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Editorial

Welcome to the first of what we hope will be regular special issues on statistical and research methods for experimental psychopathology. When thinking about special issues for ***Journal of Experimental Psychopathology*** we were excited by the prospect of coordinating a series around methods. Both of us are active researchers in clinical and experimental psychology but have also dedicated a lot of time and energy to teaching and writing about methods. Consequently we are very aware of how the next generation of researchers and practitioners often struggle to master important research skills. The world of statistics is developing; the advent of computer software that can do increasing complex computations in fractions of seconds means that increasingly complex statistical analyses are available to non-statisticians. The statistical landscape is dynamic, and clinical and experimental researchers and practitioners (at all stages of their career!) need a vehicle to navigate this terrain. We aim to be your dune buggy.

There are several reasons why we believe that these special issues are necessary. First, the things we learned (or are learning) in graduate and postgraduate classes are often very old indeed. Classical tests have been around for decades; for example, least squares regression, chi-square and the *t*-test are over 100 years old, ANOVA is nearing its 90th birthday, and most standard so-called nonparametric tests have long reached retirement age. Many students could come out of the average graduate program believing that nothing had happened in the world of data analysis since the 1940s. This is not so. The last 20-30 years has seen rapid developments including meta-analysis, bootstrapping and computer intensive methods, multilevel models, structural equation modelling and so on. There are many divergent developments in data-analytic methods, and much of the primary literature on them is difficult for non-specialists to understand and evaluate. Thus, clinical researchers need guidance about which developments are of potential relevance to them, and they need self-instructional tutorials that allow them to acquire a basic understanding of techniques that are new to them. For example, in this issue we have introductory tutorials on bootstrapping (**Wright, London & Field**), meta-analysis (**Baldwin & Shadish**), and taxometric analysis (**Ruscio, Ruscio & Carney**). None of these methods are 'new' as such but they are increasingly used in clinical and psychopathology research in recent years.

Second, there is an increasing realization that clinical and experimental psychopathology research faces unique data-analysis challenges that are different from some other areas of psychology. For example, clinical datasets often contain missing data, and research is often conducted across multiple sites. The classic tool, learned in university, for repeated measures data would be MANOVA or repeated-measures ANOVA. This technique might fits the bill for analysing the often complete data sets from cognitive psychology, but has important limitations for data sets with missing values (as is often the case for clinical trial data). As such, clinical and experimental psychopathology researchers need reviews of statistical possibilities that are tailored to their particular needs (unlike the one-size-fits-all type of statistical training typically offered in graduate classes). In this issue, we have a primer on multilevel modelling, a technique better suited than ANOVA to longitudinal data from multiple cites and with missing values (**Field & Wright**), we also look at analysing case-based time series data (**Nash,**

Borckardt, Abbas & Gray), and data from dyads (**Sadler, Ethier & Woody**) which are forms of data prevalent in clinical research.

Finally, there are frequently controversies in the methodological landscape. Often practice that is 'well-established' (and probably taught to many of us) has subsequently been called into question. There is also a frightening array of myths that permeate the minds of researchers and (mis)inform their decision making. (An obvious example is the common misconception that the *F*-test in ANOVA is 'robust'.) Unless we keep informed, we might do things with our data that are, at best, inaccurate and, at worst, completely wrong. Special issues such as these can be a useful way to bring non-specialist audiences up to speed with current debates in the literature. In this issue, we have a review of the practice of using median splits, which are often applied when analysing data from analogue samples (**DeCoster, Gallucci, & Iselin**), and a new perspective on mediation: an old but often misunderstood concept (**Woody**).

We hope to have put together a wide range of non-technical review papers that will benefit clinical and experimental psychopathology researchers. We have gathered some very well known and highly respected methods authors within the world of clinical psychology and the result is, we believe, a fantastic issue. We hope that you agree. Our intention is produce a special issue of ***Journal of Experimental Psychopathology*** dedicated to these sorts of tutorials every two years. We welcome suggestions both for methods that you would like covered and authors to invite to write these tutorials. We would also be like to hear from anyone who feels that they could co-ordinate such a special issue as an editor.

Andy P. Field & Erik Z. Woody

Editors