

Doing statistics better

The Art of Statistics

David Spiegelhalter
Pelican Books



It's fair to say that most of us probably wouldn't rank statistics as the most exciting part of our training. But statistics underpins much of the research that makes up psychological science – and weak statistics means weak research. We have seen the consequences of this in the recent and ongoing reproducibility debate, within psychology and beyond.

How can we do better? Not least by having a better understanding of what we can do with statistics, and why we might want to use them. This is the starting point for *The Art of Statistics*, using real-life examples – Could Harold Shipman have been caught earlier? Who was the luckiest passenger on the Titanic? How many trees are there on the planet? – to bring to life the power of numbers to provide deeper insights that help us to understand the world.

The passion that David Spiegelhalter – Winton Professor for the Public Understanding of Risk at the University of Cambridge – has for his subject is clear in this delightfully light-hearted overview of the basics of how and why to use statistics. It is very much written for a general audience, but will be valuable to students, researchers and clinicians in particular, who might have some training in statistics but would still learn much from this book.

Part of the reason for our poor understanding of statistics is that it can be complex. But Spiegelhalter's knack for explaining difficult concepts clearly and simply means that those who are simply interested in having a better understanding of why statistics matter will be able to enjoy the book (one chapter is flagged as somewhat

more technical). But those who are interested in delving deeper can access more technical material held in reserve – not critical to enjoying the book, but adding another dimension for those who want it.

We are introduced to pretty much all of the major statistical concepts, gradually and in a logical order. We move seamlessly from simple approaches to visualising numbers, to statistical inference and Bayesian methods. A core theme is that part of the reason many of us don't enjoy statistics is simply because it is not taught well – we plunge too quickly into complex subjects like probability, without a good understanding of the basics. The order of chapter topics reflects how we might do better, and serves as a template for statistics syllabus for undergraduates.

Towards the end the reproducibility debate is discussed, with a focus on how we can do better – new methods and approaches that may serve to improve the quality of the work we do, as well as the reporting of it. This, together with a discussion of the historical debates between the founding fathers of modern statistics – Egon Pearson, Jerzy Neyman and, of course, Ronald Fisher – emphasises that statistics is a living, contested discipline.

Statistics can lead us astray if used badly, but used properly can help us answer questions about the world that we could not answer otherwise. This book will help those who read it – from lay person to academic – to do the latter. It deserves to be required reading for all psychologists.

Reviewed by Marcus Munafò, University of Bristol

De-medicalising mental illness

This groundbreaking text suggests that we should radically rethink and challenge the culture of psychiatric diagnosis. It approaches the topic from a range of perspectives including chapters from counsellors, clinical psychologists, survivors, activists and academics. The book builds on the work of the 'Drop the Disorder' events and social media groups, which host critical discussion around the biomedical model of mental health.

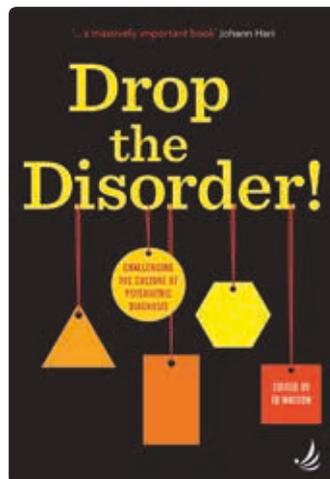
An overarching theme of the book is the proposal that we should move away from asking the question, 'what is wrong with you?' to asking, 'what happened to you?' This moves the lens from pathology and symptoms towards trauma and adversity, focusing on how our experiences shape our thoughts and behaviour. The notion that we all experience distress on a spectrum shifts the power away from a 'them and us' divisive concept (where one in four experience mental health difficulties) towards a four in four, inclusive 'only us' concept. The authors say we should listen and bear witness to people's stories, finding meaning which can often be obscured by diagnostic labels.

Of course, some people do find their diagnosis helpful, feeling that

Drop the Disorder: Challenging the Culture of Psychiatric Diagnosis

Jo Watson (ed)
PCCS Books. £18.00

without it their distress would not be perceived as validated or real. The authors acknowledge that distress is a very real experience and argue that contextualising it in life stories and finding meaning can actually validate it further. The book makes it clear that people should be given an informed choice



in accepting their diagnosis and how their distress is conceptualised. The authors understand that very few people could actually 'give up' their diagnosis due to the way mental health and welfare services are set up: a diagnosis allows access to certain spaces that offer help.

It would require significant systemic change to de-medicalise mental 'illness' but the authors suggest three steps that individuals can take to help reduce the use of biomedical language: 1) use everyday words, 2) emphasise the context of 'symptoms' and 3) use speech marks around diagnostic language. They suggest that these seemingly small acts can build up to collective action for radical change.

This unique contribution to the psychology literature remains accessible through compelling narratives, poetry and artwork. This is not just a book; it is a call to action to advocate for a paradigm shift in modern mental health care. It offers an alternative framework for understanding distress and promotes hope for recovery.

Reviewed by Rebecca Regler,
MSc student in Mental Health
Recovery and Social Inclusion,
University of Hertfordshire

A life's journey

This particular happiness

Jackie Shannon Hollis
Forest Avenue
Press

Jackie Shannon Hollis was raised in Oregon with the expectation that one day she would have children. After a few unsuccessful relationships she met and married Bill who did not want children. *This Particular Happiness* tells the story of how Jackie reconciles herself to this situation.

I was raised in a small, working class town in Northern England. I had dreamt of motherhood until my 30s when a cancer diagnosis ended those dreams. I remember my mum saying, 'you'll always be a mother to someone' and curiously I found that fulfilment supporting others through their cancer journey. It was through that experience I developed the confidence in my innate skills to apply them as an Executive Coach and develop my knowledge of, and interest in psychology.



Still, I was initially drawn to this book as a story of childlessness. I thought it would give me the silver bullet to forget that particular void and find happiness in spite of it. Rather I found a beautiful story, written in a clear and matter of fact way, of a life's journey; told with the sort of insight you might expect from someone who works as a counsellor (as Jackie did). A life with trauma, expectation, disappointment, joy, connection, pain, love, loss and acceptance. A life all at once different to mine and yet with the same desires and disappointments. Within this deeply intimate exploration Jackie shares great insight and teachings in how to find happiness. A beautiful lesson for anyone and for all time.

Reviewed by Jean Ellis-Parr, Business and
Executive Coach and Transformation Leader in
NHS

Raising body positive girls

Charlotte Markey on writing 'The Body Image Book for Girls'

People are often surprised to learn that my latest book is a book about body image for pre-teen girls. Academics don't typically write for general audiences, and are even less likely to write for young audiences. But after studying girls' body image for most of my adult life, it felt like it was time to bring evidence-based information directly to girls. After all, there are books about puberty and even sex aimed at young readers. Why not a comprehensive book about body image?

As a scientist, researcher, and psychologist I have not received formal training in how to write a book for girls, so I asked my colleagues, friends and relatives to read

drafts. I also interviewed, ran focus groups, and talked with pre-teen girls about the book's topics every chance I got. What surprised me as I worked on *The Body Image Book for Girls: Love Yourself and Grow Up Fearless* was the number of adults who reported learning valuable lessons from the book, lessons that they felt would serve both them and the girls in their lives.

When you spend years immersed in a project,

it can be hard to summarise the result; it feels a bit like having to identify your favourite child. But below are some lessons derived from the book that may aid adults and help them to encourage body positivity in the girls in their lives.

Talk with your girls

Most of us adults didn't learn how to have adaptive conversations about our bodies while we were growing up. There aren't a lot of models for healthy conversations either. However, we've all engaged in unhealthy conversations about 'how much weight we gained over the holidays' or 'how fat we feel' or 'how we need to lose weight for that upcoming wedding'. Perhaps the first thing we need to do is stop making these maladaptive comments, for our own sake and our girls', and start being a bit more positive. Although 'body talk' is often a source of bonding among female friends, it's been shown to ultimately bring people down and serve no positive purpose.

Thinking and talking about our bodies in terms of what they do instead of merely how they look has been

shown to leave us feeling more satisfied with our bodies. In fact, in research that directed participants to either think about their bodies' functionality or their bodies' appearance, a focus on functionality led to considerations of physical resilience, meaningful activities, and enjoyable experiences. In contrast, focusing on physical appearance led people to think of their bodies as a 'project' that required work and to make unfavorable comparisons between their own bodies and others.

Help girls question beauty ideals

Where do beauty ideals (and beauty products, plans, and potions intended to help us achieve these ideals) come from? The fact that these ideals change across time and location indicates that they are primarily socially constructed. In other words, there is no imperative to adopt them and there is good reason to teach girls to question beauty ideals.

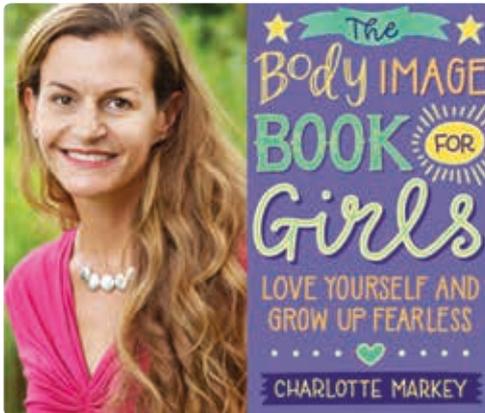
Attending to our physical appearances is not inherently unhealthy or problematic; in many cases, these are socially accepted hygiene practices. For example, washing our hair may be viewed as an adaptive appearance investment. However, the amount of time that women spend on their appearance – nearly an average of an hour per day or two weeks per year – may hinder them in achieving other goals. Further, some beauty ideals may sanction oppressive behaviors, leaving girls and women wearing uncomfortable clothes and shoes and afraid to participate in activities that may negatively impact their appearance. Ultimately, we want to teach girls that they are so much more than how they look.

Support girls' development of a healthy relationship with food

So much of how we feel about our bodies is derived from what we put into them. Our culture teaches us to experience guilt if we indulge in fried foods or sweet treats. We tend to feel virtuous when we eat salad or drink kale smoothies. However, it doesn't have to be this way.

There are benefits to developing a less emotional relationship with food. In fact, both emotional eating and restrained eating (i.e. trying not to eat certain foods) are associated with higher body weights and poorer psychological health than is intuitive eating. Intuitive eaters attend to their bodies' hunger and satiety cues and refrain from labeling foods as 'good' and 'bad'. They avoid restrictive eating practices (which typically lead to overeating) and don't devote unnecessary mental space to food choices.

We want our girls to not only enjoy food, but to nourish



their mental and physical growth by engaging in healthy eating. We don't want this to feel oppressive; instead, we want girls to view eating well as a form of self-care.

Remind girls to lift each other up

So many of the girls that I've talked with in writing *The Body Image Book for Girls* wanted to talk about friendships and the social hierarchies in their schools. Not surprisingly, there was some consensus that pretty, slender girls are more popular. There are also heartbreaking stories of girls feeling bullied about their weight. What's especially unfortunate is that this bullying sometimes comes with the pretense that it is intended to be 'helpful'.

There is no research that I'm aware of to suggest that bullying, teasing, or shaming another person is conducive to positive behavior changes on their part. What does result can be life-long struggles with self-esteem, depression and disordered eating. What we want our girls to understand is that it is essential that they develop self-compassion and compassion for others. In treating themselves and each other well, they will be more apt to adopt habits that sustain their mental and physical health.

Set a good example

Ultimately, although our girls may not appear to listen to anything we say, they see us. Whatever the role you play in girls' lives – as a parent, teacher, aunt, coach – should serve as motivation to improve your own body image and, indirectly, girls' body images. This isn't necessarily easy. In fact, many days I feel as though I'm still just 'faking it' with the hopes of one day 'making it'.

When we adults keep the conversation about our bodies positive and focused on functionality, challenge beauty ideals, manifest a healthy relationship with food, and support one another, we are showing girls that they can do all of this, too.

Charlotte H. Markey, Ph.D. is Professor of Psychology at Health Sciences Center, Rutgers University in Camden

Find more online: Including Hayley Gains' interview with John Callaghan about his book *The Girl with the Zipped Up Lips*, and Lucy Maddox on writing collaboratively for her new book *What is mental health? Where does it come from? And other big questions* via thepsychologist.bps.org.uk

'The best poem a country has ever written'

World Poetry Day in March saw the publication of *These Are The Hands: Poems From the Heart of the NHS*. The book 'offers a unique insight into the real experiences of the people at the heart of the NHS – from the student nurse at the start of his career to the heart surgeon on the eve of her retirement'. Amongst the contributors is British Psychological Society member and Consultant Clinical Psychologist Dr Khadija Rouf.

All proceeds from the book will go to NHS Charities Together, which supports over 135 official NHS Charities raising money for NHS hospitals, ambulance services, community and mental health services across the UK. The editors are Deborah Alma, the 'emergency poet' ('the world's first and only mobile poetic first aid service') who teaches Creative Writing at Keele University where she is an Honorary Research Fellow; and Dr Katie Amiel, a GP working in Hackney who is a member of the Royal College of General Practitioners' (RCGP)

Wellbeing Committee, and a trained teacher of MBCT (Mindfulness-Based Cognitive Therapy). Leading UK poets have donated poems, including Michael Rosen, Roger McGough, Lemn Sissay, Sabrina Mahfouz, and Wendy Cope.

Dr Amiel said: 'This is the first poetry anthology to give a voice to NHS staff at a critically important time for the NHS and its future.' Author Stephen Fry commented: 'A wonderful anthology to celebrate the NHS, which is itself the best poem a country has ever written.' Palliative care physician Dr Kathryn Mannix added: 'It is utterly humbling to experience our world of healthcare through the eyes and ears of poet-practitioners. Some are exhausted and others exhilarated; some reflect the very edges of life, both its beginning and its end; some are wide-eyed with hope and others hold us in the broad sweep of their wisdom, all joining hands to create a



bridge of caring... I particularly relish the including of poems from clerical, housekeeping and other oft-unsung colleagues who keep the show on the road every day and night... This is a five-senses celebration of our workforce, our ideals and our sense of pride in being people who provide a health service for the very people we come from. Of us, by us and for us: our NHS.'

Psychologist Dr Rouf makes two contributions to the anthology, and we reprint one of them – Contact II – on our website. She said: 'I am truly honoured and delighted to be included in this collection. Poetry humanises us, and illuminates spaces that are often missed or forgotten about. It can be healing.'

Find much more for World Poetry Day at <https://thepsychologist.bps.org.uk/national-poetry-day> – including the winners of our annual poetry competition.

These Are The Hands: Poems From the Heart of the NHS
Deborah Alma & Dr Katie Amiel
Fair Acre Press