

Summary of Skills

- Statistical analyses – Bayesian analysis, prior elicitation, hypothesis testing, effect size calculation, reliability and validity analysis, extended linear models, structural equation modelling, survival analysis, cost-effectiveness modelling.
- Evidence synthesis – Aggregate data meta-analyses, individual participant data meta-analyses, citation analyses, scoping review analyses, risk of bias, Grading of Recommendations, Assessment, Development and Evaluations (GRADE)
- Modelling – Mathematical modelling of training, dynamic systems modelling, Bayesian networks.
- Statistics education – Dissemination of tutorial papers and creation of resources and apps on Bayesian and advanced statistical methods for practitioners and applied researchers.
- Computer Software - R, Python, MATLAB, Maple, Vicon.

External Qualifications

18- Chartered Statistician (CStat): Royal Statistical Society

Formal Education

22 - BA: Religion, Philosophy & Ethics, Open University, Faculty of Science, Engineering and Mathematics.
20-22 Finite element Analysis (Course in MSc Engineering), Open University, Faculty of Science, Engineering and Mathematics.
17-20 Master of Science in Mathematics with Distinction (**MSc**), Open University, Faculty of Science, Engineering and Mathematics. Thesis Title: Use of systems of delay differential equations to model the physical training process.
14-16 Master of Science in Statistics with Distinction (**MSc**), University of Sheffield, School of Mathematics. Thesis Title: Assessment and development of a measurement model for team performance dynamics using NHS England Clinical Team Data.
10-16 Bachelor of Science in Mathematics & Statistics (**BSc**), Open University, Faculty of Science, Engineering and Mathematics.
08-13 Doctor of Philosophy (**PhD**), Robert Gordon University, School of Health Sciences. Thesis Title: A Biomechanical Investigation of Contemporary Powerlifting Training Practices and their Potential Application to Athletic Development
04-05 Master of Science in Statistics with Distinction (**MSc**), University of Edinburgh, Institute for Sport, Physical Education and Health Sciences. Thesis Title: A Systematic Review of Single vs Multiple Sets in Resistance training
99-03 Bachelor of Science in Sports Science (**BSc**), University of Aberdeen, School of Medical Sciences. Thesis Title: A Morphological Comparison of Strength Athletes

Employment

21- Associate Professor Applied Statistics (Robert Gordon University): Roles and Responsibilities:

- Support to School research lead with strategy development
- Human performance research lead
- Line management research fellows
- School Ethics Convener
- Post-graduate Research Supervision
- Interdisciplinary university theme lead (20% of time) Health and Wellbeing

09-21 Lecturer/Researcher (Robert Gordon University): Roles and Responsibilities:

- Post-graduate Research Supervision
- Programme Lead: MSc Performance Analysis
- Honours year tutor: Applied Sport and Exercise Science
- Module leader for Research Methods and Research Project

Current Post-graduate Research Supervision

Current Leon Greig: "Autoregulation in resistance trained populations: An investigation into the efficacy of the framework".
Current James Walker: "Autoregulation of resistance exercise to develop performance of elite soccer players".
Current Andrew Murphy: "Training specificity and autoregulation of speed training for team sport athletes".
Current Stuart Johnston: "The potential application of velocity-based training to autoregulate resistance training".
Current Jonathan MacDonald: "The effects of hand dimensions and environmental restrictions on dexterous performance".
Current Laura Stewart: "The contribution of exercise referral schemes to addressing physical inactivity and the associated health concerns within a Scottish context".
Current Kwadjo Konadu: Thesis title: "A phenomenological study of the experiences, perceptions, and preferences of differentiated primary care services for MSM to improve quality engagement along the HIV care cascade".
Current Islay Grant: "An exploration of injury causes and prevention techniques that can be implemented within gymnastics clubs to reduce injury risk".
Current Fraser Ellison: "Investigation of long-term adherence to non-supervised high intensity interval training".
Current Casey Farrell: "The impact of lung ultrasound on the clinical decision-making of physiotherapists: a mixed method design".
Current Anand Swayamprakashan: Thesis title: "The role of stress eating in obesity".

Selected Research Output 2023

- 1) Callum, K. **Swinton, P.A.** Hall, A. Gorley, T. Leslie, S. (2023). A comparative analysis of high intensity interval and moderate intensity continuous training for the rehabilitation of cardiac failure patients. A systematic review with meta-analysis. *Hear & Lung*. Accepted.
- 2) Cooper, K. ... **Swinton, P.A.** (2023). Exploring the perceptions and experiences of community rehabilitation for Long COVID from the perspectives of Scottish General Practitioners' and people living with Long COVID: A qualitative study. Preprint <https://doi.org/10.1101/2023.11.06.23298096>.
- 3) Cooper, K. ... **Swinton, P.A.** (2023). Exercise therapy for tendinopathy: a mixed-methods evidence synthesis exploring feasibility, acceptability and effectiveness. *Health Technology Assessment*. <https://doi.org/10.3310/TFWS2748>.
- 4) Elliott-Sale KJ, Ackerman KE, Lebrun CM, Minahan C, Sale C, Stellingwerff T, **Swinton PA, Hackney AC.** (2023). Feminae: an international multisite innovative project for female athletes. *BMJ Open Sport & Exercise Medicine*. <https://doi.org/10.1136/bmjsem-2023-001675>
- 5) Civil, R. Dolan, E. **Swinton, P.A.** Santos, L. Varley, I. Atherton, P.J. Elliot-Sale, K.J. Sale, C. (2023). P1NP and Beta-CTX-1 responses to prolonged continuous running bout in health adult males: A systematic review with individual participant data meta-analysis. *Sports Medicine Open*. <https://doi.org/10.1186/s40798-023-00628-x5>.
- 6) Ekkekakis, P. **Swinton, P.A.** Tiller, N.B. (2023). Extraordinary Claims in the Literature on High-Intensity Interval Training (HIIT): Bonafide Scientific Revolution or a Looming Crisis of Replication and Credibility? *Sport Medicine*. <https://doi.org/10.1007/s40279-023-01880-7>.
- 7) Esteves, G.P., **Swinton, P.A.** Sale, C., Roschel, H., Gualano, B. and Dolan, E. (2023). Protein intake is associated with lean mass and femur bone mass in individuals with rheumatic diseases from the NHANES cohort. *Pre-print*. <https://doi.org/10.51224/SRXIV.325>.
- 8) Renwick, J.R., Preobrazenski, N., Giudice, M.D., **Swinton, P.A.** and Gurd, B.J., (2023). Including supramaximal verification reduced uncertainty in VO₂peak response rate. *Applied Physiology, Nutrition, and Metabolism*. <https://doi.org/10.1139/apnm-2023-0137>.
- 9) Carswell AT, O'Leary TJ, **Swinton P.A.** Jackson S, Tang JC, Oliver SJ, Izard RM, Walsh NP, Fraser WD, Greeves JP. (2023). Vitamin D metabolites are associated with musculoskeletal injury in young adults: A prospective cohort study. *Journal of bone and mineral research*. <https://doi.org/10.1002/jbmr.4890>.
- 10) Johnson, K. **Swinton, P.A.** Pavlova, A. Cooper, K. (2023). Patient ratings in exercise therapy for the management of tendinopathy: A systematic review with meta-analysis. *Journal of Physiotherapy*. <https://doi.org/10.1016/j.physio.2023.05.002>.
- 11) **Swinton, P.A.** (2023) Assessing individual response to raining in sport and exercise. *Pre-print*. <https://doi.org/10.51224/SRXIV.288>.
- 12) **Swinton, P.A.** (2023) The influence of baseline capability on intervention effects in strength and conditioning. *Pre-print*. <https://doi.org/10.51224/SRXIV.285>.
- 13) Metcalfe, R.S. **Swinton, P.A.** Mackintosh, K.A. Berg, R.M.G. Shelley, J. Saynor, Z.L. Hudson, J. Duckers, J. Lewis, K. Davies, G.A. McNarry, M.A. (2023). Heterogeneous treatment effects following inspiratory muscle training during recovery from COVID-19. *Medicine and Science in Sports and Exercise*. <https://doi.org/10.1249/MSS.0000000000003207>.
- 14) Schonefeld, B. Zambrano, H.M. Torres, X. Van Hooren, B. Coleman, M. Fisher, J. Oberlin, D. Franchi, M. **Swinton, P.A.** (2023). Myoelectric activity during electromagnetic resistance alone and in combination with variable resistance or eccentric overload. *Scientific Reports*. <https://doi.org/10.1038/s41598-023-35424-w>.
- 15) **Swinton, P.A.** Elliott-Sale, K. Sale, C. (2023). Comparative Analysis of Bone Outcomes Between Quantitative Ultrasound and Dual-Energy X-ray Absorptiometry from the UK Biobank Cohort. *Osteoporosis International*. <https://doi.org/10.1007/s11657-023-01287-x>.
- 16) Burke R Piñero, A. Coleman, M. Mohan, A. Sapuppo, M. Augustin, F. Aragon, F. Candow, D.G. Forbes, S.C. **Swinton, P.A.** Schoenfeld, B.J. (2023). Effects of creatine supplementation combined with resistance training on regional measures of muscle hypertrophy: A systematic review with meta-analysis. *Nutrients*. <https://doi.org/10.3390/nu15092116>.
- 17) **Swinton, P.A.** Shim, J. Pavlova, A.V. Moss, R.A. MacLean, C. Brandie, D. Mitchell, L. Tzortziou Brown, V. Greig, L. Parkinson, E. Morrissey, D. Alexander, L. Cooper, K. (2023). What are small, medium and large effect sizes for exercise treatments of tendinopathy? A systematic review with meta-analysis. *BMJ Open Sport & Exercise Medicine*. <http://dx.doi.org/10.1136/bmjsem-2022-001389>.
- 18) Pavlova, A.V. Shim, J. Moss, R.A. MacLean, C. Brandie, D. Mitchell, L. Tzortziou Brown, V. Greig, L. Parkinson, E. Morrissey, D. Alexander, L. Cooper, K. **Swinton, P.A.** (2023). The effect of dose components on resistance exercise therapies for tendinopathy management: A systematic review and meta-analysis. *British Journal of Sports Medicine*. <http://dx.doi.org/10.1136/bjsports-2022-105754>.
- 19) Gualano, B. Lemes, I.R. da Silva, R.P. Pinto, A.J. Mazzolani, B.C. Smaira, F.I. Siczekowska, S.M. Aikawa, N.E. Pasoto, S.G. Medeiros-Ribeiro, A.C. Saad, C.G.S. Yuk, E.F.N. Silva, C.A. **Swinton, P.A.** Hallal, P.C. Roschel, H. Bonfa, E. (2023). Physical Activity: A Strategy to Improve Antibody Response to a SARS-CoV-2 Vaccine Booster Dose in Autoimmune Rheumatic Disease Patients? *Journal of Physical Activity & Health*. <https://doi.org/10.1123/jpah.2022-0332>.
- 20) Rezende, N.S. Besetti, G.C. de Oliveira, L.F. Mazzolani, C. Smaira, F.I. Dumas, A. **Swinton, P.A.** Saunders, B. Dolan, E. (2023). Dietary β -alanine intake assessed by food records does not associate with muscle carnosine content in healthy, active, omnivorous men and women. *International Journal of Sport Nutrition and Exercise Metabolism*. <https://doi.org/10.1123/ijsnem.2022-0236>.
- 21) Greig, L. Aspe, R.R. Hall, A. Comfort, P. Cooper, K. **Swinton, P.A.** (2023). The predictive validity of individualised load-velocity relationships for predicting 1RM: A systematic review and individual participant data meta-analysis. *Sports Medicine*. <https://doi.org/10.1007/s40279-023-01854-9>.
- 22) Murphy, A. Burgess, K. Hall, A. Aspe, R. **Swinton, P.A.** (2023). The effects of strength and conditioning interventions on sprinting performance in team sport athletes: A systematic review and meta-analysis. *Journal of Strength and Conditioning Research*. <http://dx.doi.org/10.1519/JSC.0000000000004440>.
- 23) **Swinton, P.A.** Shim JSC, PavlovaAV, MacLeanC, BrandieD, Tzortziou Brown V, Morrissey D, Alexander L, Cooper K. (2023). Effect size thresholds to interpret comparisons with exercise interventions for tendinopathy: A systematic review with meta-analysis. *Pre-print*. <https://doi.org/10.51224/SRXIV.308>
- 24) Piñero, A., Burke, R., Augustin, F., Mohan, A.E., Sapuppo, M., Weisenthal, M., Coleman, M., Androulakis-Korakakis, P., Grgic, J., **Swinton, P.A.**, Schoenfeld, B.J. (2023). Throwing cold water on muscle growth: A systematic review with meta-analysis of the effects of post-exercise cold water immersion on resistance training-induced hypertrophy. *Pre-print*. <https://doi.org/10.51224/SRXIV.301>.
- 24) Coleman, M., Burke, R., Fisher, J., Israel, M., Androulakis-Korakakis, P., **Swinton, P.**, Oberlin, D.J., Schoenfeld, B.J. (2023). Gaining more from doing less? The effects of a one-week deload period during regimented resistance training on muscular adaptations. *Pre-print*. <https://doi.org/10.51224/SRXIV.302>.