

Surveys on smoking behavior of the Icelandic population

The Public Health Institute of Iceland (PHII) and other Icelandic institutes conduct several surveys on smoking behavior of the Icelandic population.

The PHII conducts three annual surveys annually about smoking behavior of the 15-89 year old population. The age categories are chosen to be as comparable to international survey results as possible. The surveys on the 15-89 are based on about 2400 annual responses that are distributed across all age categories approximately in same proportions as the population. It is clear that the sample size for the 15-19 year old is not very large. In 2007 the number of responses were 322. With a proportion of daily smoking in this age category reported 15.2% in 2007 the confidence interval is +/- 4% (with finite population correction factor included and 95% confidence level). This confidence interval suggest that even a measured change in the sample from 15% in one year to a 23% in the next we would not have enough statistical power to infer about change in the smoking behavior in the population. Moderate and small sample size is always subject to sampling errors. When there are no other data bases available the small sample size statistics is the best estimate for the true proportion in the population, but the inference and discussion should always be made with care.

In the national publication of the national smoking proportions published by the Statistics Iceland the following text is included:

Based on surveys performed yearly on behalf of the Public Health Institute of Iceland (previously on behalf of the Committee for Tobacco Use Prevention). Because of the small number of individuals in each of the five- and ten-year age groups in this category the percentages are subject to qualifications. (In the Icelandic version of Landshagir 2007 the Icelandic Statistical Yearbook (Stattice, Hagstofa Íslands)

There are, however, other surveys available that are used to monitor the smoking habits of students in 10th grade. Iceland has participated in The European Survey Project on Alcohol and other Drugs (ESPAD, see www.espad.org) in 1995, 1999, 2003 and 2007, all previous ESPAD survey years. The Icelandic Espad project has conducted the survey in all schools with 10th grade and almost all students in school on the survey day participate. Consequently the results are much more reliable than survey results based on small sample size. When the about 80-90% of the population participate in the survey each survey year there is little need to calculate confidence interval as virtually all changes larger than a percent point are statistically significant. Focusing on a single grade rather than five year age groups is further more effective to monitor social changes as smoking habits varies greatly with age in the late childhood and early adulthood. National surveys conducted in the years between the ESPAD survey years further support the notion of continuing downward trend in daily smoking habits among Icelandic youth,

Theories of sampling of human populations and common sense suggest that surveys based on large sample size should be favored over smaller sampling size if both are based on valid measurement and research design.

Research measurement and research design have two main properties, reliability and validity. Neither reliability or validity neither are categorical, there is hardly ever perfect reliability or no reliability at all. Reliability and validity is a matter of degree, often measured on a scale from 0 to 1.

With the reasons stated above, the IPHII, the Icelandic media and Icelandic scholars use the ESPAD and other population based school survey to monitor changes in the smoking habits among Icelandic youth. To monitor changes in smoking habits in the total population the survey conducted by the PHII is used, with survey results broken down by age and sex when particularly needed but interpreted with extraordinary care as when sample size decreases with each categorical breakdown.

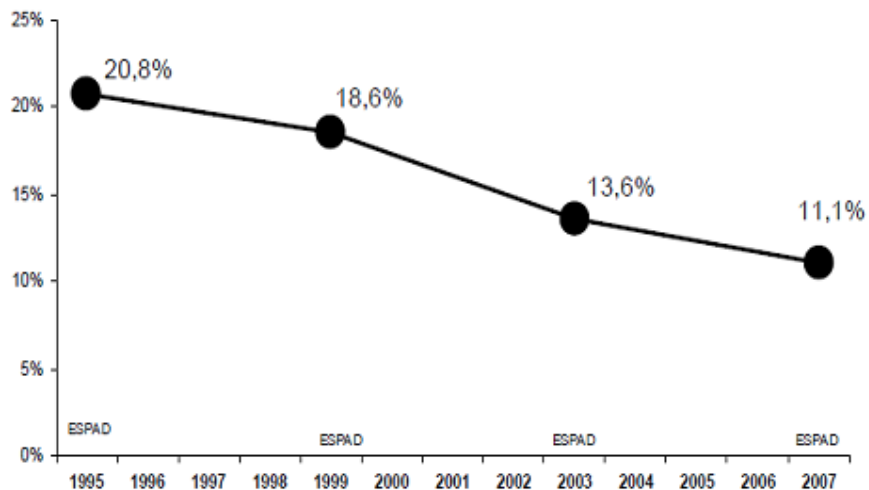


Figure 1. Proportion of students in 10th grade (about 16 years old) in Icelandic schools that smoke daily. From the Icelandic ESPAD survey.

Sincerely yours,

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