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Recruitment using “hot topics”. Consequences for efficiency and representativeness.

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Title: Recruitment using "hot topics". Consequences for efficiency and representativeness.

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ABSTRACT

Cost-efficient and representative recruitment to online panels is a persistent challenge for commercial enterprises and academic research alike. In this study we examine how taking advantage of a "hot topic" that most people find involving and important affects recruitment rates and demographic and attitudinal representativeness. The hypothesis is that "hot topic" recruitment helps attract people that are normally not interested in social or political issues, and people with lower trust in politicians, therefore improving representativeness of those recruited. In this study, the case of the introduction of congestion charges around the city of Gothenburg is used as a local "hot topic".

We compare four surveys with a benchmark. Two random samples, and two opt-in samples. In each of these groups one survey used a topical inviation highlighting the issue of congestion charges, while the other used a general invitation to the survey.

We find that using a "hot topic" in the recruitment phase doubles the response rate/recruitment rate, thereby making the topical approach twice as efficient and half as expensive as the general approach.No large differences were found concerning demographical representativeness between topical and general recruitment. Concerning political interest and trust, the hypothesis is partly confirmed: topical invitation attracts more respondents with low political interest, but no significant differencen is found conerning trust in politicians.

Recruitment using "hot topics". Consequences for efficiency and representativeness.

The demand for and interest in surveys and survey research have substantially increased. At the same time, however, response rates continue to fall. Decreasing response rates is not necessarily a problem in itself, but if nonresponses are systematically biased it will lead to nonresponse bias in survey estimates. During the last ten years or so, the use of pre-recruited web panels have rapidly increased and became a common way of collecting survey data on-line. These surveys do not work with traditional cross-sectional population samples and response rates, but instead recruit respondent into a pool of pre-registered willing respondents. In the next step survey companies instead draw samples from this pool of respndents, who are then invited to complete an on-line survey.

Just like conventional surveys struggle against falling response rates, so do web panels struggle to find efficient ways to recruit people into their pools of respondents. Both efficiency and more direct measures of bias such as representetiveness is a constant concerns for all kinds of surveys. Certain groups in society are more difficult to attract than others, for example, a study by Goyder, Warriner and Miller (2002) find that people with lower socio-economic status are less likely to participate in surveys. Young people, and people with low political interest and low trust in politicians, are also especially reluctant to participate in surveys concerning politics, which results in problem with survey accuracy, data quality and the generalizability of the findinds from such surveys.

To overcome the problem with recruiting respondents and combating nonresponses, the efficiency of several factors have been examined. Using incentives, providing mixed modes, multiple contacts, shorter questionnaires, and topic saliency are a few factors sometimes recommended as instruments to prevent falling response rates (Porter 2004; Groves, Presser and Dipko 2004). Despite the wide spread use of web panels, systematic research on different recruitment strategies and their effects are rarely published (but see Hansen and Pedersen 2012).

Some claim that the mode of web surveys provide greater chances of catching the younger, more mobile people (Börkan 2009), and several studies have shown that people who find a survey's topic salient are more prone to participate in the survey (Heberlein and Baumgartner 1978; Goyder 1982; Goyder 1987; Groves, Singer and Corning 2000).

Although it may not be possible to adjust every survey's content to any respondent's favored topic, there might be some room to take advantage of the positive effects of topics most people find important to facilitate the recruitment phase of web panels. This short working paper examines the feasibility of framing panel recruitment as a short survey on controversial topics in order to attract respondents. Potentially, such a strategy could especially attract hard-to-get respondents. This study will focus on the consequences of "hot topic" recruitment in terms of efficiency/costs and representativeness.

Aim and Hypothesis

This working paper is a first attempt to explore the benefits and risks of recruitment using "hot topics". The basic expectation is that hot topic recruitment increases the efficiency and decreases the costs of recruitment. Apart from this, it is more difficult to predict how hot topic recruitment affects the demographic and attitudinal composition of those recruited. Of course, this depends on the topic used, since we expect that a "hot topic" attracts more of those in the population that find the topic important.

On a general level, without taking any specific "hot topic" into consideration, our hypothesis is that hot topic recruitment helps attract people not normally interested in social or political issues, and people with lower trust in politicians, therefore actually improving representativeness of those recruited compared to what conventional surveys achieve. The reasoning behind this is that those with high interest in political and/or social issues and high trust in politicians or the political system are more likely to accept to participate in any general social or political survey than are those with low political interest and political trust.

Method and data

During the summer 2012 four different online surveys were fielded simultaneously by the University of Gothenburg concerning a local "hot topic": the introduction of congestion charges around the city of Gothenburg. In total, four different surveys are compared, of which two took advantage of the topic of congestion charges to attract respondents' attention:

- a web survey to a *probability population sample* invited through postal invitations, highlighting the issue of congestion charges
- a web survey to a *probability population sample* invited through postal invitations, using a general framing *not* highlighting the issue of congestion charges
- a web survey from an *opt-in panel* recruited from a pop-up ad on the major local daily newspaper website, highlighting the issue of congestion charges
- a web survey from an *opt-in panel,* based on general recruitment to the University of Gothenburg online panel

This can be regarded as a two-by-two design where the consequences of hot topic recruitment is compared both for opt-in recruitment and for probability based recruitment. The focus in this note is exclusively on the consequences of hot topic recruitment within each sampling mode, thus, the consequences of choosing either probability based or opt-in panels will not be further discussed.

In order to examine the demographic representativeness, the results from the four surveys are compared population data for the Gothenburg region from Sweden's census bureau Statistics Sweden (www.scb.se). For examining attitudinal representativeness on the other hand, there is no true benchmark. Therefore, we use a quasi-benchmark from a a well-known high quality mail survey from the SOM Institute (www.som.gu.se). This quasi-benchmark is based on a large random population sample from the public individual level

population register. The survey has 1669 respondents in the Gothenburg region, and a high response rate due to intense and prolonged field work (AAPOR RR5 above 50%).

The target population of all probability samples includes people aged 18-70 years old, living in the 13 municipalities of the Gothenburg region (comprising a total population of 950 000 inhabitants). None of the surveys used any kind of economic or material incentives.

Results

The first section presents the results concerning efficiency and recruitment costs for the two probability based samples. For obvious reasons, recruitment rates cannot be presented for the opt-in samples, nor can we present any recruitment costs since the wed ads used for the opt-in surveys were free. Secondly, the demographic representativeness is examined, by comparing the four surveys to Census data for five demographic indicators. Thirdly, we examine how hot topic recruitment influences the attitudinal representativeness by comparing to a quasi-benchmark: in this case a high quality mail survey from the SOM Institute at the University of Gothenburg.

Recruitment rates and costs

So how much more efficient is hot topic recruitment? This, of course, depends on the topic. In our case, expectations were quite high since the topic was widely discussed in mass media, and it also enhance relevance to people's daily lives through the local focus. In Table 1 the two probability based recruitments recruitment rates and costs per respondent recruitment are presented.

Table 1. Efficiency and cost per recruitment for topical and general postal recruitment into a web panel

	General recruitment	Topical recruitment
Gross sample size	8 000	15 000
Number recruited	789	2 957
Gross recruitment rate (%)	9.9	19.7
Cost per recruited (€)	8.0	3.7

Table 1 clearly shows that recruitment efforts using a "hot topic" in order to attract new respondents and have them sign up for a longitudinal web panel much efficiently raises the recruited rate, from approximately from ten percent to twenty percent., thus making the effort twice as efficient as general recruitment. Hence, the cost per recruitment also drops substantially. In this case, the costs is decreased by more than the recruitment rate in itself implies due to a larger population sample, which marginally also lowers costs. The cost per recruitment in the general recruitment is eight euros, while it is slightly

lower than four euros in the hot topic recruitment. In this case, the lower cost is very substantial. Usually, the cost per respondent or per recruitment is higher the higher the response rate or recruitment rate, but in this case, we manage to simultaneously cut the cost per recruitment in half, and double the recruitment rate.

The cost per recruitment of our general recruitment attempt is of about the same size as that previously reported by Hansen and Pedersen (2012: 243, "sample 4"). Although, their recruitment rate was substantially higher, almost nineteen percent, compared to our ten percent. As always, recruitment costs are very context specific as the possibilities and costs vary widely between countries.

Demographic representativeness

In order to assess the demographic representativeness of or four surveys we use five indicators in the surveys that can be compared to solid benchmarks from Statistics Sweden: sex, age, education, employment status, and whether the respondent has a driving license or not. To allow a more general comparison, we also compute the average absolute deviation from the benchmark for each of the surveys. This is done first calculating the average deviation from the benchmark for each category within an indicator, and then averaging these five averages.

For example, looking at the "Probability General" sample, we see an underrepresentation of unemployed by three percentage points (3 compared to 6), and an overrepresentation of employed by four percentage points (76 compared to 80). This adds up to a total absolute deviation for employment status of 4+3=7 percentage points, and an average absolute deviation of 3.5. This procedure is repeated for the five indicators, and then divided by five, to get the overall average absolute deviation for the demographic indicators.

The results in table 2 indicate that hot topic recruitment does not affect the demographic representativeness much at all. We see that the probability based recruitments are more accurate (7.3 and 7.5) than the opt-in recruitments (11.3 and 13.2), as is usually expected. But within each sampling category differences are small.

When comparing the averaged absolute deviation from Census Bureau demographic data , the topical probability sample differs minimally (0.2%) from the general probability sample. For the opt-in samples the difference is slightly higher (1.9%) and indicates a somewhat higher degree of demographic accuracy in the general opt-in sample than in the topical opt-in sample.

Both opt-in samples overrepresent male respondents, but the topical opt-in sample even more so. This is probably due to the topic in question here: the introduction of congestion charges. Otherwise, it is also obvious that all four surveys, no matter the sampling mode or whether they are general in nature or using a "hot topic", have troubles attracting young respondents. Likewise, all surveys also overrepresent the highly educated. Especially for the two probability recruitments, the demographic accuracy seems to be very similar.

Table 2. Demographical representativeness: Sex, Age, Education, Employment status and Driver's license (percentage), and average absolute deviation from Census Bureau data.

	Census bureau	Probability General	Probability Topical	Opt-in General	Opt-in Topical
Sex[a]					
male	50	47	53	66	74
female	50	53	47	34	26
Age[a]					
18/30	27	17	17	13	15
31/40	21	18	21	27	28
41/50	20	18	21	21	29
51/60	17	24	20	22	19
61/70	16	23	21	17	9
Education[b]					
no college degree	62	47	45	36	47
college degree*	38	53	55	64	53
Employment status[c]					
unemployed	6	3	3	3	2
employed	80	76	78	85	85
Driver's license[d]					
yes	81	90	92	86	96
Overall average absolute deviation[e]	-	7.3	7.5	11.3	13.2
N		789	2 957	2 036	5 099

Comment: [a]Sex and Age pertain to the full target range of 18-70 years of age. [b]Education pertain to the age span of 25-64 years of age. [c]Employment status pertain to the age span of 20-64 years. [d]Driver's license pertain to the age span of 18-64 years of age. [e]The Average absolute deviation is computed by adding the average absolute deviations from Census Bureau data for Sex, Age, Education, Employment status and Driver's license's and divide by five. *=Number is an estimate, no exact official figure concerning "degree" is available.

Attitudinal representativeness

When it comes to political and social attitudes, our hypothesis is that hot topic recruitment will facilitate the recruitment of respondents with low interest in politics and low trust in politicians, who are normally less willing to participate in social and political surveys. As mentioned previously, there is no true benchmark when it comes to attitudes. Therefore, we have chosen to present the SOM Institute 2012 survey as a quasi benchmark/reference survey. Table 3 presents political interest and trust in politicians for the four surveys we compare, and the reference survey from the SOM Institute.

Table 3. Attitudinal Representativeness: Political Interest and Trust in Politicians, given in percentages.

	Reference survey	Probability General	Probability Topical	Opt-in General	Opt-in Topical
Political interest					
High interest	61	78	74	92	83
Low interest	39	22	26	8	17
Trust in Swedish politicians					
High trust	41	49	51	65	45
Low trust	59	51	49	35	55
N	1 669	789	2 957	2 036	5 099

Comment: Interest in politics is measured on a four point scale, where we coded the response options "very interested" and "fairly interested" as high interest, and "not particularly interested " and "not at all interested" as low interest. Trust in swedish politicians is also measured on a four point scale where "very high trust" and "fairly high trust" were coded as high trust, while "fairly low trust" and "very low trust" were classified as low trust.

First, we find in table 3 that respondents who were recruited from a probability sample show less interest in politics than the ones that opted in themselves. When comparing with the reference survey from the SOM Institute that achieves a much higher response rate, though, all the four surveys by LORE overrepresent the highly politically interested markedly.

Second, respondents recruited with the topical approach show have lower political interest than those recruited with the general approach. This is so both for the probability based recruitments (difference of 4 percentage points), and for the opt-in samples. These differences are all statistically significant.

Thirdly, we see that the case is less clear for trust in politicians. We do find indications that the topical approach attracts more respondents with low trust in politicians for the two opt-in samples, where this difference is large (20 percentage points) and statistically significant. But for the two probability based recruitments, no significant difference.

Summary and concluding discussion

In this study we explored the effects of recruitment using a "hot topic", in order to make recruitment into longitudinal web panels more efficient, and cheaper, and also to attract those respondents usually hard-to-get by attracting their attention with a "hot topic" and thereby enhancing over all representativeness of surveys.

The results clearly demonstrate that using a topical invitation can improve efficiency and reduce costs by a lot. In our case, the topical recruitment proved double as efficient in terms of recruitment rate as a general one, hence lowering the cost with more than 50%.

When comparing demographic representativeness to Census bureau data, probability based recruitment using ”hot topics” does not seem to affect the representativeness of demographic factors much at all.

Concerning our hypothesis that topical recruitment attracts more respondents with low political interest and low trust in politician, it was confirmed for the most part. Indeed, the topical recruitments did attract more respondents with low political interest than the general recruitments. This was also true for respondents with low political trust, but only for the opt-in samples. For the two probability samples there no statistically significant difference in political trust was found.

All in all, these results are fairly encouraging for further experimentation with topical recruitment. In the case studied here, cost-efficiency was greatly improved, as was the recruitment rate, without any loss in demographic or attitudinal accuracy. In fact, even some improvement in terms of political attitudes when comparing to a high quality reference survey.

Two things are important to remember, though. First, all these results are based on one occasion with one topical recruitment. In order to properly evaluate the value of the topical recruitment approach, several other “hot topics” should also be tried. Secondly, in this working paper we have not been able to study the long term effects of hot topic recruitment. It is possible, but far from certain, that those recruited by a topical recruitment do not stay as long in the panel as others. These two important questions should be addressed by future studies on topical recruitment into longitudinal web panels.

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SAMMANFATTNING

Kostnadseffektiv och representativ rekrytering till webbpaneler är en utmaning för både kommersiella företag och akademisk forskning. I denna studie undersöks hur rekryteringsfrekvensen, samt den demografiska och attitydmässiga representativiteten påverkas om rekryteringen baseras på en ”het fråga” som många människor finner engagerande och viktig. Hypotesen är att rekrytering baserad på ”heta frågor” bidrar till att rekrytera respondenter som vanligen inte är intresserade av sociala eller politiska frågor, och att respondenter med lägre politiskt förtroende. Därigenom skulle representativiteten hos de rekryterade kunna förbättras. I denna studie undersöks en rekryteringssatsning baserad på införandet av trängselskatt i Göteborg; en lokalt ”het fråga” under tidsperioden.

Studien jämför fyra undersökningar med registerdata från Statistiska Centralbyrån (SCB): två slumpmässiga urval, och två självrekryterade urval. I båda dessa grupper använder den ena av undersökningarna rekrytering baserad på en ”het fråga” (trängselskatterna), medan den andra använder en generellt formulerad rekrytering till undersökningen.

Resultaten visar att rekrytering baserad på en “het fråga” fördubblar svarsfrekvensen/rekryteringsfrekvensen, och därigenom halverar kostnaderna per rekryterad person jämfört med den generellt utformade rekryteringen. Vad gäller demografisk representativitet förelåg inga stora skillnader mellan rekrytering baserad på en “het fråga” och allmänt formulerad rekrytering. För politiskt intresse och politiskt förtroende bekräftades hypotesen delvis: ”het fråga”-rekrytering lockade fler respondenter med lågt politiskt intresse, men ingen signifikant skillnad förelåg avseende politiskt förtroende.

The Laboratory of Opinion Research (LORE) is an academic web survey center located at the Department of Political Science at the University of Gothenburg. LORE was established in 2010 as part of an initiative to strengthen multidisciplinary research on opinion and democracy. The objective of the Laboratory of Opinion Research is to facilitate for social scientists to conduct web survey experiments, collect panel data, and to contribute to methodological development. For more information, please contact us at:

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