



Editorial

Duties and Responsibilities of Scientists



Two papers in this issue of JSAMS are recommendations from groups of scientists who advise the public (Vella et al.³ on how to reach maximal effects on mental health by physical activity) or the population of performance-oriented athletes (Hughes et al.² on a proper approach to exercising close to bushfires) about issues of current relevance. These scientists come from Australia but their papers target questions of interest beyond the Australian coastline. Well, bushfires (Hughes et al.) might be more prevalent in Australia than in some other countries but, unfortunately, they are observed with increasing frequency in many areas of the world supposedly due to the climate change.

The formulation of position statements like the ones from Vella et al. and Hughes et al. reflect scientific service to the public in the best sense. Relevant questions are either identified by the scientists themselves or brought to their attention by public sources or institutions. After becoming aware of such a question with a need to consult available study results, a group of competent researchers is built by societies like Sports Medicine Australia (SMA) or the Australian Psychological Society (APS) or the Australian Institute of Sport (AIS) and follows established scientific steps to finally arrive at a statement that is as valid as possible. By using these pathways quickly, scientists can really offer an important service to the public or to certain target groups.

However, advice can only be as good as the available scientific evidence at that moment of time. And in most instances, the addressed question is still a matter of ongoing (scientific) debate. This means that scientists who have participated in one or more of such statements will likely continue to do research in this field. They will also be applying for external funding after the statement has been published.

Whilst position statements or recommendations are usually toned down in a manner that advice is given in very neutral language, scientists can also be found in social media and sometimes even have their own channels. It happens that they formulate their view on certain topics quite sharply and sometimes become party in a discussion around an imminent topic or even employ themselves as loudspeakers for a given solution. This is not worrisome in general, of course. Scientists are allowed to have their opinion like anyone else. Also, their use of social media is not restricted in any manner. However, when it is about public money given into scientific projects, e. g. grants from research programmes, some neutrality can be expected from applicants. Otherwise, fear is justified that the scientific approach may be biased.

A good example for this is the debate around head injury management in several sports and heading in football (soccer). With a relevant amount of third party funding being available, public statements are

sometimes used by scientists to position themselves. This may happen because in contrast to public funding structures, private ones might be attracted by such offensive declarations, and the statements can hardly be forbidden. However, public funding organisations should consider excluding scientists from applications who have become party in topics close to the funding theme. It may not be easy to decide how far potential applicants are allowed to go in their public statements but it may be time to start such a definition process. Finally, even private funding organisations will benefit from this because it will increase the quality of the scientific approach.

A completely different topic has been addressed by the authors of our third highlighted paper (Li et al.)¹ who give us insight into the effects of a type of physical activity that stems from China and is obviously different from typical "dynamic" Western sports. Yi Jin Jing (in this case together with other resistance exercises) has been developed to strengthen muscles and relax fascia and consists of twelve single exercises. Within a classic parallel training study design in an appropriate target group, Li et al. investigate its efficacy in improving bone mineral density by means of radiological parameters. The effect becomes particularly visible on the non-dominant side of the body. Although the clinically relevant endpoint is probably the number of fractures, these results are very promising. Only epidemiological studies will be able to address the question if Yi Jin Jing really leads to a reduction in fractures in post-menopausal women. It has to be credited to the authors that they turn our attention towards types of physical activity that may be as effective in health prevention as typical sports but may survive our scientific view which may be sometimes too narrowed.

References

1. Li J. Effect of Yi Jin Jing exercise plus Elastic Band Resistance exercise on overall bone mineral density in postmenopausal women. *Journal of Science and Medicine in Sport* 2023;26(2):87-92.
2. Hughes D. Exercise in bushfire smoke for high performance athletes: an Australian Institute of Sport position statement. *Journal of Science and Medicine in Sport* 2023;26(2):98-108.
3. Vella SA. Optimising the effects of physical activity on mental health and wellbeing: a joint consensus statement from Sports Medicine Australia and the Australian Psychological Society. *Journal of Science and Medicine in Sport* 2023;26(2):132-139.

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