

The Effectiveness of Leafletting on Reducing the Consumption of Animal Products in Dutch Students

Gerard Flens
Stichting Viva las Vega's

Pablo Moleman
Stichting Viva las Vega's

Lente de Rooy
Animal Rights Netherlands & Belgium

March, 2018

In the field of animal advocacy, a popular intervention to reduce animal suffering is providing paper leaflets to persons. In these leaflets, information is generally given on the cruel behavior animals are exposed to in livestock farming, and how vegan living is an easy way to avoid participating in this cruelty (i.e. consumption without animal products). The popularity of this intervention is obvious: leaflets are cheap, are easily spread by volunteers, and the shared experience often results in uplifting moods. The method has been used in the United States by groups such as Vegan Outreach for as long as 1993, but was popularized globally by the effective altruism movement in the past five years, leading to its adoption in the Netherlands by Viva Las Vega's and Animal Rights Netherlands & Belgium in 2016.

Within the effective altruism community the question has been raised how effective this intervention is in changing people's consumption towards animal free products. Are the persons receiving the leaflets really changing their consumption, or do they just take the leaflet and then continue eating as they did before?

The question of effectiveness has resulted in a number of studies attempting to answer this (e.g., see links below this article). These studies were conducted by animal charity organizations like Farm Sanctuary, The Humane League, and Animals Charity Evaluators. Initially, the results were very positive, resulting in conclusions like 'With every 2 leaflets you spread, 2 animals are saved.', or 'About 1 out of every 50 students who received a leaflet indicated they became vegetarian or pescatarian as a result.'. With these conclusions, every animal advocate should be on the street providing leaflets to people as much as they can. However, limitations to these studies were addressed by critics that questioned these conclusions.¹ These limitations concern important aspects of empirical studies, such as the lack of (1) a control group, (2) a baseline measure, or (3) a representative sample. Later studies that did account for these limitations (or at least partially), were gradually less positive about the effectiveness of leafletting in reducing animal suffering. This means that the field of animal charity receives contradictory conclusions about this method of activism to which substantial resources have been attributed over the past year, which is not helpful for our ultimate goal: reducing as much animal suffering as we can with our interventions.

1

<https://acesounderglass.com/2015/04/24/leaflets-are-ineffective-tell-your-friends/>

To help clarify this issue, we decided to conduct our own randomized trial on the effectiveness of leafletting in reducing the consumption of animal products. The study was conducted by Viva las Vega's in collaboration with Animal Rights Netherlands and Belgium.

Methods

Material

The leaflet used for this study was *Maak het Verschil*, a Dutch translation of a highly popular leaflet distributed by Vegan Outreach, *Compassionate Choices*. Some of the content, such as vegan celebrities, product brands and restaurant chains, were adjusted to fit with the local situation in The Netherlands. Tablet computers were used to administer a survey on Google Forms.

Procedure

Data were collected from students that participated in a higher professional education (i.e., 'Hoog Beroepsonderwijs' in Dutch) in Rotterdam, located in the west of the Netherlands. Based on 2014 statistics, the school approximately has 35.000 students enrolled (48% women).

In February 2016, a group of volunteers aimed to distribute as many leaflets as they could in three days. This resulted in a total distribution of 2.500 leaflets, which accounts for approximately 7% of the total amount of students. Six weeks later, we returned with different volunteers to administer our food survey. In this survey, students were invited to answer some questions regarding their diet choices (see subsection 'Measures' below). The volunteers didn't mention any specific details about the study of interest to discourage social desirability, and didn't know if students received a leaflet. Furthermore, they monitored (as far as possible) if participants answered the survey in earnest. Again, our volunteers aimed to administer as many surveys as they could in three days. This resulted in the administration of 326 surveys.

Measures

The food survey consisted of multiple questions. First, participants were asked if they changed their consumption in the last 3 months for 14 food categories. The 7 categories of interest to this study were chicken, beef, pork, fish, eggs, dairy, and meat replacers. In addition, we added 7 more food categories to distract participants from the study goal. These categories were vegetables, rice, bread, candy, coffee/tea, and alcohol. Each category could be rated on a 9-point scale, ranging from item response -4 (participants stopped consuming a food category; decrease of 100%) to item response 4 (participants started consuming a food category; increase of 100%). The 7 item responses in between ranged from a decrease of 75% to an increase of 75% (with steps of 25% for each next item response). Consequently, item response 0 meant that participants didn't change their consumption of that food category. The 10th item response 'not applicable' was added for participants that didn't consume the food category at all in the last three months.

The remaining questions of the food survey were administered to learn more about (1) the background of the participants, (2) the study condition of the participants (leaflet group or control group), and (3) the reliability of the assessment. Regarding the background of the participants, we assessed gender, year of birth, living conditions (with parents, alone with individual kitchen, alone



with shared kitchen, together with partner, together with students), current diet and diet three months ago (e.g. gluten free, vegetarian, vegan, or low carb), and if applicable, the reason why a diet was changed (open question); Regarding the study condition of the participants, we presented the leaflet cover to the participants (see illustration), and assessed whether they received the leaflet around two months ago, using item responses *yes*, *no*, and *couldn't remember*; Regarding the reliability of the assessment, we used a 5-point likert scale to assess whether participants had a clear memory on their consumption 3 months ago, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Furthermore, we administered the Socially Desirable Response Set Five-Item Survey (SDRS-5; Hays, Hayashi, & Stewart, 1989) to assess the tendency of participants to act socially desirable. This survey consists of 5 items (see Table 1) that measure the degree of social desirability with a 5-point likert scale, ranging from 1 (*definitely true*) to 5 (*definitely false*). The item responses of item 1 (*I am always courteous even to people who are disagreeable*) and item 5 (*No matter who I'm talking to, I'm always a good listener*) were reversed (1 = 5, 2 = 4, 4 = 2, 5 = 1). Consequently all 5 items were stated negatively and could be summed to a total score, ranging from 5 (very socially desirable) to 25 (not socially desirable at all). We concluded the food survey by thanking the participant for participating in the study, and by assessing whether he/she would like to receive information on the study results and/or a healthy diet.

Table 1. The Socially Desirable Response Set Five-Item Survey (SDSR-5)

| Question |
|---|
| I am always courteous even to people who are disagreeable. |
| There have been occasions when I took advantage of someone. |
| I sometimes try to get even rather than forgive and forget. |
| I sometimes feel resentful when I don't get my way. |
| No matter who I'm talking to, I'm always a good listener. |

Results

From the 326 food surveys taken, we first excluded 2 due to suspicious response patterns. Second, we excluded 46 food surveys because the respondents stated they didn't have a clear memory of their consumption behavior three months ago (item response 1 and 2). Third, we excluded 26 food surveys because the participants did not remember if they received a leaflet. The final sample therefore consisted of $N = 252$ respondents, with $n = 52$ in the leaflet condition and $n = 200$ in the control condition (i.e., respondents who did not receive a leaflet).

First, we compared the number of respondents who turned vegetarian or vegan between the study conditions. Unfortunately, the recorded diets were in many cases inconsistent with the item responses on the food category items (e.g. respondents would categorize their current diet as 'vegan' but state in the food survey that they had recently increased consumption of cheese or even pork). We therefore decided to dismiss these results from the study. An explanation for this finding may be that respondents differ in their interpretation or definition of the terms 'vegan' and 'vegetarian'. For future studies, we recommend to add a brief description to each diet.

Second, we compared the change in consumption for each food category between the study conditions. The statistics of this comparison are shown in Table 1. We've chosen to use a rather high level of significance (i.e., $\alpha < 0.1$) because we didn't expect to find large differences between the study conditions. Using this alpha level, of the food groups relevant to the study only the category 'fish' showed a significant difference in consumption for the leaflet group, where the leaflet group actually increased fish consumption at a higher rate than did the control group, with a small effect

size according to Cohen's d (Cohen, 1988). The p -value of the additional category 'coffee / tea', however, was even lower, with a higher effect size. This means that the difference in consumption of fish should be questioned because the 'coffee / tea' category was only added to the survey to distract respondents from the study goal. Moreover, the comparisons for all other categories of interest (i.e., chicken, beef, pork, fish, egg, dairy, and meat substitute) were all highly insignificant, with a negligible effect size. These results indicate that respondents in the leaflet condition didn't reduce their consumption of animal products systematically compared to respondents in the control condition.

Furthermore, we investigated whether results were influenced by a tendency of the respondents to give socially desirable answers, but this doesn't seem to be the case; the correlation coefficients for the SDRS-5 sum scores and the category scores were almost negligible (see Table 1, last column).

Other studies that investigated the effectivity of leaflets on animal product consumption also did some analyses on specific response categories, for example by comparing the number of respondents who stopped or started consuming a food category. However, the results of these analyses tend to be unreliable due to low number of respondents in each response category. We therefore chose to drop these analyses from the study.

Table 1

Statistics for the comparison of the leaflet condition with the control condition for all food categories

| Product | Condition | | | | p | d | r |
|-----------------|-----------|------|---------|------|------|-------|-------|
| | Leaflet | | Control | | | | |
| | M | SD | M | SD | | | |
| Vegetables | 0,79 | 1,36 | 0,75 | 1,31 | 0,85 | 0,03 | 0,00 |
| Pasta | 0,10 | 1,54 | 0,11 | 1,43 | 0,95 | -0,01 | -0,12 |
| Rice | -0,04 | 1,24 | 0,19 | 1,29 | 0,25 | -0,18 | -0,01 |
| Bread | -0,25 | 1,55 | -0,28 | 1,56 | 0,91 | 0,02 | -0,05 |
| Chicken | 0,34 | 1,57 | 0,42 | 1,40 | 0,74 | -0,06 | -0,10 |
| Beef | -0,04 | 1,58 | -0,01 | 1,27 | 0,90 | -0,02 | -0,02 |
| Pork | -0,90 | 1,24 | -0,88 | 1,55 | 0,92 | -0,02 | -0,08 |
| Fish | 1,21 | 1,27 | 0,84 | 1,30 | 0,08 | 0,28 | 0,04 |
| Egg | 0,57 | 1,62 | 0,52 | 1,43 | 0,85 | 0,03 | 0,01 |
| Dairy | 0,12 | 1,35 | 0,20 | 1,41 | 0,68 | -0,06 | 0,03 |
| Meat substitute | 0,61 | 2,25 | 0,47 | 1,28 | 0,80 | 0,09 | -0,15 |
| Candy | -0,48 | 1,79 | -0,54 | 1,67 | 0,84 | 0,03 | -0,12 |
| Coffee / Tea | 1,38 | 1,31 | 0,78 | 1,45 | 0,01 | 0,41 | -0,03 |
| Alcohol | -0,26 | 1,67 | -0,07 | 1,70 | 0,53 | -0,11 | 0,06 |

Note. M = mean, SD = Standard Deviation, p = p -value, d = Cohen's d , r = Pearson's correlation coefficient.

Discussion

In this study, we investigated the effectiveness of leafletting on reducing the consumption of animal products in Dutch students. The results of the study suggest that leafletting does not cause measurable changes in diet of the kind of magnitudes that were suggested by previous studies. Specifically, such effect magnitudes have not been proven for our *particular* leaflet.

Anecdotal evidence in the form of written or personal communications from recipients of

leaflets very strongly suggests that an effect of leafletting does, in fact, exist. The question we ask ourselves is not whether it exists, but how large it is and whether this effect is large enough to show up as a systematic difference between groups in a randomized trial. So far, randomized studies such as this one and the one done by Animal Charity Evaluators (2013) have failed to show such a systematic difference, but were limited in sample size. Taking into consideration the anecdotal evidence it seems plausible that studies with much larger sample sizes *would* show a systematic effect. But since studies with sample sizes of several hundreds did not show such effect, we can conclude that this systematic effect, if existent, is at least smaller than previously claimed.

This means that the enthusiasm with which leafletting has initially been embraced by the animal advocacy movement based on these early studies needs reconsideration. Obviously, we should also remain critical of our research methods. For instance, it should be noted that longer-term effects of receiving a leaflet (i.e. effects taking place after three months post-distribution), especially in synergy with other experiences that the receiver may encounter later on in life, are outside the scope of this study.

A second question we should ask ourselves is what alternatives there are for leafletting. Are there other strategies that can be studied quantitatively in a randomized trial and for which we can expect to find large systematic differences between the study conditions? To our best knowledge no type of animal activism has so far passed this test. It may be that we have to conclude this approach, which assumes measurable diet change to follow from single interventions, is too simplistic and that diet change is a complex process influenced by multiple interventions over a considerable amount of time. Because this process is hard to study quantitatively, we recommend future researchers to conduct more qualitative studies about the vegetarian/vegan journeys of individuals. With these studies, we can explore a wide range of interventions and learn more about the combinations that seem to be most effective in the least amount of time.

Awaiting these developments, it would be advisable for animal groups involved in leafletting to reconsider the amount of resources dedicated to leafletting compared to other individual outreach activities, such as movies screenings or lectures. Leafletting, when scaled up, is a cost-intensive form of activism. It is also quite wasteful and indiscriminate, in that it depends on the quantity rather than the quality of person-to-person interactions to be impactful. The strategic basis for leafletting is that of a scattergun approach. This means that, even more than other types of person-to-person activism, it requires a quantitative justification to assess its effectiveness.

We would like to challenge animal activists to explore ways of making leafletting more successful. Leafletting continues to be a strategy that is accessible to lots of people, a friendly way to spread the message, and which has received lots of positive feedback from leaflet providers. In order to reduce costs and waste, volunteers could be advised to focus less on quantity of leaflets distributed and invest more in the quality of interaction. This in contrast to advices that have been given before, to actually limit the amount of time spent in conversation with people who show an active interest in the leaflets. Using leaflets in tabling instead of unsolicited distribution is another way of doing leafletting, that relies more on quality interaction and direct feedback, then on as yet unsubstantiated claims of numerical advantages.

Another possibility would be to be more selective in choosing recipients of leaflets. Why provide leaflets to every person you come across, when you can choose these persons according to their interests? People who are interested in *the lifestyle* or *the reasons* why it is necessary to change their diet are more likely to act upon the leaflet information that is provided. Providing leaflets at food festivals (lifestyle) or environment fairs (the reasons) would be a great way to accomplish this. Another possibility would be to ask businesses if you can leave a bundle of leaflets on their counter,

for example in restaurants that sell vegetarian food or non profits that focus on the environment.

Also, leafletting strategy could be combined with other interventions. One could share a cheap vegan treat with people and ask them whether they are interested in receiving a leaflet. Leafletting could also be combined with movie screenings or lectures, where the leaflet is a takeaway reminder of the lecture instead of the single intervention. Another interesting, but more time consuming and expensive intervention that could be combined with leafletting is the virtual reality experience iAnimal. This experience has received a lot of attention in the field of animal charity because it spreads the message with a combination of modern technology and the free choice of persons to participate. It should be noted that for all of these interventions, conclusive statistical evidence of their effectiveness is lacking, but in assessing their effectiveness we can at least rely more on direct qualitative feedback from participants than on quantitative measures.

It could also be worthwhile to use single-intervention strategies such as leafletting or movie screenings as the starting point of a longer-term interaction. Collecting e-mail or other contact information allows activists to follow up first impressions and expose their public to a carefully planned series of multiple interventions.

A last adjustment may be to leave the physical world and enter the digital world. Why provide expensive leaflets on the streets if you can provide them for free on Social Media? You can share digital leaflets in food groups that provide information on (partially) animal free recipes, tags can be used to trigger people to find you instead of having to find them... the possibilities are endless!

We hope that organizations who use leafletting as a strategy to reduce animal suffering will consider ways in which their activities can be improved, including the suggestions given above. Obviously, we hope that our suggestions are also studied with quantitative or qualitative research methods. To be effective animal advocates, we should not ever assume that we are, but be critical on our methods. We have to study them, improve them, and share what we've learnt with the community, all for one simple reason: to save as many animals as we can.

References

- Cohen J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Hays, R. D., Hayashi, T., & Stewart, A. L. (1989). A five-item measure of socially desirable response set. Educational and psychological measurement, 49(3), 629-636.

Links to studies

- <https://animalcharityevaluators.org/blog/responses-to-common-critiques/#a>
- <https://www.farmsanctuary.org/the-powerful-impact-of-college-leafletting-part-1/>
- <http://www.animalcharityevaluators.org/research/interventions/leafletting/leafletting-outreach-study-fall-2013/>
- <https://acesounderglass.com/2015/04/24/leaflets-are-ineffective-tell-your-friends/>
- <http://www.animalcharityevaluators.org/research/interventions/leafletting/analyzing-the-conversion>

[-rate-of-leafleting/](#)

<http://veganoutreach.org/les-fall-2016/>