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Dennis Macfarlane
October 1998

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Institute London

Introduction to Statistics in
Society
Daniel Dorling and Stephen Simpson

Statistics matter

Have you ever heard it said that:

A third of children in Britain live in poverty.

Most people find a lover within a mile of their home.

More than half of all present marriages will end in divorce.

You are 27 times more likely to kill yourself than be killed.

Most people go blind before they die, almost all are disabled.

Ninety per cent of the population believe all statistics presented on television.

These statements may all be true. Many people would accept them at first sight. Statistics are pervasive and powerful; every day of your life you are directly or indirectly affected by them. In this book we argue that without evidence you should not necessarily believe everything you read. And even when evidence is presented you should always question it.

Most people in your road, college or town will know of you only indirectly. Most of them you will know only through statistics about society. How you treat and view others will depend to a large extent on the statistics you have read, and which you believe, because statistics have become the language of politics and persuasion. Social statistics are at the heart of many generalisations, stereotypes and prejudices. On the other hand, if statistics are understood, created and acted upon, they can be used to change society.

Lives led by statistics

Let’s start from the beginning. How were you first described? ‘It’s a girl/boy, 6 lb 10 oz.’ Why were you described that way? Why does birthweight matter?
Who decides and where did this information go? Perhaps you didn’t have much of a personality to record at birth, but later, surely, people treated you differently? For services that did not cost very much they may have, but once money is at stake statistics matter.

As soon as a service, a possession or a position involves money, statistics appear. For most of us, the clothes we can buy depend on a mixture of the results of fashion surveys, the cost of fabrics and their manufacture into clothes, and the economic forecasts of clothing markets. To clothing manufacturers and retailers you are a size 12 or 16, a 32- or 38-inch waist, a set of numbers. These measures of your size and weight, the statistics you are told about the dimensions of ‘normal’ people, statistics about health and food have direct effects on your behaviour and self-perception. The public services that you use are shaped even more strongly by statistics. For instance, you went to school. Why was it there? Why did you go there? How many teachers were there? How did they treat you when you went? League tables, reading tests, educational assessments, population forecasts, local authority spending assessments and many other statistics played a large part in the counting and controlling of your education.

What you have got in life and where you have ended up are strongly affected by statistics that are kept about you, such as exam results, National Insurance records, crime and debt records; and by how those statistics about you are presented and interpreted by others. You may be at college, for instance, only because somebody argued a case for increasing student numbers with the result that your place was funded. Decisions about whether a bank gives mortgages, or whether the government builds a million new homes, are always made with reference to statistics. If you rent from a council or a housing association, decisions about how many houses are provided in your area, and who can live in them, are determined by the interpretation of statistics. You need ‘points’ to climb the housing waiting list. The housing points you get depend on statistics about you and others. Your credit rating for loans depends on statistical models. Often they use statistics about yourself which other people have provided. The decisions that were taken to introduce statistics such as these were themselves based on statistical assessments.

Statistics and politics

Social statistics in their broadest sense were first collected when states needed to raise armies and taxes from people’s work and wealth. The Domesday Book was the first national social survey in England. It was compiled in the eleventh century by the Normans to assess the land that they had conquered, and its owners. War and international commerce became the guiding force behind statistics. Trade in alcohol was measured, if not more accurately than the population, then at least with more effort, in order to monitor the collection of duty. British censuses of Ireland in the nineteenth century provided better counts of pigs, cows and horses than of people during the famine years. The national censuses of Britain itself began only in 1801 when manufacturing and labour concentrated in towns. Only in the past century have national statistics begun to focus on individuals and families, and statisticians have started to produce what would be recognisable now as social statistics: Indicators of social trends are a recent invention; they arose in
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many developed countries in the 1970s, partly as a reaction to the inadequacy of
economic statistics to acknowledge social needs. Even more recently, concern at
environmental hazards has demanded the integration of economic and social
statistics. Indicators of sustainability are now on the agenda. But the agenda is
changing rapidly. This book is part of that process of revising our priorities,
methods, assumptions and measures.

Like the statistics themselves, methods of statistics have also always been polit
ical and are also changing quickly. In this book Donald MacKenzie (Chapter 7)
describes how the academic discipline itself, barely a hundred years old, was
founded on studies which assumed that people's intelligence could be related to
measurements of parts of their bodies. This kind of politics can be difficult to take
part in as it requires numeracy to participate, as Jeff Evans and Ivan Rappaport
show in Chapter 9. But you should not be intimidated, as only a basic level of
numeracy is really required, not the mathematical acrobatics so often presented to
mystify the uninitiated.

To understand percentages, tables and the arguments requires a feel for num
bers. Many people do not think they have this feel and so do not take part in this
politics. They simply accept every statistic they hear, or accept what they have
heard many times. Other people are inclined to dismiss all statistics and are
excluded from this politics. The technical jargon used is a foreign language to
most people, often to confuse more than to clarify, just as Latin was used in reli
gious services in the past and the colonial power's language was used to conduct
politics in former colonies. Technical language often mystifies and curtails debate,
restricting it to those who claim to be fluent in the jargon.

This book provides a wide range of examples of how statistics are used in soci
ety. It aims to describe the nature of the major government surveys and censuses,
and give examples of the way in which social statistics are used to make decisions
in our lives, to demystify the use of statistics, illustrating how misleading statisti
can be identified and challenged. By doing this the book investigates applica
tions of statistics in society and aspects of the production of statistics and statisti
cal methods. We hope this will allow you to judge the real meaning and reliabil
ity of everyday statistics in society as well as statistics used in social science
research.

We do not believe that there is a conspiracy to confuse, but this is what social
statistics often do unnecessarily. They are used selectively to support the policies
and positions of those in power. The research staff and statisticians who collect
and present these statistics often contribute to the confusion by claiming statisti
cal correctness without justifying their claims in a way that can be understood
by people who may be critical of the results. As we suggested above, you do not
have to be exceptionally numerate to counter this power. What is useful is some
scepticism, and the willingness to ask 'why?'

The book is divided into eight parts to bring together chapters with a common
theme. Because the same issues crop up so often, there are many connections
between the various chapters, which we have tried to illustrate through cross
referencing. The index at the end of the book is also a useful route to finding
where a problem may have been encountered in the different fields of social
statistics. The book starts by looking at Collecting Statistics; the censuses, sur
veys, data providers and funders who determine what official statistics are avail
able. The Models and Theories behind much of social statistics are then described,
including examples of how research does not have to rely on official social statistics or on statistics at all. The third part of the book shows how Classifying People is problematic. Examples are taken from the statistics concerning pensioners, gender, ethnicity, religion and migration among other topics. The next five parts of the book each bring together chapters which address contemporary problems in some of the traditional fields of social statistics: Counting Poverty, Valuing Health, Assessing Education, Measuring Employment, and Economics and Politics. The themes that crop up in all the parts of the book are then brought together in the final chapter.

The Radical Statistics group campaigns for better statistics and for a better understanding of statistics. We still do not have the kind of statistics we need to understand and improve life. For example, in Britain:

- There are few statistics on gender, and children are generally treated as properties of their households. This is a relic of an era when women and children were ‘goods and chattels’.
- Most of the work done by people at home, including looking after children, shopping and cooking, is not measured by either economic or social statistics. Only paid work is measured in the System of National Accounts and until recently we had no official time budget statistics.
- Unemployment statistics do not measure the number of people who want jobs.
- Health statistics do not measure health or care needs.
- Housing statistics do not measure homelessness or housing need.
- Poverty statistics do not measure the number of poor people.
- Economic and transport statistics do not measure the environmental and social costs of new roads or industrial activity.
- Until the 1990s, one of the few sources of statistics on ‘ethnic minorities’ were the ‘mugging’ reports of the Metropolitan Police, but there were almost no statistics on racially motivated assault.

Social statistics are mainly made available through computer databases (although most people have access only to the published summaries of a few of these). The vast majority can be used only within government. Social scientists with government contracts have access to a few (such as selected tabulations from the national surveys), but the general public, charities, housing associations, public libraries, schools and other groups have a right to see hardly any of these data that are collected about them.

**Origins of this book**

This book builds on the ideas and approaches developed over the past twenty-five years by Radical Statistics and is a successor to the group’s classic, *Demystifying Social Statistics* (Irvine et al., 1979). The authors of the current book have worked on key issues of social statistics. Although the book is not exclusively about England or the countries of the United Kingdom, most of its writers are based there. This means that events in these countries shape what is seen as most vital and provide most of the examples that are given.

*Demystifying Social Statistics* was written during the last year of the 1974–79 Labour government. We were, possibly, fortunate to be writing during the first
year of the 1997 Labour administration. A great deal had happened in between; many things were changing, or at least appeared to be changing, as the book was taking shape. As a result of work done by the group over 18 years ago, to illustrate severe problems with official statistics, a Green Paper on official statistics was published in early 1998 on improving these (Office for National Statistics, 1998). It takes time to change long-held views and establishment opinion, but it is certainly timely now to review the role of statistics across the range of social policy.

We are grateful to many people in helping us produce this book as speedily as possible. First, we thank the members of Radical Statistics who sanctioned its production and encouraged us throughout. Second, we are indebted to all the authors for their enthusiasm, speed and tolerance with the project, our deadlines and our comments and criticisms. Third, we are grateful to the publisher’s editor and assistant, Nicki Dennis and Marjorie Durham; without their efficiency and understanding of the project the book would have been a huge burden. Alison Macfarlane and David Gordon kindly agreed to write the book’s preface on behalf of the group and have helped immensely in commenting on chapters. Finally, we should thank Tim Hunkin, who is responsible for the cartoons illustrating each section of this book, which first appeared in Radical Statistics.

This book has been a collaborative effort, allowing us to record, reflect on and revise our understanding of statistics in society at the end of the twentieth century. We very much hope that you find it both entertaining and useful. Moreover, we hope to encourage you to join in the effort to improve on the creation, interpretation and presentation of statistics in society.
PART I

Collecting Statistics

'I know the census is supposed to be completely secret, but I am surprised you've only got one toilet in that big house of yours.'

Source: Evening Standard, 24 April 1991