of the political party that supposedly issued the number. One could have expected anchor to produce stronger effects when the source is similar to the self. However, Study 4 demonstrated that the anchoring effect was independent of the political party that advanced the proposition including the anchor and hence cannot be reduced to a normative influence effect.

## **General Discussion**

Across four studies, we demonstrated that the number of migrants people are willing to accept in their home country can be drastically influenced by a very simple procedure relying on an anchoring and adjustment effect. Results of all studies are summarised in Table 5. Interestingly, the anchor effect was found to be independent from the direction of the adjustment to be made from the anchor (Study 2) and from political parties serving as the source for the anchors as well as participants' opinion of those political parties (Study 4). It appeared for both left-wing and right-wing oriented participants, despite being somewhat smaller amongst the latter (Study 3). Obviously, caution is needed when interpreting null effects. However, the fact that none of the controlled variables yielded any effect suggests that the anchoring effect is strong, reliable, and can affect any people regardless of their initial positions. It was particularly striking that the anchors influenced participants alongside the political spectrum in a similar fashion: left-wing participants were also impacted by the low anchor (probably less compatible with their personal views than the high anchor), which induced them to drastically reduce the number of migrants to be accepted. Conversely, right-wing participants were also impacted by the high anchor (probably less compatible with their personal views than the low anchor), which induced them to increase the number of migrants to be accepted. These participants gave, in average, a number lower than the anchor, which implies that they did adjust from the anchor. This adjustment, however, was insufficient and still resulted in a great influence of the high anchor.

## **Implications**

These findings open a wide range of use of anchors as a useful and very simple political tool to influence public opinion. First, they suggest that anchors can be used even if the number proposed is not congruent with the usual position that can be expected from the political source (left- or right-wing). This implies that politicians could play around with a

large range of numbers to elicit what they wish to, regardless of the congruence between these numbers and their usual positions. Second, the anchor impacts individuals regardless of their opinion of the source proposing the number. In other words, even when a politician is negatively perceived by the public, they could use anchoring as a strategy of influence. Third and as discussed above, all people seem to be influenced by the anchors. It is often difficult to influence those who hold strong attitudes against the position one advocates (Krosnick & Petty, 1995). The present result suggests a possible way to subvert this lack of influence, as even people belonging to opposite political parties can be influenced by the numbers one advocates. Finally, the size of the effect is quite big, a strength even more remarkable given the simplicity of the procedure. As such, the anchoring effect appears as a very serious candidate in influencing the public towards the acceptance of either a larger or smaller number of migrants, as it *(i)* is extremely simple to implement and *(ii)* produces large changes *(iii)* regardless of individuals' political orientation, and *(iv)* regardless of the affiliation of the politicians proposing the number.

### **Limitations and future directions**

A few limitations of the present set of studies need to be highlighted. First, it should be noted that the four studies consistently relied on student samples. Hence, even if we had some variations, notably in terms of political orientation, future studies will need to make sure that the strength of the anchoring effects remains as strong with different, maybe more heterogeneous populations. Second, in all studies the anchoring manipulation started with a similar sentence, that is, "this year, there has been a wave of migrants arriving in Europe." This mention of a "wave of migrants" could have triggered a sense of intergroup threat (Esses, Jackson, & Armstrong, 1998) or, additionally, some homogenisation of this particular outgroup (Rothgerber, 1997). Of course, thinking about people in terms of numbers always implies some dehumanisation and homogenisation. It will be important, however, to ensure

that the strength of the anchoring effect that we observed in our studies is not inflated by such underlying implications. Finally, the present research focused exclusively on the anchoring effect on the number of migrants that participants were willing to welcome. One can expect the anchors to additionally influence attitudes and behaviours towards immigrants and immigration policies. However, the present set of studies did not test for such effects. Theoretically speaking, the influence of anchors on attitudes and behaviours could be more complex than on number estimation. On the one hand, a consistency effect could emerge (e.g., Bem, 1972; Heider, 1946), so that an increase (vs. decrease) in the accepted number would be followed by an amelioration (vs. deterioration) of attitudes. On the other hand, the initial indication of a number of migrants to be accepted could trigger a self-licensing process (e.g., Miller & Effron, 2010; Monin & Miller, 2001), so that an increase (vs. decrease) in the accepted number would be followed by the opposite effect on attitudes. Further research is needed in order to address this issue and investigate these contradictory possibilities.

An open question remains that of the mechanism underpinning our effect. Despite a large corpus of research, there is no clear consensus yet about the mechanisms underlying anchoring effects in general. In fact, several explanations have been proposed (see Furnham & Boo, 2011; Turner & Schley, 2016, for reviews). As such, the insufficient adjustment theory assumes that people automatically anchor their judgement on the provided number, then try to adjust their estimate, but do so insufficiently as the final judgement is still biased in the direction of this number (Tversky & Kahneman, 1974). The numeric-priming theory proposes that numbers are processed automatically and can thus provoke an anchoring effect even if they are totally irrelevant regarding the judgement to be made (Critcher & Gilovich, 2008; Wilson et al., 1996). The selective-accessibility model implies that the anchoring effect is related to an increase in the accessibility of knowledge consistent with the anchor, resulting in an assimilation effect towards the anchor (Mussweiler, 2003; Mussweiler & Strack, 1999,

2000). Consistent information is selectively retrieved and, thus, impacts subsequent judgements. The scale-distortion theory proposes that individuals map judgments according to an underlying response scale (Frederick & Mochon, 2012). Finally, the attitudinal perspective suggests that numeric anchors can be processed, just as other sources of information, in either a thoughtful or non-thoughtful way (Wegener, Petty, Blankenship, & Detweiler-Bedell, 2010). Our research did not primarily aim to investigate underlying mechanisms, hence the possible conclusions on this matter are limited. However, given that the main effect of anchoring appeared, study after study, independently from contextual variations, personal a priori positions, and the source of the anchor itself, the present results seem to better support an automatic processes account of the anchoring effects rather than the opposite.

### **Conclusion**

In conclusion, the present research showed that numbers presented in a political debate can have a strong impact and should not be considered lightly. Although anchoring has been found to successfully influence people's behaviour in the fields of consumption (Ariely et al., 2003; D. Green et al., 1998) and negotiation (Kristensen & Gärling, 1997; Northcraft & Neale, 1987), applications to politics and political debating remain scarce. The present research suggests, however, that such applications are worth studying. Even if we focused here on the topic of migrants' acceptance, the effect can reasonably be expected to extend to any political debate that involved numbers under any form, including but not limited to: setting tax rates, allocating budgets to departments, deciding on a minimum or maximum prison sentence, hiring or firing a number of civil servants, and so on. In his famous book "The Art of Always Being Right: 38 Ways to Win an Argument", Schopenhauer (1831; 2009) stated that the last resort strategy in debating was to insult one's opponent. Considering the problem backwards, we would like to suggest that the best opening strategy in political debate

would be to use a numerical anchor; taking care, as some highlighted, to be the first one to advance a number (Galinsky & Mussweiler, 2001).

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### Tables and Figures

Table 1

*Demographics and details of the four studies' samples.*

Study	<i>N</i> total	<i>N</i> after exclusions	Gender (% female)	Range of age	Mean age (SD)
1	184	167	46%	18-56	25.4 (6.59)
2	146	128	58%	18-50	24.4 (5.96)
3	217	192	71%	18-56	24.1 (5.49)
4	128	114	67%	18-70	24.6 (6.49)

*Note.* We excluded participants who indicated numbers of migrants to be accepted higher than 500'000.

Table 2

*Hierarchical regression analysis of predictors of the number of migrants that should be welcomed (Study 2). Betas and 95% confidence intervals are reported for each regression model.*

	Regression 1	Regression 2	Regression 3
Numerical anchoring	54.3 <sup>***</sup> [41.0, 67.6]	54.3 <sup>***</sup> [41.0, 67.6]	54.6 <sup>***</sup> [41.3, 67.9]
Verbal anchoring		6.43 [-6.86, 19.7]	6.12 [-7.22, 19.5]
Interaction term			-5.02 [-18.4, 8.32]
$R^2$	.342	.347	.350
$R^2$ change	.342 <sup>***</sup>	.005	.003

\*\*\*  $p < .001$

Table 3

*Hierarchical regression analysis of predictors of the number of migrants that should be welcomed (Study 3). Betas and 95% confidence intervals are reported for each regression model.*

	Regression 1	Regression 2	Regression 3
Numerical anchoring	53.0*** [43.7, 62.3]	54.7*** [45.7, 63.8]	55.6*** [46.4, 64.7]
Political orientation		-16.8*** [-26.0, -7.61]	-18.8*** [-28.4, -9.23]
Political concern		-5.55 [-14.7, 3.58]	-6.64 [-15.9, 2.62]
Anchoring × orientation			-13.0** [-22.5, -3.37]
Anchoring × concern			-9.52 [-18.8, 0.26]
Orientation × concern			3.76 [-6.61, 14.1]
Anchoring × orientation × concern			3.48 [-6.89, 13.8]
$R^2$	.401	.440	.468
$R^2$ change	.401***	.040**	.028†

†  $p < .06$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Table 4

*Hierarchical regression analysis of predictors of the number of migrants that should be welcomed (Study 4). Betas and 95% confidence intervals are reported for each regression model.*

	Regression 1	Regression 2	Regression 3
Numerical anchoring	60.1*** [45.7, 74.6]	60.6*** [46.1, 75.1]	60.6*** [46.1, 75.2]
Source		-6.84 [-21.3, 7.64]	-6.89 [-21.4, 7.66]
Interaction term			-1.35 [-15.9, 13.2]
$R^2$	.378	.383	.383
$R^2$ change	.378***	.005	.000

\*\*\*  $p < .001$

Table 5

*Summary of the findings of the four studies. All studies use numerical anchoring as the main independent variable and number of accepted migrants as the dependent variable. Additional variables are indicated in the third column.*

Study	Sample	Controlled / additional variable(s)	$M_{low}$ ( <i>SD</i> )	$M_{high}$ ( <i>SD</i> )	Main effect of anchoring (Cohen's <i>d</i> )	95% CI of <i>d</i>	Variance of <i>d</i>
1	$N = 167$	-	20'800 (41'647)	126'368 (93'162)	$d = 1.16$	[.82, 1.50]	.03
2	$N = 128$	Verbal anchoring	23'800 (52'962)	132'421 (95'297)	$d = 1.43$	[1.04, 1.82]	.04
3	$N = 192$	Political orientation + implication	19'733 (34'610)	125'690 (88'907)	$d = 1.64$	[1.31, 1.97]	.03
4	$N = 114$	Source of anchor (political party)	15'002 (42'434)	135'236 (102'938)	$d = 1.39$	[1.00, 1.78]	.04
Meta-analysis (Sidik-Jonkman method)			$Q(3) = 3.86, p = .28, I^2 = 36\%$		Average $d = 1.40$	[1.18, 1.63]	$z = 12.1, p < .001$

*Notes.*  $M_{low}$  and  $M_{high}$  = mean number of migrants that participants were willing to accept in the low and high anchoring conditions, respectively.

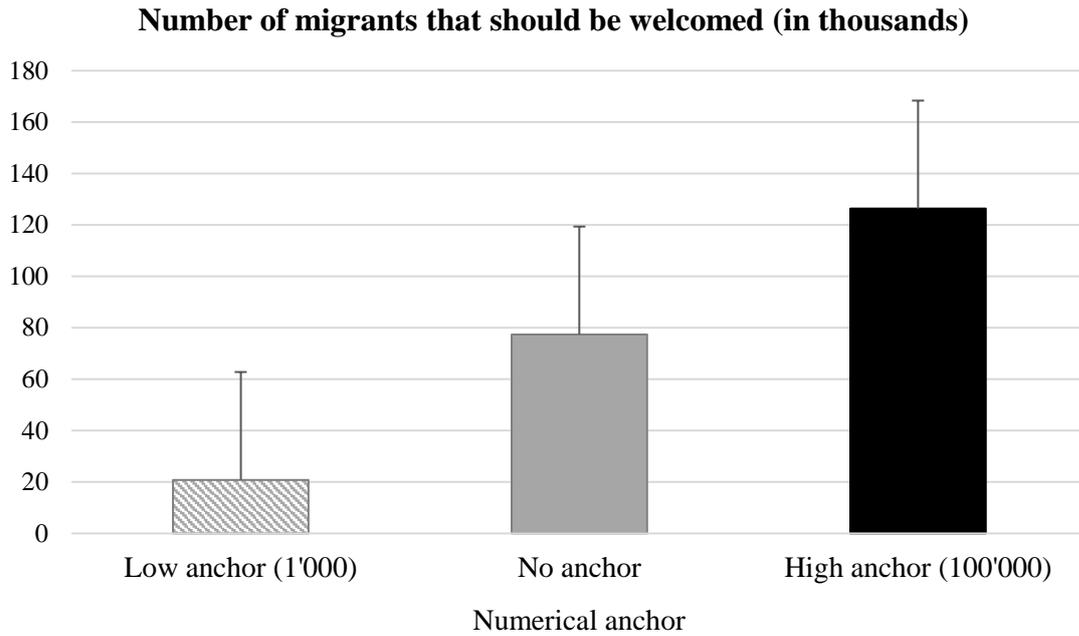


Figure 1. Number of migrants that participants are willing to welcome (in thousands) as a function of the anchor in Study 1. Error bars represent standard deviations.

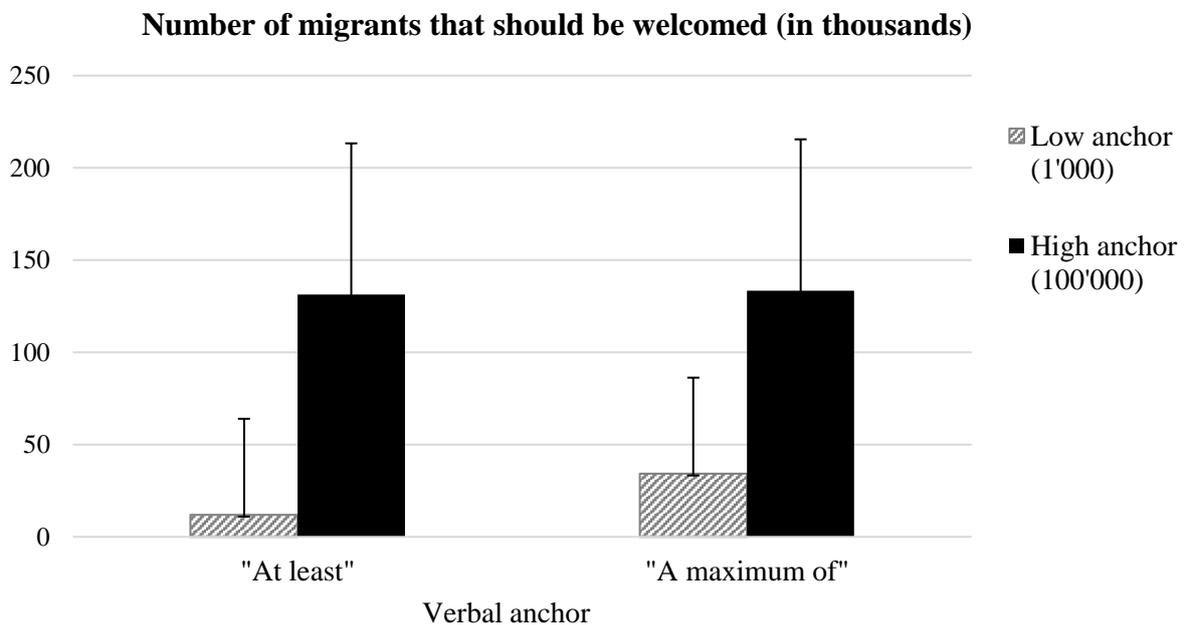


Figure 2. Number of migrants that participants are willing to welcome (in thousands) as a function of the numerical and verbal anchors in Study 2. Error bars represent standard deviations.

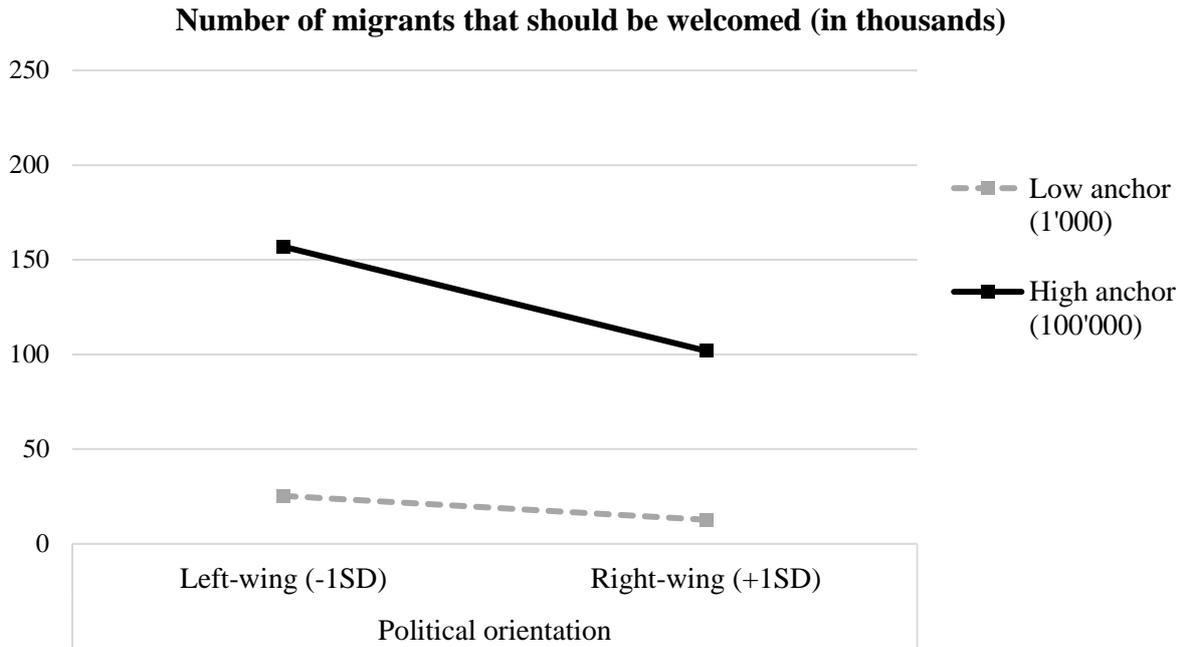


Figure 3. Number of migrants that participants are willing to welcome (in thousands) as a function of the numerical anchor and participants' political orientation (Study 3).

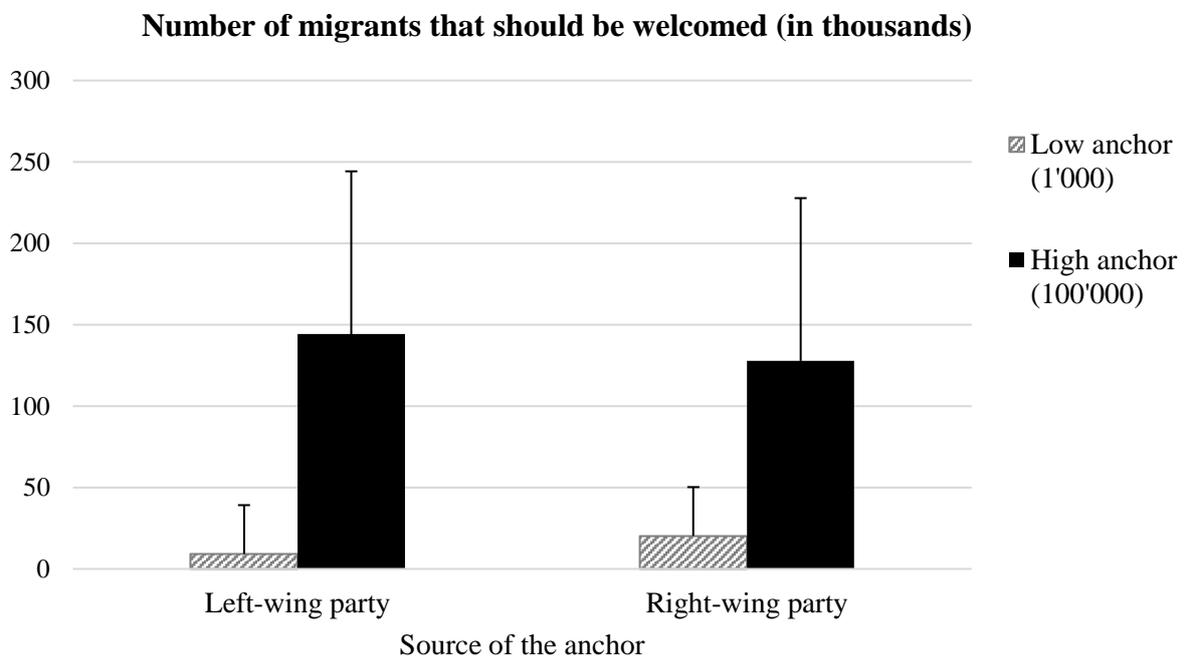


Figure 4. Number of migrants that participants are willing to welcome (in thousands) as a function of the numerical anchor and the party allegedly proposing the anchored number (Study 4). Error bars represent standard deviations.