

Towards statistical literacy: what do we know, what do we need?

Topic 5 – Who uses statistics, what do they need and how should we engage with them?

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Introduction

Improving statistical literacy is of paramount importance. We can say that statistical literacy is a key competence of nowadays-modern societies. Statistical literacy is today so important for social inclusion and active citizenship as, in the past, was the ability to write or read.

As we all know, there are many ways to improve statistical literacy, namely in the training area, inside or outside schools. A good example for promoting statistical literacy can be training sessions for journalists, an activity developed by Pordata, a huge Portuguese statistical database for Portugal and its municipalities, and for the European countries, covering multiple areas of contemporary society. The idea of those training sessions is to provide, in three hours, a kind of a guided tour into the basic principles of statistics, by exploring real, common mistakes, namely technical or based on misunderstandings.

Nevertheless the importance of all activities focused on promoting statistical literacy, it is essential to measure the statistical literacy in a regular and consistent way because, as all of us recognize, it does matter.

Methods / Problem statement

We can define Statistical Literacy as an individual competence to form an opinion about society/world from the use of reliable statistical data. The concept of competence comprises five dimensions, grouped in three types of characteristics:

1. Attitude

- Recognizing the importance of statistical information to know the reality and to form an opinion.
- Being interested in searching, accessing and capturing statistical information.

2. Knowledge

- Being able to easily understand the language, concepts and symbols associated with statistical data.
- Being able to critically analyse statistical information.

3. Skill/Ability

- Being able to understand the meaning of the statistical data's content in such a way that its message can be described accurately (tell a story).

In order to measure statistical literacy, Social Data Lab is developing, in Portugal, an Index based on an individual questionnaire to be applied to different Populations on a regular basis.

The questionnaire includes seven questions. These were designed upon the former five dimensions found to be essential to the definition of the concept.

The index is then built over the results of the questionnaire. The weight of each question is different, depending on the importance of the three essential characteristics:

- “Knowledge” (55%)
- “Attitude” (25%)
- “Skill/Ability” (20%)

The final result of the index varies between 0 (minimum level) and 100 (maximum level).

Results / Proposed solution

The questionnaire will be tested and applied to a representative sample of the Portuguese population (1.000 interviews, face-to-face, nationwide, age group 18-74), during September 2016.

Conclusions

Concerning the statistical literacy issue, we now know much more than in the past. But what we know today is not enough.

We need to discover the real impact of all our efforts towards the improvement of statistical literacy and the understanding of the actual importance of statistical literacy for our wellbeing and economic prosperity. For that purpose, we need to be able to measure the concept in a standard way. And obtain comparable results for several populations.

On an individual basis, we can correlate statistical literacy, for each population, with all kinds of other variables, such as gender, age, region, education, occupation or political engagement.

On a country basis, we can correlate statistical literacy with productivity or economic growth, for instance, and assess if the misunderstanding of the real world due to the absence of statistical literacy is more or less costly for all of us than the production of quality statistics.

Measuring statistical literacy is the way.