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# Statistics Hacks: Tips Tools for Measuring the World and Beating the Odds

*Bruce Frey*

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## STATISTICS HACKS

*Tips & Tools for Measuring the World  
and Beating the Odds*



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**Bruce Frey : Statistics Hacks: Tips Tools for Measuring the World and Beating the Odds** before purchasing it in order to gage whether or not it would be worth my time, and all praised Statistics Hacks: Tips Tools for Measuring the World and Beating the Odds:

12 of 13 people found the following review helpful. Neat concept spoiled by carelessness  
By David J. Aldous  
75 four-page sections on topics in statistics and probability, some textbook and some "popular science" and some nicely different. Brisk user-friendly style. Provides a useful view of a big picture of statistics for someone who's taken a dull statistics course in college. But this potentially great book is spoiled by too many misleading statements (almost everything we measure in the natural world [follows] the normal curve (#25); the more instances you can get [in a multiple regression analysis] the more accurate your eventual predictions will be (#55)). Wikipedia entries on the topics will probably be better written and more accurate.  
5 of 5 people found the following review helpful. An entertaining and useful book  
By L. F. Smith  
It's not very easy to use the words "entertaining" and "statistics" in the same sentence, but you can if you're talking about this book. Bruce Frey's collection of tips and tools makes the subject interesting, fun-- even funny-- and most importantly, approachable. It's important to understand that this book is not intended to be a statistics textbook, review, or reference manual. Rather, it is a collection of bite-sized hacks that relate statistical principles to the "real" world. Every hack is illustrated with some example, including many relating to gambling, games, and bar bets. Which properties should you buy in Monopoly? The answer is here, along with an explanation. How many people have to be in a room with you before you can be pretty sure that at least one of them shares your birthday? That's here, too, along with the explanation. Is there a way to predict the winner of a baseball game by listening to about twenty minutes of the middle of it? Yep. If you're looking for an authoritative, comprehensive, serious statistics text, keep shopping. If you're looking for a light but nonetheless very useful explanation/review of how and why statistics work in a real-world context, buy this book. I'm glad I bought it, and I'd do it again. I got more than enough entertainment and utility out of it to justify the expense.  
34 of 35 people found the following review helpful. Interesting Applications of Statistics  
By Warren Kelly  
In a previous academic life, I was a marketing major. One of the things marketers have to learn is statistics - the art/science of describing the world in terms of numbers and proportions. So I have a background in statistics, however basic, and that helped me in reading this book. The first two sections in Statistics Hacks aren't really hacks; they serve as a basic statistics textbook. If your eyes glaze over at terms like "standard deviation," "correlation coefficient," "Z-scores," etc., you will have a tough time getting through the first 100 pages or so. But don't skip them - they are the foundation that the rest of the book is built on. You won't understand why a lot of the hacks later on in the book work unless you read the first 100 pages, and understanding why is a key to hacking anything, whether it's a computer network, an RC car, or the laws of mathematics and probability. Even if you've got a rudimentary understanding of probability, you will be well-advised to read the first hundred pages, as a refresher course if nothing else. Chapter 3 is where the application begins. Frey teaches us how to understand percentile scores in standardized tests, and how to use a "normal curve" (think bell curve) to predict the future. The normal curve is vital to the rest of the book, so pay close attention to Hack # 25. Frey also teaches us how to establish the reliability of a certain test, how to establish its validity, and what the difference actually is between reliable and valid. We get a hint of the goodies to come in Hack # 33 (Predicting the Length of a Lifetime) and # 34 (Make Wise Medical Decisions). Chapter 4 and 5 will be the most popular chapters in the book, Beating the Odds and Playing Games. Texas Hold 'Em is covered in Hacks # 36 and 37, but Frey also covers roulette (#39) and blackjack (#40). You can even design your own bar bets using principles of statistics. But I think that the most useful hack in the book is Spotting Fake Data (#64). Frey goes into a lot of detail here, and invokes Benford's law quite a bit, but I think that with the amount of statistics that we're confronted with daily, we need to be able to spot fake data, and be able to show why it's fake. Statistics Hacks is not an easy book to read. As I mentioned, if you've got an aversion to math you might want to skip this one. But statistics aren't that hard to understand, and there is a lot of valuable (and potentially profitable) information in this book. Frey set out to make the concepts behind statistical analysis accessible to the average reader, and for the most part I think he has succeeded. I'll let you know more after I win the lottery (Hack #41).

Want to calculate the probability that an event will happen? Be able to spot fake data? Prove beyond doubt whether one thing causes another? Or learn to be a better gambler? You can do that and much more with 75 practical and fun hacks packed into Statistics Hacks. These cool tips, tricks, and mind-boggling solutions from the world of statistics, measurement, and research methods will not only amaze and entertain you, but will give you an advantage in several real-world situations-including business. This book is ideal for anyone who likes puzzles, brainteasers, games, gambling, magic tricks, and those who want to apply math and science to everyday circumstances. Several hacks in the first chapter alone-such as the "central limit theorem," which allows you to know everything by knowing just a little-serve as sound approaches for marketing and other business objectives. Using the tools of inferential statistics, you can understand the way probability works, discover relationships, predict events with uncanny accuracy, and even make a little money with a well-placed wager here and there. Statistics Hacks presents useful techniques from statistics, educational and psychological measurement, and experimental research to help you solve a variety of problems in business, games, and life. You'll learn how to: Play smart when you play Texas Hold 'Em, blackjack, roulette, dice games, or even the lottery Design your own winnable bar bets to make money and amaze your friends Predict the outcomes of baseball games, know when to "go for two" in football, and anticipate the winners of other sporting

events with surprising accuracyDemystify amazing coincidences and distinguish the truly random from the only seemingly random--even keep your iPod's "random" shuffle honestSpot fraudulent data, detect plagiarism, and break codesHow to isolate the effects of observation on the thing observedWhether you're a statistics enthusiast who does calculations in your sleep or a civilian who is entertained by clever solutions to interesting problems, Statistics Hacks has tools to give you an edge over the world's slim odds.

About the AuthorBruce Frey, Ph.D., is an assistant professor of psychology and research in education at the University of Kansas. Previous books include "Online Auctions! I Didn't Know You Could Do That " published by Sybex and, with Neil Salkind, "eBay Online Auctions: Effective Buying and Selling with eBay" published by Muska Lipman. He is an award-winning teacher of statistics, research design, and measurement. Bruce enjoys movies and collecting comic books, especially those early 1960s DCs with the cool checkered flag pattern. (Note to his tenure committee: In the research field of education, he is also an author of fifty scholarly publications and papers.)