



FROM PAPER TO PODIUM: EVALUATION OF THE TRANSLATIONAL POTENTIAL OF PERFORMANCE NUTRITION RELATED RESEARCH

Sport nutrition is one of the fastest growing disciplines of sport and exercise science. Practitioners often utilize both classic and contemporary literature to help guide their applied practice, ultimately hoping that the research can help to fuel winning performances. Graeme Close, PhD; Andreas Kasper, PhD; and James Morton, PhD from Liverpool John Moores University created a matrix of criteria to critically evaluate performance nutrition research.

	NEGATIVE SCORE: Exercise caution when applying the data into practice		0 SCORE: May be an appropriate study to guide implementation, although some causation is needed	POSITIVE SCORE: An appropriate study to guide practice	
	-2	-1	0	+1	+2
Context	Non-human cells with no exercise condition.	Non-human cells with exercise condition.	Human cells with exercise condition.	Human participants with exercise performance measures.	Human participants with performance measures and evaluation of mechanisms.
Participants	Levels of participants not reported.	Inappropriate training status or age for the context required.	Inappropriate training status (with defined criteria) although in required age group.	Close to relevant training status and age (with defined criteria).	Relevant training status and age (with defined criteria.)
Research Design	No control group. No blinding of intervention. No consideration of sample size.	Control group but no blinding. No consideration of sample size.	Randomized control trial (RCT) with repeated measures or matched groups design. Control group but no blinding. No sample size calculations but similar to previous research.	RCT with repeated measures or matched groups design. Single blind placebo controlled. Sample size calculated.	RCT with repeated measures or matched groups. Double blind placebo controlled. Sample size calculated.
Control	No reference to dietary or exercise controls.	Methods of dietary and exercise control cited (but self-reported) with no supported data.	Methods of dietary and exercise control cited (but self-reported) with supported data.	Dietary provision provided with no supporting data. Exercise control cited. No replication to real-world context.	Dietary provision provided with supporting data. Exercise control cited. Representative of real-world context.
Validity & Reliability	No familiarization trial or reliability data and measurement tool error. Exercise protocol not representative to real-world context.	Familiarization trial. No reliability data or measurement tool error. Exercise protocol not representative to real-world context.	Familiarization trial. Reliability data and measurement tool error. Exercise protocol not representative to real-world context.	Familiarization trial. Reliability data and measurement tool error. Exercise protocol representative but laboratory based.	Familiarization trial. Reliability data and measurement tool error. Exercise protocol representative of real-world.
Data Analytics	Analytics not reported or performed.	Analytics reported but limited to descriptive statistics.	Analytics reported. Appropriate significance or magnitude-based inference (MBI) tests.	Analytics reported. Appropriate significance or MBI tests. Effect sizes included.	Analytics reported. Appropriate significance or MBI tests. Effect sizes included. Presentation of individual responses to treatment intervention.
Application	Outside the budget constraints. Complex to implement. Low chance of compliance.	Could be within budget constraints. Complex to implement. Low chance of compliance.	Within budget constraints. Reasonable to implement. Some chance of compliance.	Cheap to implement. Simple to implement. Good chance of compliance.	Cheap to implement. Extremely simple to implement. No risk of non-compliance.
Risk/ Reward	High risk of anti-doping violation or unsafe / no safety data available. Potential to impair performance through high risk of adverse side effects.	Minimal risk of anti-doping violation but no safety data available. Potential to impair performance through adverse side effects. Optimum dose unknown.	Minimal risk of anti-doping violation. Safety data available. Some potential side effects. Optimal dose suggested but unclear.	Minimal risk of anti-doping violation. Safety data available. Low risk of side effects. Optimal dose suggested but unclear.	Minimal risk of anti-doping violation. Safety data available. Solid evidence of no side effects and optimal dose clear.
Timing	Not age appropriate. Time for dosage not optimal. Time from major complication insufficient.	Age appropriate. Time for dosage not optimal. Time from major competition insufficient.	Age appropriate. Time for dosage not optimal but could be effective. Time from major competition insufficient.	Age appropriate. Time for dosage is not optimal but could be effective. Time from major competition sufficient.	Age appropriate. Time for dosage is considered optimal. Time from major competition sufficient.





REFERENCES

1. Close GL, Kasper AM, and Morton JP. From Paper to Podium: Quantifying the Translational Potential of Performance Nutrition Research. Sports medicine 49(Supply 1) 25-37, 2019.

