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Editorial: Journal Copyright Policies

Will G Hopkins, Sport and Recreation, AUT University, Auckland 0627, New Zealand. [Email](#). *Sportscience* 12, 8-9, 2008 (sportsci.org/2008/inbrief.htm#copyright). Reviewer: Garry T Allison, School of Physiotherapy, Curtin University of Technology, Perth, Australia 6845. Published June, 2008. [©2008](#)

Signing over the copyright to publishers of my scientific articles has long been a sore point with me. In [my report](#) of a copyright incident in 2005, I concluded that Human Kinetics had what I thought at the time was the fairest copyright agreement. This year they made it even better, so to celebrate, I have reviewed their agreement and those of most of the other journals we publish in. I'll start with the good then work my way down to the ugly.

In preparing this item I discovered that the honor for the best agreement actually goes to the BMJ Publishing Group, publisher of *British Medical Journal* and *British Journal of Sports Medicine*. Authors of articles in these journals have not had to sign away their copyright since 2000. Link to [BMJ's policy](#) for more.

Human Kinetics' new policy allows authors to put the material up on a website, distribute it to colleagues, and use it in other publications, provided there is explicit acknowledgement of initial appearance in the relevant journal. Apparently you can even make money out of it. See the [copyright form](#) for *International Journal of Sports Physiology and Performance*. A similar form is available for all the other [Human Kinetics journals](#). You should consider one of these journals for your next manuscript.

American Journal of Sports Medicine makes you sign over the copyright unequivocally in its [form](#), but then it allows you "to use all or part of the work in compilations or other publications of the author's own works, and to make copies of all or a part of the work for the author's use for lectures, classroom instruction, or similar uses". That's not too bad. *International*

Journal of Sports Medicine has a similar form (not available on line), except that you have to acknowledge the journal any time you use figures and tables elsewhere. I couldn't access the form for *Journal of Science and Medicine in Sport*, but [a page at Elsevier](#) (the publisher) states that "Papers accepted for publication become the copyright of Sports Medicine Australia. Authors will be asked to sign a transfer of copyright form, on receipt of the accepted manuscript by Elsevier. This enables the publisher to administer copyright on behalf of the authors and the society, while allowing the continued use of the material by the author for scholarly communication." Again, presumably not too bad, depending on what's in the form.

Taylor and Francis, who publish *Journal of Sports Sciences*, *European Journal of Sport Science*, and *Sports Biomechanics*, have a more detailed and restrictive [copyright form](#). You can put a "post-print" version of the manuscript up on a website no less than 12 months after publication. You must also acknowledge the largesse of Taylor and Francis for allowing you to do so, you can't use the publisher's PDF (unless it is within an institutional intranet), and you must not make money out of it. However, you can email the publisher's PDF to colleagues at any time. Springer, the publisher of *European Journal of Applied Physiology*, has a similar 12-month clause in their [form](#), but you can't use Springer's PDF at all. The 12-month clause brings these journals into line with requirements of funding bodies like the NIH, which now require public release of research they have funded no later than 12 months after first

publication in a journal. (Some bodies insist on release after six months.)

The copyright form for journals of the American Physiological Society (*Journal of Applied Physiology*, *American Journals of Physiology*... not available on line) is absolute in the surrender of the copyright to the APS, but it allows you to provide a copy of the manuscript to NIH's repository, PubMed Central, 12 months after publication. APS doesn't seem to mind if you use its PDF for the purpose or for any other purpose after it's in the public domain.

Lippincott, Williams and Wilkins, the publishers of *Medicine and Science in Sports and Exercise* and *Clinical Journal of Sport Medicine* have a similar 12-month policy in respect of post-prints, but you can't reproduce any text, figures, tables, or illustrations in any future work without their written permission (which, apparently, is always granted). There is no statement about distribution of PDFs, but on signing the [copyright form](#), "the authors hereby transfer, assign, and otherwise convey all copyright ownership worldwide, in all languages, and in all forms of media now or hereafter

known, including electronic media such as CD-ROM, Internet, and Intranet, to ACSM". Presumably this statement means you are breaking the law even by sending a colleague a copy of the PDF, unless it was NIH-funded research and more than 12 months after publication.

The [copyright form](#) you sign for *Journal of Strength and Conditioning Research* looks simple and reasonable enough: authors reserve "the right to use all or part of this article in future works of their own", but in signing the form you cede all copyright to the journal. I guess that prevents you from putting an identical PDF up on a website or even sending colleagues a copy. Buried in a [set of forms](#) for *Sports Medicine* is a similar simple form that transfers all your copyrights to Adis Data Information forever.

BMJ has shown that authors can keep their copyright, apparently without any problems for the publisher or the authors. Human Kinetics has all but eliminated copyright transfer. I think it's time all publishers adopted similar policies. Authors, make copyright policy an important consideration when you submit your manuscripts.

Slideshow on Statistical Guidelines

Will G Hopkins, Sport and Recreation, AUT University, Auckland 0627, New Zealand. [Email](#). *Sports Science* 12, 9, 2008 (sportssci.org/2008/inbrief.htm#StatGuide). Reviewer: Alan M Batterham, School of Health and Social Care, University of Teesside, Middlesbrough TS1 3BA, UK. Published June, 2008. [@2008](#)

For the last few years I have been working with several colleagues (Alan Batterham, Steve Marshall, Juri Hanin) on an article summarizing what we consider to be the best ways to analyze and report statistics. Last year Alan submitted a proposal to the American College of Sports Medicine for a colloquium on this topic at the annual meeting, to be presented by him and me. The proposal was accepted, but Steve took

Alan's place when it became apparent that Alan would become a new father during the meeting.

The slideshow Steve and I presented is based on the article. I had hoped to provide a link to the slideshow here now, but one of the authors is concerned that providing such a link could be construed as dual publication by some researchers. So, until the article is in print, you will have to [email me](#) for a copy.

Update: Sample Size

Will G Hopkins, Sport and Recreation, AUT University, Auckland 0627, New Zealand. [Email](#). *Sports Science* 12, 9-10, 2008 (sportssci.org/2008/inbrief.htm#SampleSize). Reviewer: Alan M Batterham, School of Health and Social Care, University of Teesside, Middlesbrough TS1 3BA, UK. Published June, 2008. [@2008](#)

I discovered recently that my new method of sample-size estimation based on acceptable uncertainty (width of the confidence interval) carries with it a risk that the outcome will be "unclear"; that is, you can get a confidence interval that extends into substantially positive and substantially negative values, even though you used the right sample size. I should have realized long ago that such outcomes are possi-

ble, because sampling variation can produce almost any outcome, however rare it might be.

So how rare is an unclear outcome with the right sample size? I had to figure that out using simulation. It turned out to be at most ~10%, which is tolerable, but potential ammunition for those who disapprove of this new method. I therefore did more simulations to see how often you would get an "underpowered" outcome

using the traditional approach to sample-size estimation; that is, you would fail to get statistical significance for an outcome that should have given statistical significance (an effect greater than the critical value). Imagine my relief when I found that this scenario also occurs ~10% of the time. Simulations for my sample-size method based on clinical errors produced a similar result: ~10% of the time you will get an “indecisive” outcome: a chance of harm >0.5% (so you shouldn’t use it) and a chance of benefit >25% (so you should use it). I have updated the [sample-size article](#) accord-

ingly and provided a link to a zip file with the simulations.

Stephen Marshall and I presented a talk on sample-size estimation at this year’s ACSM meeting in Indianapolis. The talk had been organized by Alan Batterham and should have been co-presented by him, but as noted above, his new baby got in the way. The slideshow Steve and I presented now replaces the original slideshow accompanying the [sample-size article](#). Go there for a link to the Powerpoint or PDF version.

Sample-Size Commentary

Alan M Batterham, School of Health and Social Care, University of Teesside, Middlesbrough TS1 3BA, UK. [Email](#). Sportsmedicine 12, 10, 2008 (sportsmedicine.org/2008/inbrief.htm#comment). Published June, 2008. ©2008

Will’s precision-based method of sample size estimation gives the required sample size to define an effect as “clear”; that is, not at once substantially positive and negative. To my knowledge, Will is the first to demonstrate the probability of this pre-specified confidence interval simultaneously covering regions > the smallest worthwhile positive effect and < the smallest worthwhile negative effect. Will posits that this probability (~10%) provides potential ammunition to critics of this approach to sample size planning. The finding that a similar probability exists for returning less than the desired power within a traditional null hypothesis testing framework helps assuage these concerns.

The oft-stated criticism of precision-based sample size estimation methods is that the variability (standard deviation) inputted into the sample size equation *a priori* is only an estimate of the actual variability exhibited in the subsequent study. Therefore, the actual ob-

served confidence interval—calculated from the study data—may be shorter or longer than the target width. The critics hold that, on average, the observed confidence interval would be expected to be wider 50% of the time (e.g., Daly, 2000). The little-understood bottom line, however, is that this wider interval would not lead to an *unclear* outcome 50% of the time; this probability would hold only if the observed effect was always exactly zero (such that the wider confidence interval extended into substantially positive and substantially negative regions). The observed effect, however, is always different from zero, so the true probability of an unclear effect is a tolerable 10% at worst, with small sample sizes and true null effects, as Will has shown via simulation.

Daly LE (2000). Confidence intervals and sample sizes. In: Altman DG, Machin D, Bryant TN, Gardner MJ (editors) *Statistics with Confidence* (2nd ed.). Bristol: BMJ Books, 139-152

Updates: [Writing](#); [Clinical Inferences](#); [Controlled-Trial Spreadsheets](#); [Graphs in Office 2007](#); [Comine/compare Effects](#)

Will G Hopkins, Sport and Recreation, AUT University, Auckland 0627, New Zealand. [Email](#). Sportsmedicine 12, 10-11, 2008 (sportsmedicine.org/2008/inbrief.htm#updates). Published July-Oct, 2008. ©2008

Writing. The slideshows on the scientific writing you need to do before you get your data and after you get your data have been updated. The [writing link](#) in the popular-resources frame on the right takes you to these and other writing resources.

Clinical Inferences. The [classic spreadsheet](#) for converting a p value into confidence limits now does clinical inferences based on the odds ratio for benefit to harm, as explained in [last](#)

[year’s article](#).

Controlled-trial Spreadsheets. All these [spreadsheets](#) had an error in the panels for percent effects. In the outcomes-as-percents panel, the chances for the true value being +ive and –ive were calculated correctly for the default value of the smallest important effect, but not if you changed the value of the smallest effect in that panel. Sorry about that.

Graphs in Office 2007. In my item on

[preparing graphics for publication](#), I explained how to copy graphs from Excel to Powerpoint to clean them up and change their size. There is now a major problem with this approach with Excel and Powerpoint in Office 2007: when you take the graphs apart in Powerpoint, lines turn into thin rectangles, symbols turn into annuli, they all look too thick, and you cannot make them thin enough for publication. I described this problem and its solution in [a message](#) to the [Sports science email list](#). Here is a précis.

The best solution is to go back to the 2003 versions for most graphing. Keep the 2007 versions, for the following two reasons...

First, curves on a graph look smoother with Excel 2007 and keep their shape better when transferred to Powerpoint. Create the curves in Excel 2007, but save the file as a 2003 version (.xls, not .xlsx), close the file, then re-open it with Excel 2003. Now copy the graph and paste special/enhanced metafile into Powerpoint 2003. Ungroup twice and you get the usual fine modifiable lines and symbols. (If you take it into Powerpoint 2007, you will get the corrupted fat lines and symbols.) It's all a bit of a fiddle, but worth it.

Secondly, use Powerpoint 2007 when you want to build complex slides with grouped elements. The advantage of 2007 Powerpoint here is that you can tweak elements of a grouped object without having to ungroup it, which results in loss of all the animation information in the 2003 version. In 2007 you simply click on the grouped object, then click again on the element you want to tweak. Now do what you like with it. When you click off the object it becomes part of the group again. In other respects Powerpoint 2007 is inferior: there are too many bugs with the way the Ctrl, Shift and Alt keys are supposed to work when you manipulate objects, editing points on a curve is a nightmare, and of course you can't find things with the new menus, even after months of practice. For the latter reason I have also reverted to my

fully customized version of Word 2003.

If you can't or won't go back to the 2003 versions, here is another fix for the graphics problem. Make your graphs at ~2.5x the size you want them in the final publication. In general this will be the right size for use on a slide. Choose ~26-pt Arial Narrow for fonts and ~14-pt for the symbols (depending on the shape and density of the symbols). Paste-special the graph into Powerpoint 2007 as an enhanced metafile and ungroup it, move axes and add colors and lettering or whatever for your slideshow. Unfortunately each symbol ends up as two objects—an annulus and a fill—so you may have trouble coloring or moving them. To downsize the figure for publication, get it exactly the way you want it to look in the publication, then select all the elements, cut to the clipboard, paste it back in as an enhanced metafile, then drag one corner to make it the appropriate smaller size. DO NOT UNGROUP: if you do, all the lines and symbols will develop the thickness you can't get rid of. For those journals that want something other than Powerpoint, save as a PDF then convert the PDF to a TIFF or EPS file, as explained in [the item](#) on preparing graphics for publication.

Combine/Compare Effects. In referring people recently to the [article](#) and [spreadsheet](#) on combining and comparing effects, I realized that understanding the difference between a fixed and random effect might help them decide when they can use the spreadsheet. They also need direction on what to do when they can't use it. I have updated the article accordingly. There's a lot of useful stats and important concepts in this article and spreadsheet. Less useful is the panel I have just added for analyzing more than two correlation coefficients, with an explanation in the article as to why you need to evaluate the effect at the value of the reference group(s). I imagine this part of the spreadsheet will get used about once in the next century, but I still enjoyed the challenge of putting it together.