



RatSWD

Working Paper Series

Working Paper

No. 141

(Dis)advantages of student subjects:
what is your research question?

Simon Gächter

April 2010

Working Paper Series of the German Data Forum (RatSWD)

The *RatSWD Working Papers* series was launched at the end of 2007. Since 2009, the series has been publishing exclusively conceptual and historical works dealing with the organization of the German statistical infrastructure and research infrastructure in the social, behavioral, and economic sciences. Papers that have appeared in the series deal primarily with the organization of Germany's official statistical system, government agency research, and academic research infrastructure, as well as directly with the work of the RatSWD. Papers addressing the aforementioned topics in other countries as well as supranational aspects are particularly welcome.

RatSWD Working Papers are non-exclusive, which means that there is nothing to prevent you from publishing your work in another venue as well: all papers can and should also appear in professionally, institutionally, and locally specialized journals. The *RatSWD Working Papers* are not available in bookstores but can be ordered online through the RatSWD.

In order to make the series more accessible to readers not fluent in German, the English section of the *RatSWD Working Papers* website presents only those papers published in English, while the German section lists the complete contents of all issues in the series in chronological order.

Starting in 2009, some of the empirical research papers that originally appeared in the *RatSWD Working Papers* series will be published in the series *RatSWD Research Notes*.

The views expressed in the *RatSWD Working Papers* are exclusively the opinions of their authors and not those of the RatSWD.

The RatSWD Working Paper Series is edited by:

Chair of the RatSWD (2007/2008 Heike Solga; since 2009 Gert G. Wagner)

Managing Director of the RatSWD (Denis Huschka)

(Dis)advantages of student subjects:
what is your research question?

Simon Gächter

University of Nottingham (simon.gaechter[at]nottingham.ac.uk)

To be published in "Behavioral and Brain Sciences".

Abstract

In this comment on Henrich et al. (2010) I argue that the right choice of subject pool is intimately linked to the research question. At least within economics, students are often the perfect subject pool for answering some fundamental research questions. Student subject pools can provide an invaluable benchmark for investigating generalizability across different social groups or cultures.

In their excellent article, Henrich et al. (2010) rightly caution us to be careful when we draw general conclusions from WEIRD subject pools of which undergraduates are the most frequently used one, also in economics. My main comment is that the right choice of subject pool is intimately linked to the research question. Since the different behavioral sciences also have different research questions, the right choice of subject pool will also often be different across disciplines. In my own discipline, economics, students are actually often the best subject pool for quite a few (fundamental) research questions. Here is why I believe so.

Economic theories normally do not come with assumptions (or even caveats) about the restricted validity to only a specific group of people, that is, they (implicitly) assume “generality”. Like the assumption of selfishness, “generality” is a good assumption in the absence of rigorous data. The tools of experimental economics have been deployed to investigate the empirical relevance of the selfishness assumption (see, e.g., Fehr et al. (2002b)) and are now also used to probe the “generality assumption”, that is, the importance of variations of behavior across population subgroups within a given society (e.g., Fehr et al. (2002a); Bellemare et al. (2008)) or across societies (e.g., Herrmann et al. (2008)).

However, my main point is this. The ‘right choice’ of subject pool depends on the research question. If the researcher is interested in understanding behavioral variation between particular groups of people then the right choice is running experiments with these people. The landmark study by Henrich et al. (2005) is a shining example. Yet, at least in economics, substantial effort is also devoted to test formal theories or to detect interesting behavioral regularities (Bardsley et al. (2010); Croson & Gächter (2010); Smith (2010)). Since economic theories normally assume generality, any subject pool is in principle informative about whether theoretical predictions or assumptions contain behavioral validity. At that stage, generalizability to other subject pools is (not yet) an issue. Among the universe of potential subject pools to test a theory, students are often the perfect one: on average, students are educated, intelligent and used to learning. These are very valuable characteristics because, in addition to the main aspect of a theory of interest to the researcher, economic theories often assume cognitive sophistication. It makes therefore sense to control for sophistication also by choice of subject pool (in addition to clear instructions), to minimize chances of confounding genuine behavioral reactions to the treatment of interest with lack of understanding the basic decision situation.

Take recent theories of social preferences (as surveyed, e.g., in Fehr & Schmidt (2006)) as an example. In addition to other-regarding preferences these theories all assume cognitive sophistication. When testing these theories the main point of interest is not to find out whether

people are as cognitively sophisticated as the theories (maybe wrongly) assume, but to see to what extent other-regarding motives exist, holding everything else constant. Because students are typically above average with regard to cognitive sophistication, they are often a perfect subject pool for first tests of a theory. Moreover, students, unlike most other subject pools, are readily available (and cost effective). Experiments can therefore also easily be replicated, which is important to establish empirical regularity and hard to achieve with any other subject pool.

Of course, strictly speaking, observed results only hold for the subject pool from which evidence is collected. Generalizability is a generic issue in any empirical research (Falk & Heckman (2009)). However, once a clear benchmark result is established, we can proceed by testing, for example, how age and life experience matter (e.g., Sutter & Kocher (2007)), or how results extend to more representative subject pools (e.g., Bellemare et al. (2008); Carpenter et al. (2008)). Along the way, researchers often establish whether and how students differ from the general population.

As Henrich et al. (2010) point out, understanding the potential influence of cross-societal (or cultural) differences in (economic) behavior is a particularly interesting direction for investigating generalizability, but it poses further challenges, in particular if socio-demographic factors matter (as some of the above-cited research suggests). The reason is that socio-demographic influences might be confounded with genuine societal or cultural differences. The problem is exacerbated the more subject pools are actually being compared. Again, to ensure that confounds are minimized, student subject pools are often the best available choice (Herrmann et al. (2008); Bohnet et al. (2008)) to establish a clean benchmark result on how people from different societal/cultural backgrounds behave in the exact same decision situation – a fundamental question from the generality perspective of economics. The benchmark can – and should(!) – then be taken as a starting point for investigating generalizability to other social groups (Gächter (2009)).

References:

- Bardsley, N., Cubitt, R., Loomes, G., Moffatt, P., Starmer, C., & Sugden, R. (2010). *Experimental economics: Rethinking the rules*. Princeton: Princeton University Press.
- Bellemare, C., Kröger, S., & Van Soest, A. (2008). Measuring inequity aversion in a heterogeneous population using experimental decisions and subjective probabilities. *Econometrica*, 76, 815-839.
- Bohnet, I., Greig, F., Herrmann, B., & Zeckhauser, R. (2008). Betrayal aversion. Evidence from brazil, china, oman, switzerland, turkey, and the united states. *American Economic Review*, 98, 294-310.
- Carpenter, J., Connolly, C., & Knowles Myers, C. (2008). Altruistic behavior in a representative dictator experiment. *Experimental Economics*, 11, 282-298.
- Croson, R., & Gächter, S. (2010). The science of experimental economics. *Journal of Economic Behavior & Organization*, 73, 122-131.
- Falk, A., & Heckman, J. J. (2009). Lab experiments are a major source of knowledge in the social sciences. *Science*, 326, 535-538.
- Fehr, E., Fischbacher, U., von Rosenblatt, B., Schupp, J., & Wagner, G. G. (2002a). A nationwide laboratory. Examining trust and trustworthiness by integrating behavioral experiments into representative surveys. *Schmoller's Jahrbuch*, 122, 519-542.
- Fehr, E., Gächter, S., & Fischbacher, U. (2002b). Strong reciprocity, human cooperation, and the enforcement of social norms. *Human Nature*, 13, 1-25.
- Fehr, E., & Schmidt, K. M. (2006). The economics of fairness, reciprocity and altruism - experimental evidence and new theories. In Kolm, S.-C., Ythier, J. M., (Eds.), *Handbook of the economics of giving, altruism and reciprocity*. Amsterdam: Elsevier B.V., 615-691.
- Gächter, S. (2009). Improvements and future challenges for the research infrastructure in the field "Experimental Economics". RatSWD Working Paper No. 56. Berlin.
- Henrich, J., Boyd, R., Bowles, S., Camerer, C. F., Fehr, E., Gintis, H., McElreath, R., Alvard, M., Barr, A., Ensminger, J., Henrich, N., Hill, K., Gil-White, F., Gurven, M., Marlowe, F. W., Patton, J. Q., & Tracer, D. (2005). "Economic man" In cross-cultural perspective: Behavioral experiments in 15 small-scale societies. *Behavioral and Brain Sciences*, 28, 795-855.
- Henrich, J., Heine, S. J., & Noranyazan, A. (2010). The weirdest people in the world? RatSWD Working Paper No. 139. Berlin.
- Herrmann, B., Thöni, C., & Gächter, S. (2008). Antisocial punishment across societies. *Science*, 319, 1362-1367.
- Smith, V. L. (2010). Theory and experiment: What are the questions? *Journal of Economic Behavior & Organization*, 73, 3-15.
- Sutter, M., & Kocher, M. (2007). Trust and trustworthiness across different age groups. *Games and Economic Behavior*, 59, 364-382.