PROFESSIONAL DOCTORATE PORTFOLIO

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A portfolio submitted in partial fulfilment of the requirements of Liverpool John Moores University for the degree of Professional Doctorate

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Contents

Abstract

This portfolio provides an insight into the development of a trainee sport and exercise psychology practitioner through the Professional Doctorate in Sport and Exercise Psychology 'journey' at Liverpool John Moores University. The portfolio provides evidence, through a combination of consultancy, teaching and research based products and extensive reflection, of how the trainee sport psychology practitioner successfully meets the competencies (professional standards, consultancy, research, and dissemination) of the British Psychological Society (BPS) and Health and Care Professions Council (HCPC) for 'Chartered' and 'Practitioner' Psychologists, and her extensive practitioner development during the programme.

Within the portfolio, the practice log provides a summary of the hours spent by the trainee in learning, implementing, and evaluating key competencies required by sport and exercise psychologists. The trainee's reflective diary highlights the critical moments, events and learning experiences that have been key to their practitioner evolution and their development of a coherent personal and professional identity and practice philosophy. A series of applied case studies (three consultancy and one teaching) provide a thorough account on the trainee's Consultancy process and Teaching and Training style, and offers critically reflective insight into the trainee's approach across the diverse experiences encountered within applied practice settings. This includes work with multiple sport and exercise populations, including gymnastics, CrossFit, archery, football, tennis, e-racing, rugby, and recreational gym athletes).

The portfolio also includes three research products. The systematic review attempts to investigate present gaps in understanding the quality of mindfulness interventions in sport. In contrast, the two empirical papers have a linked exercise psychology focus, and provide a quantitative investigation of the relationship between self-reflection and self-determined physical activity motivation and behaviour, and a qualitative exploration of the lived experience of participants' self-reflective practice in relation to physical activity motivation and behaviour.

Opportunities to disseminate research findings at academic conferences and workshops, professional team meetings, and as a lecturer of sport and exercise psychology have enabled the author to communicate, translate (and better understand) her own positioning as a researcher, and how this reflects the values and beliefs that transfer across the consultancy, research and teaching elements of her professional practice. More broadly, these experiences have contributed to the author's development of a coherent and congruent philosophy of practice, which has evolved over the duration of the doctorate to facilitate and enhance her confidence in delivery across different cultures and contexts.

Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

Acknowledgements

Firstly, I would like to express my honest recognition to all the supervisors involved in this lengthy process, the participants who voluntarily took part in the empirical studies and the clients who agreed for their cases to be used for the purposes of this qualification.

Secondly, I would like to whole-heartedly thank the Malta Sport Scholarship Scheme for trusting my work enough to award me a Scholarship, providing me with financial assistance during my time living away from home and trying to survive with the little income I was making through some casual jobs.

Thirdly, I'd like to show my genuine appreciation for the challenging process that the doctorate provides, as this has given me all the worthy tools needed to enhance my critical thinking skills, my creativity, my patience, and my acceptance towards life adjustments. In fact, these skills were crucial for the unexpected negative events that took place during this process where I had to start my life from scratch following spinal surgery.

Fourthly, to CrossFit Liverpool, who provided me with the space to physically vent out my frustrations in a positive way, while making lifelong amazing friends. Liverpool FC for giving me the opportunity to work with them, get to know some lovely people and enjoy the ecstatic atmosphere at Anfield. TASS for giving the chance to understand what working within a multi-disciplinary team really feels like. Some of my flatmates who made my living space feel homely. My sweet neighbours who, although apart from my primary family, made me feel cared for and provided me with a sense of belonging.

Last but not least, I'd like to express my sincere gratitude to all my family (my dog included), especially my parents, who were by my side through all this and had to endure my whining when I felt I was drowning in the depths of darkness. They provided me with additional financial help when needed and a safety blanket through everything else.

Outputs

Sant, B. Eubank, M. & Nesti, M. (2019). *The effect of mindfulness training on sport injury anxiety during rehabilitation*. Poster presentation at the Division of Sport and Exercise Psychology (DSEP) Conference, Sollihull. 2-3 Dec 2019.

Sant, B. Eubank, M. & Tod, D. (2019). *Is Mindfulness worthy of all the hype? Systematic Review and Mapping*. Poster presentation at the Division of Sport and Exercise Psychology (DSEP) Conference, Sollihull. 2-3 Dec 2019.

Practice Logbook

Please record all your Consultancy, Research, Dissemination and Professional Standards (incl. CPD) activity below

<table>
<tr><td colspan="6" align="center">Professional Standards (incl. CPD)</td></tr>
<tr><th>Client details</th><th>Location</th><th>Date(s)</th><th>Nature of the activity</th><th>Contact Hours</th><th>Placement Host details (if applicable)</th></tr>
<tr><td></td><td>Liverpool</td><td>Feb-April 2017</td><td>Business courses on bookkeeping, startup, tax registration, meeting the media</td><td>6 hrs</td><td>Women's Organisation</td></tr>
<tr><td></td><td>Liverpool/Manchester/Birmingham</td><td>Feb – June 2017</td><td>Networking and business cards sharing at competitions such as Rainhill Trials, Body Power etc.</td><td></td><td></td></tr>
<tr><td></td><td>Liverpool</td><td>March-Sep 2017</td><td>Started working as an Associate with Mindfulness Merseyside – didn't work out though</td><td></td><td></td></tr>
<tr><td></td><td>Leicester</td><td>22/2/17</td><td>Supporting Champions Conference</td><td>All Day</td><td></td></tr>
<tr><td></td><td>Liverpool</td><td>1/6/17</td><td>First day as a sport and exercise psychologist – lectures – LJMU</td><td>All Day</td><td></td></tr>
<tr><td></td><td>Liverpool</td><td>1/6/17</td><td>Opened facebook group for all trainees</td><td></td><td></td></tr>
<tr><td></td><td>Liverpool</td><td>2/6/17</td><td>Applied for Malta Sport Scholarship Scheme</td><td></td><td></td></tr>
<tr><td></td><td>Liverpool</td><td>5&6/6/17</td><td>Lecture Days – LJMU</td><td>2 whole days</td><td></td></tr>
</table>

	Liverpool	8/6/17	File sorting and filling in of process forms		
	Manchester	8/6/17	Signed up for a talk on public speaking		
	Liverpool	8/6/17	Supervisor email contact	Evening	
	Liverpool	15/6/17	Lecture Day – LJMU	All day	
	Liverpool	22/6/17	Lecture Day – LJMU	All day	
	Liverpool	24/6/17	Joined facebook group – sport psychs in training for more networking with like-minded people		
	Liverpool	1/7/17	Researching for CPDs in Mindfulness in the UK		
	Liverpool	3/7/17	Contacted Misha Botting (Sport Scotland) for more info on mindfulness in sports – interested in some future collaboration		
	Malta	27/7/17	Sport Scholarship interview		
	Liverpool	8/8/17	Supervisor Meeting	Afternoon	
	Liverpool	9/8/17	Applied for DBS check requested by LJMU		
	Liverpool	10/8/17	Lecture day – LJMU	All day	
	Liverpool	14/8/17	Applied for the BPS DSEP Abstract 5 min challenge		
	Liverpool	17/8/17	Lecture Day – LJMU	All day	
	Liverpool	17/8/17	Practice log and reflective diary update		
	Liverpool	24/8/17	Supervisors Meeting	Afternoon	
	Liverpool	13/9/17	Video Interview for another Maltese Scholarship – Endeavour		
	Liverpool	28/9/17	Lecture Day – LJMU	All day	

	Liverpool	8/10/17	Crossfit Competition – as an athlete	All day	
	Liverpool	18/10/17	Supervisors Meeting	Morning	
	Liverpool	19/10/17	Social Media Workshop	Evening	
	Liverpool	2/11/17	Lecture day – LJMU	All Day	
	Liverpool	2/11/17	Social Media meetup	Evening	
	Liverpool	6/11/17	Got a 1st placement in the Malta Sport Scholarship Scheme		
	Liverpool	12/11/17	Attended Powerlifting Competition – networking + supporting	All Day	
	Liverpool	14/11/17	Crossfit Competition Qualifier – as an athlete	Morning	
	Liverpool	23/11/17	Lecture day – LJMU	All Day	
	Liverpool	7/12/17	Lecture day – LJMU	All Day	
	Liverpool	16/12/17	Won a Crossfit Throwdown	All Day	
	Liverpool	25/1/18	Lecture day – LJMU	All Day	
	Manchester	27/1/18	Crossfit Competition – As an athlete	All Day	
	Liverpool	1/2/18	Supervisors Meeting	Afternoon	
	Liverpool	2/2/18	Student Reps meeting – LJMU	Afternoon	
	Liverpool	11/2/18	Crossfit Competition – came 4th	All Day	
	Liverpool	14/2/18	Supervisor Meeting	Afternoon	
	Liverpool	22/2/18	Lecture Day – LJMU	All Day	
	Liverpool	24/2/18	Crossfit Competition Qualifier – as an athlete	All Day	
	Liverpool	28/2/18	Attended a talk by Kasper Schmeichel on his journey in football at LJMU	Evening	
	Liverpool	3/3/18	Crossfit Competition Qualifier – as an athlete	All Day	

	Liverpool	10/3/18	Crossfit Competition Qualifier – as an athlete	All Day	
	Liverpool	17/3/18	Crossfit Competition Qualifier – as an athlete	Morning	
	Liverpool	24/3/18	Crossfit Competition Qualifier – as an athlete	Morning	
	Liverpool	9/4/18	Randox Mental Health Seminar	All Day	
	Liverpool	19/4/18	Lecture Day – LJMU	All Day	
	Manchester	24-25/4/18	Talented Athlete Lifestyle Support (TALS) Course	2 full days	
	Liverpool	2/5/18	Working with another prof doc student on TALS course tasks	All day	
	Liverpool	8-11/5/18	Finalising all work for TALS course Task 1-3		
	Liverpool	12/5/18	UKAD and Safeguarding Children in Sports qualifications obtained		
	Liverpool	16/5/18	FRDSGC Meeting as a rep	Afternoon	
	Manchester	17-18/5/18	TALS course	2 full days	
	Holland	25/5/18	Talk by Deepak Chopra	Evening	
	Holland	26/5/18	Interviewed Dirk Kuyt on his experience with Sport Psychology in his football career + was invited to his testimonial game	Afternoon + Evening	
	Liverpool	13/6/18	Mindfulness PhD/ProfDoc students and lecturers workshops – LJMU	Afternoon	
	Liverpool	15-19/6/18	Online searches for additional courses to enhance and broaden my intervention in sport psychology knowledge		
	Liverpool	4/7/18	Supervisor Meeting	Afternoon	

	Liverpool	4/7/18	Mindfulness PhD/ProfDoc students and lecturers workshops – LJMU	Afternoon	
	Manchester	15/7/18	Crossfit Competition – as an athlete	All day	
	Liverpool	25/7/18	Mindfulness workshops – LJMU	Afternoon	
	Liverpool	26/7/18 – 5/10/18	TALS course tasks 4-7		
	Liverpool	9/8/18	Supervisor Meeting	Afternoon	
	Liverpool	12/9/18	Mindfulness PhD/ProfDoc students and lecturers workshops – LJMU	Afternoon	
	Liverpool	12/9/18	Supervisor Meeting	Afternoon	
	Liverpool	27/9/18	Lecture Day – LJMU	All Day	
	Liverpool	1/10/18	Research for CPDs		
	Liverpool	2/10/18	Online Networking – Body Building and Lane4		
	Liverpool	17/10/18	FRDSGC Meeting as a rep	Afternoon	
	Liverpool	25/10/18	Supervisors Meeting	Afternoon	
	Liverpool	1/11/18	Seminar on new job roles – Talented Athlete Lifestyle Advisor + Student Advocate at LJMU	All Day	
	Liverpool	15/11/18	Lecture day – LJMU	All Day	
	Liverpool	21/11/18	Supervisor Meeting	Afternoon	
	Liverpool	22/11/18	Other Supervisor Meeting	Afternoon	
	Liverpool	29/11/18	Lectures day – LJMU	All day	
	Liverpool	5/12/18	Mindfulness PhD/ProfDoc students and lecturers workshops – LJMU	Afternoon	
	Liverpool	5/12/18	Resilience in Sport CPD Webinar	Evening	
	Liverpool	6/12/18	Mental Health sport performance LJMU Workshop	All day	

	Liverpool	8/12/18	Mentoring Seminar LJMU	All day	
	Liverpool	18/12/18 – 1/1/19	Keeping up to date by reading new research from 'The Psychologist' and Podcasts while waiting for corrections	All day	
	Liverpool	20/12/18	Updated Gaant Chart		
	Liverpool	28/1/19	Research and planning for CPDs and possible funding	All day	
	Liverpool	30/1/19	FRDSGC Meeting as a rep	Afternoon	
	Liverpool	31/1/19	Lecture Day – LJMU	All Day	
	Liverpool	5/2/19	Revising the QSEP handbook to refresh my memory		
	Liverpool	7/2/19	Applied for PSYPAG bursaries for hopeful CPD funding		
	Liverpool	7/2/19	More research on how to get funding for CPDs (e.g. BPS and other sources)		
	Liverpool	8/2/19	Reading from BPS digest while waiting for ethics form approval		
	Liverpool	15-2-19 – 22-2-19	Email correspondence with people or places (Maltese Sport Parliament Secretary, Erasmus UK, BPS etc.) who can offer funding possibilities for CPDs (ENYSSP, SDT, FEPSAC)		
	Liverpool	20/2/19	Curriculo Career Development Seminar/Course for Dual-Career Athletes – LJMU	All Day	
	Liverpool	21/2/19	Supervisor Meeting	Afternoon	
	Liverpool	23/2/119	Received funds from TASS for 1 conference		
	Sheffield	28/2/19	Mental Health First Aid Course	All day	

	Liverpool	6/3/19	3 minute thesis competition – attended	Evening	
	Liverpool	13/3/19	Mindfulness PhD/ProfDoc students and lecturers workshops – LJMU	Afternoon	
	Liverpool	14/3/19	British Gymnastics Championships with Beth Tweddle (Q+A, Networking, etc.) – organised by LJMU	All Day	
	Liverpool	18/3/19	Emergency first aid course	All Day	
	Liverpool	22-26/3/19	Extra reading from BPS Digest while waiting for ethical approval		
	Liverpool	28/3/19	Lecture Day – LJMU	All Day	
	Liverpool	3/4/19	Mindfulness PhD/ProfDoc students and lecturers workshops – LJMU	Afternoon	
	Liverpool	5/4/19	Reading from 'the psychologist' magazine – while waiting ethical approval	All day	
	Liverpool	6/4/19	Crossfit Competition – as an athlete	All day	
	Liverpool	12-21/4/19	Reading from 'the psychologist' magazines – while waiting questionnaires data collection		
	London	29/4/19	Digital behaviour change workshop	All day	
	Liverpool	30/4/19	Supervisor meeting	Afternoon	
	Liverpool	7/5/19	Other supervisor meeting	Afternoon	
	Birmingham	9/5/19	TASS conference – holistic approach to supporting dual career athletes	All day	
	Liverpool	16/5/19	Webinar on Mindfulness	Evening	

	Liverpool	17/5/19	Watching TED talks	All Day	
	Holland	20-25/5/19	Self-Determination Theory (SDT) Conference	4 whole days	
	Liverpool	6/6/19	TASS Briefing form for SDT Conference Funding sent		
	Liverpool	10/6/19	Supervisors Meeting	Afternoon	
	Liverpool	26-27/6/19	PSYPAG Event + lecture day – LJMU	2 whole days	
	Liverpool	5/7/19	PAD workshop with Dr. David Todd on writing skills	All Day	
	Liverpool	8-14/7/19	Writing log of activity and Reflective diary in the submission format		
	Liverpool	15-28/7/19	Sorting my reflections out and writing them in submission format		
	Liverpool	18/7/19	Webinar "Get Creative! Research with Pictures & Stories"	4-5pm	
	Liverpool	15/8/19	Prof Doc lecture day	11-3pm	
	Malta	29+30/8/19	Attending Sports Medicine Conference		
	Malta	21/9/19	Started working on the meta-reflection project		
	Malta	13/10/19	Contact with the Prime Minister of Malta on updates of how we can collaborate – sport and exercise psychology among Malta Football Association		
	Malta	23/9/19	Sent meta-reflection to supervisor		
	Malta	23 September -19 October	'The psychologist' articles reading		

	Malta	20th Oct 19	Invited and attended the Super League Triathlon taking place in Malta where a lot of networking took place with athletes and Malta Ministers directly related to sport events in Malta		
	Malta	24th Oct onwards (till I receive a reply on my corrections)	Reading 'the Psychologist November version ☺		
	Malta	25th Oct 19	Meeting with a Psychology Professor Prof Gordon Sammut on future collaborations		
	Malta	27/10/19	Dr. Andrew Decelis (Director Institute for Physical Education & Sport at the University of Malta): started working as a Supervisor for BSc students in Sports and Physical Activity + Masters students in Physical Education		
	UK- Solihull	2-3 December 2019	BPS DSEP annual conference		
	Malta	26 March 2020 onwards	Form part of a team in a clinic (Willingness) where case reviews, knowledge sharing, CPDs etc. take place on a weekly basis		
	Malta	2nd April 2020	Prof Doc guest lecturer (zoom) Hayley		
	Malta	16 April 2020	Prof Doc guest lecturer (zoom) – Ex Professional Rugby		

	Malta	23 April 2020	Player and Coach Russel Earnshaw		
	Malta	23 April 2020	Martin Turner – REBT Prof Doc guest lecturer (zoom)		
	Malta	29th April 2020	Motivational Interviewing Webinar zoom		
	Malta	30th April 2020	Viva Survivor Webinar LJMU zoom		
	Malta	14th May 2020	Sport and Empathy Webinar Zoom		
	Malta	19-20th May 2020	TASS Conference		
	Malta	28th May 2020	Prof Doc Zoom Session		
	Malta	1st June 2020	Prof Doc Zoom Session – Lorraine O'Malley MCFC Sport Psych		
	Malta	03rd June 2020	Giving Advice & Feedback: Sport, School and Beyond		
	Malta	6th June 2020	Dr. Mustafa Sarkar Webinar for our Clinic on Resilience during Covid19		
	Malta	6th June 2020	Dr. Daniel Vella Fondacaro – Medical Doctor specialising in Psychiatry – medication knowledge		
	Malta	12th June 2020	PaD meeting LJMU – Dr Laura Thomas and Dr Amy Whitehead		
	Malta	24th June 2020	Supporting Autonomy Webinar Prof Stephen Rollnick		
	Malta	30th June 2020	Dr Paul Kelly Webinar – Intro to pragmatic evaluation health promotion		
	Malta	30th June 2020	BPS Conference		
	Malta	31st June 2020	BPS Conference		

	Malta	2nd July 2020	LJMU Getting Media Savvy Workshop		
	Malta	4th July 2020	Prof Gordon Sammut – Research in house training		
	Malta	14th July 2020	Webinar BPS marketing your sport and exercise psychology		
	Malta	15th July 2020	What makes an effective sport and exercise psychologist		

Please insert additional rows as appropriate

Consultancy

Client details	Location	Date(s)	Nature of the activity	Contact Hours	Placement Host details (if applicable)
	Liverpool	6/6/17	Meeting with Dr. Handley Law – placement possibility		Liverpool Sports Clinic
	Liverpool	8/6/17	Applied for a Performance Psychologist with EIS		EIS
	Liverpool	11-13/6/17	Networking/updating my social media platforms/business card sharing		
	Liverpool	17/6/17	Applied as a Performance Psychologist with 1) EIS and 2) Brighton and Hove Albion		EIS/Brighton and Hove Albion
	Liverpool	23/6/17	Accepted for Liverpool Sports Clinic post – no definite starting date		Liverpool Sports Clinic
	Liverpool	30/6/17	Applied for Mental Skills Coach with Castle Ford Tigers Rugby League Club		Castle Ford Tigers Rugby League Club
	Liverpool	4/7/17	2nd meeting with Dr. Handley Law – agreement to start September onwards		Liverpool Sports Clinic
	Liverpool	8/7/17	Networking with expert people in sales, marketing, and business		
	Liverpool	9/8/17	Contacted by Brighton and Hove Albion FC – Shortlisted but couldn't work out due to commuting issues		Brighton and Hove Albion FC
	Liverpool	4/9/17	Contacted NW BPS Branch for possible placement opportunities		NW BPS Branch

	Liverpool	4/9/17	Applied for Trainee sport psychology coach at the university of Birmingham		University of Birmingham
	Liverpool	4/9/17	Contacted NW Powerlifting, Northernweightlifting and UK North Strongman (sports I practice) for possible placement opportunity		NW Powerlifting, Northernweightlifting and UK North Strongman
	Liverpool	25/9/17	Applied for Sport Psychologist with MCFC		MCFC
	Liverpool	25/9/17	Sorted a meeting with a Sport and Physical Activity Officer at Merseyside Sport – possible collaboration on a Mountain Biking Project		Merseyside Sport
	Liverpool	26/9/17	Interview for a Trainee Sport Psychology Coach at Birmingham Uni		Birmingham University
	Liverpool	7-8/10/17	Started contacting gyms to work as a fitness instructor (previous job I used to work in, in Malta) – hoping for new possibilities coming out of it for a trainee sport psych		Liverpool Gyms
	Liverpool	11/10/17	Applied for a Performance Sport Psychology Practitioner with Sheffield Hallam Uni and as a Lead Psychologist with England Touch Association		Sheffield Hallam Uni/ England Touch Association
	Liverpool	12-15/10/17	Meetings with another Prof Doc student for a possible business collaboration		
	Liverpool	16/10/17	Meeting with Dave McDermott for LJMU TASS work		LJMU TASS

	Liverpool	16/10/17	Meeting with Dr. Martin Eubank and Hannah Clows for gymnastics placement possibility		Liverpool Gymnastics Club
	Liverpool	19/10/17	Meeting with Natasha Jones for more info on LJMU TASS work placement		LJMU TASS
	Wigan	20/10/17	Consultancy work	1 hour	
	Liverpool	9/11/17	Consultancy work	1 hour	
	Wigan	10/11/17	Consultancy work	1 hour	
	Liverpool	13/11/17	Contact with Maltese high authority people – future collaborations		
	Liverpool	15/11/17	Received negative replies from EIS Skills 4 performance 2018 and for the England Touch role – informed me of new assistant roles coming up though		EIS/England Touch Association
	Liverpool	17/11/17	Consultancy work	1 hour	
	Liverpool	22/11/17	Consultancy work	1 hour	
	Malta	30/11/17	Meeting with Parliament Secretary for Sport – possible future collaborations		
	Wigan	20/12/17	Consultancy work	1 hour	
	Liverpool	23/12/17	Offered free 30 min online chat psychological sessions for people in need during Christmas – 2 people contacted me through it	1 hour	
	Liverpool	3/1/18	Consultancy work	1 hour	
	Wigan	11/1/18	Consultancy work	1 hour	
	Liverpool	12/1/18	Consultancy work	1 hour	
	Liverpool	25/1/18	Consultancy work	1 hour	
	Liverpool	26/1/18	Consultancy work	1 hour	

	Liverpool	1/2/18	Consultancy work	1 hour	
	Wigan	2/2/18	Consultancy work	1 hour	
	Liverpool	7/2/18	Meeting for possibility of placement with E-racing at LJMU	1 hour	
	Liverpool	8/2/18	Consultancy work	1 hour	
	Liverpool	13/2/18	Networking with Craig Williams from TASS and Barry Drust for placement possibilities		
	Liverpool	2/3/18	Consultancy work	2 hours	
	Liverpool	9/3/18	Consultancy work	2 hours	
	Liverpool	15/3/18	Consultancy work	2 hours	
	Wigan	30/3/18	Consultancy work	1 hour	
	Liverpool	2/4/18	Applied for a freelance role as a sports psychologist		Sheffield Sports Medicine
	Liverpool	31/5/18	Meeting with another prof doc student for best intervention on a project we were working on together with LJMU E-Racing	1 hour	LJMU E-Racing
	Liverpool	4/6/18	Meeting with LJMU E-Racing team for a simulation demonstration	3 hours	LJMU E-Racing
	Malta	1/7/18	Meeting with the director for international academy of football in Malta for collaborations when I move back	1.5 hours	Malta international academy of football
	Liverpool	1/8/18	Trampoline placement meeting		Liverpool Trampoline Academy
	Liverpool	8/8/18	Interview preparation for a sport psychologist		PowerChair Football – FA
	Liverpool	16/8/18	TALS intervention 1 tasks 4 and 5	1.5 hours	

	Liverpool	18/8/18	TALS intervention 2 tasks 4 and 5	1.5 hours	
	Liverpool	23/8/18	TALS intervention 3 tasks 4 and 5	1.5 hours	
	Liverpool	24/8/18	TALS intervention 4 tasks 4 and 5	1.5 hours	
	Burton-on-Trent	13/9/18	Interview for Sport Psychologist with PowerChair Football		FA
	Liverpool	14/9/18	LJMU E-Racing and Liverpool Trampoline placements were not working well alongside the Prof Doc anymore		
	Liverpool	28/9/18	Meeting with Dave McDermott on LJMU TASS work		LJMU TASS
	Liverpool	8/10/18	Induction for the LJMU TASS Placement		LJMU TASS
	Liverpool	16/10/18	Meeting with Dave McDermott for LJMU TASS work		LJMU TASS
	Liverpool	18/10/18	Interview with Lane4 for Juniour Consultant role – although had a lot of positive feedback, however, had to be refused due to relocation problem		Lane4
	Liverpool	20/10/18	Revision for the LJMU TASS work official interview		LJMU TASS
	Liverpool	22/10/18	1st LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	30/10/18	Another meeting with Dave McDermott for LJMU TASS work		LJMU TASS
	Liverpool	31/10/18	LJMU TASS consultancy work	All Day	LJMU TASS
	Liverpool	5/11/18	LJMU TASS consultancy work	1hr	LJMU TASS

	Liverpool	7/11/18	LJMU TASS consultancy work	1hr	LJMU TASS
	Liverpool	19/11/18	LJMU TASS consultancy work	1hr	LJMU TASS
	Liverpool	20/11/18	LJMU TASS consultancy work	1hr	LJMU TASS
	Liverpool	21/11/18	Meeting with Dave McDermott for an update on interview regarding TASS work at LJMU		LJMU TASS
	Liverpool	22/11/18	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	29/11/18	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	30/11/18	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	3/12/18	LJMU TASS consultancy work	2 hrs	LJMU TASS
	Liverpool	5/12/18	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	7/12/18	More job applications		
	Liverpool	10/1/19	LJMU TASS consultancy work	1hr	LJMU TASS
	Liverpool	23/1/19	LJMU TASS consultancy work	1hr	LJMU TASS
	Liverpool	25/1/19	LJMU TASS consultancy work	1hr	LJMU TASS
	Liverpool	31/1/19	LJMU TASS consultancy work	1hr	LJMU TASS
	Liverpool	12/2/19	Applied for jobs recommended to us by Dr. Eubank (one of my supervisors) and Dr. Mark Nesti. Also applied for a job from EIS.		Blackburn Rovers, Yorkshire Cricket Club, EIS
	Liverpool	13/2/19	Started Mentoring role with LJMU	1 hr	
	Liverpool	14/2/19	LJMU TASS consultancy work	2 hrs	LJMU TASS
	Liverpool	15/2/19	Job applications – Performance support mentor (EIS), Academy Psychologist (Blackburn Rovers), and Performance Psychology Internship (EIS)		EIS/ Blackburn Rovers
	Liverpool	22/2/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	5/3/19	Interview with Dr. Eubank and Dr. Nesti for Yorkshire Cricket Club (YCC) vacancy – chosen		

			but had to refuse due to the long commuting time		
	Liverpool	7/3/19	Shortlisted for the YCC role but had to refuse due to long time commuting, voluntary role + no expenses for travelling paid		Yorkshire Cricket Club
	Liverpool	7/3/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	8/3/19	Consultancy work	1.5 hrs	
	Liverpool	11/3/19	Creating fitness programming once again		
	Liverpool	13/3/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	19/3/19	TASS Stakeholders meeting	1.5 hrs	
	Liverpool	20/3/19	LJMU Mentoring	1 hr	
	Wirral	3/4/19	Mentoring	1 hr	
	Liverpool	4/4/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	18/4/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Wirral	1/5/19	Mentoring	1 hr	
	Liverpool	1/5/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	2/5/19	Job Applications – Research Associate at University of Leeds, Sport and Exercise Pschologist at TheHRLink, University Sport Scholarship Coordinator (PTHP) at University of Gloucestershire (the latter one were really interested but once again had to refuse as the commuting was not going to be feasible to merge with doctorate)		University of Leeds, TheHRLink, University of Gloucestershire
	Liverpool	8/5/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	30/5/19	LJMU TASS consultancy work	1 hr	LJMU TASS

	Liverpool	30/5/19	Meeting with Dave McDermott (Lead for TASS work) for update	1 hr	LJMU TASS
	Liverpool	3/6/19	Interview – Specialist Mentor		Keyfort Group Ltd.
	Malta	19/6/19	Meeting with Parliament Secretary for Sports in Malta for possible collaborations		
	Liverpool	11/7/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	15/7/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	25/7/19	LJMU TASS consultancy work	1 hr	LJMU TASS
	Liverpool	04/08/19	Signed up for 1st bodybuilding competition in Italy next year (cancelled)		
	Liverpool	12/8/19	Been contacted by the chairperson for Malta Olympic Committee and Medical Director for Malta Football Association to start working as a sport and exercise psychologist with both associations on a long-term bases once I move back		
	Malta	16/9/19	Meeting with a Director of a Psychology Clinic to start seeing clients at her clinic in St. Thomas Hospital Malta		
	Malta	19/9/19	Meeting with an owner of 3 gyms in Malta on starting an institute in relation to creating top trainers – sport psych		
	Malta	21/10/19	Client	1 hour	
	Malta	30/10/19	Client	1 hour	
	Malta	6/11/19	Client	1 hour	
	Malta	13/11/19	Client	1 hour	

	Malta	20/11/19	Client	1 hour	
	Malta	27/11/19	Client	1 hour	
	Malta	Late December/ Early January 2020 onwards	Will start practicing in a private practice mental health clinic twice a week – **postponed this for now**	5-10 hours per week	
	Malta	Feb 12th 2020	Meeting with Willingness Clinic Founder in Malta to start practicing alongside its team – will be starting full time with this Clinic from end of March onwards due to my health condition – this will provide me access to all key roles as the clinic takes care of CPDs for practitioners, dissemination opportunities etc.	1-10 hrs per week as a starters	
	Malta	March 26th 2020 onwards	Started working officially with clients in Willingness Clinic	1-10 hrs per week as starters	
	Malta	4th June 2020	Meeting with Dr. Sarah Refalo of Elms Clinic to maybe start directing my clients there		

Please insert additional rows as appropriate

Research

Client details	Location	Date(s)	Nature of the activity	Contact Hours	Placement Host details (if applicable)
	Liverpool	1-14/6/17	Reading and research on systematic reviews and mindfulness in sports	Around 6-8 hours per day	
	Liverpool	16/6/17	Reading of articles for next lecture day	All Day	
	Liverpool	25/6/17	Sent first assessment for plan of training		
	Liverpool	29/6/17 – 17/4/18	More in-depth work on systematic review research – searching through databases, collecting data, sorting data , end-note, data extraction, write-up, systematic mapping etc.	All Day, everyday!	
	Liverpool	29/6/17	Sent email to Jan Burrell (Librarian for Prof Docs) for further assistance		
	Liverpool	30/6/17	Watched some Mindfulness videos to enhance further my knowledge on the area (for systematic review)		
	Liverpool	7/6/17	Re-visited the different psychological approaches in a lot of depth to refresh my memory		
	Liverpool	7/6/17	Searching for possible books to buy – 'doing a systematic review', 'thoughts without a thinker: psychotherapy from a		

			Buddhist perspective', 'existential psychotherapy' (Suggested by supervisors)		
	Liverpool	8/7/17	Bought 'doing a systematic review' by Boland, Cherry and Dickson		
	Liverpool	9/7/17	Contacted people involved in systematic reviews similar to my areas (Benjamin Caumel, Ryan Sappington, Kathryn Longshore) – with possibilities for future collaborations		
	Liverpool	19/7/17	Scheduled an appointment with Jan Burrell for LJMU Library search assistance		
	Liverpool	19/7/17	Contacted more people involved in reviews similar to mine (Dr. Daniel Birrer and Dr. Philipp Rothlin)		
	Liverpool	2/8/17	Meeting with Jan Burrell – help with research and data extraction		
	Liverpool	4/8/17	Meeting with Dr. Peter Malinowski (Mindfulness expert in LJMU) – possibility of getting involved in the systematic review – this did not take place though		
	Liverpool	13/8/17	Sent the protocol of my systematic review to the supervisors for checking		
	Liverpool	17/8/17	Got the go ahead to continue working on my systematic review		

	Liverpool	22/8/17	Another meeting with Jan Burrell for more expert information on research and endnote use – was very helpful!		
	Liverpool	5-7/8/17	Removal of duplicates from Endnote – first draft of included studies		
	Liverpool	7/9/17	Watching and taking notes from a long YouTube talk by Dr. Michael Gervais about High Performance Mindset Training		
	Liverpool	20/9/17	Abstract Screening for systematic review started		
	Liverpool	9-11/10/17	Screening part finished – ended with 104 studies – wait for supervisors meeting on the 18th		
	Liverpool	23-24/10/17	Updated the methods screening section as discussed during meeting, send an updated version to supervisors		
	Liverpool	25/10/17	Received feedback and was asked to refine inclusion/exclusion criteria		
	Liverpool	30-10/17-1/11/17	Contacting more authors included in my studies for full-text papers		
	Liverpool	6/11/17	Sent systematic review work to supervisors		
	Liverpool	7/11/17	Recevied reply and sent it corrected once again		
	Liverpool	8/11/17	Received reply and continued working on it as advised		

	Liverpool	13-16/11/17	Started Quality Assessment (Bias) of studies for systematic review		
	Liverpool	12-13/12/17	Contacting other authors for more full-text studies (LJMU didn't manage to find one and the other one was only found in a Spanish version) – e.g. Wolanin (2010) and Torrealva (2017)		
	Liverpool	18-19/12/17	Finalisation of the systematic review bias assessments		
	Liverpool	20/12/17	Systematic review write-up starts		
	Liverpool	29/12/17	First draft of write-up sent to supervisors		
	Liverpool	4-8/1/18	Correspondence with some other authors and supervisors on systematic review		
	Liverpool	15-24/1/18	Meetings with Dr. David Todd (one of the supervisors) and some statisticians regarding data extraction and the systematic review in general		
	Liverpool	16/2/18	Correspondence with Dr. Vincent Marmara (statistician) for assistance with the systematic review process		
	Liverpool	19-21/2/18	Followed statistician's advice, carried out the work and sent it to him for verification.		
	Liverpool	23/2/18	Write-up of my 1st Applied Case Study starts		

	Liverpool	26/2/18	Some research for E-Racing project on simulation and equestrian sport psych		
	Liverpool	12/3/18	Last finishing touches on 1st Applied Case Study – Sent!		
	Liverpool	13/3/18	Re-read systematic review write-up so far + skype session with statistician for the meta-analysis part		
	Liverpool	14/3/18	Contacting all included authors once again for further details such as effect sizes		
	Liverpool	19-21/3/18	Started researching on awareness and habits for my next 2 empirical studies – while waiting for some corrections and feedback from statistician		
	Liverpool	26-29/3/18	Realisation that systematic review included data has no homogeneity and therefore meta-analysis couldn't be carried out. Moved on to Systematic Mapping where a lot of reading and research took place + correspondence with statistician (Marmara) and supervisor (Todd)		
	Liverpool	3-6/4/18	Back to research on habits for next 2 empirical studies while waiting for feedback		
	Liverpool	9/4/18	Feedback received!		

	Liverpool	10-13/4/18	Continuation on systematic review with systematic mapping		
	Liverpool	17/4/18	First draft of systematic review sent to supervisors (Eubank and Tod)		
	Liverpool	19/4/18	Corrections received		
	Liverpool	7/5/18	2nd Draft of systematic review sent!		
	Liverpool	14/5/18	Correction for Applied case study received		
	Liverpool	30/5/18	Case Study corrected and sent again		
	Liverpool	4-11/6/18	Reading books and articles on habits for next 2 empirical studies		
	Liverpool	5-11/7/18	After a meeting with supervisors I was given some last corrections to work on for the systematic review and some other corrections on applied case study.		
	Liverpool	11/7/18	Sent final draft of systematic review.		
	Liverpool	13/7/18	Sent final draft of first applied case study		
	Liverpool	17/7/18	Research on mindfulness, habits, behaviour change for 2 empirical studies		
	Liverpool	18/7/18	Meeting with another supervisor who joined due to the area of focus for these 2 empirical studies (Dr. Watson)		

	Liverpool	23-26/7/18	More correspondence with Dr. Watson on empirical studies		
	Liverpool	30/7/18	Research focus changed towards self-reflection and habits		
	Liverpool	2/8/18	Correspondence with Dr. Watson, Dr. Eubank and Prof Knowles for empirical studies – directed to further studies on self-reflection and reflective practice		
	Liverpool	14-15/8/18	Correspondence with Prof Cropley on self-reflection/habits/multiple regression ideas		
	Liverpool	15/8/18 – 7/9/18	Research on self-reflection and behaviour change continues with some more correspondence with Dr. Watson and Dr. Eubank (supervisors)		
	Liverpool	8/9/18	Intro write-up for empirical studies starts		
	Liverpool	10/9/18	1st draft of Intro write-up sent to supervisors		
	Liverpool	27/9/18	Feedback on draft received		
	Liverpool	3/10/18	2nd draft of intro sent		
	Liverpool	5/10/18	Reading some articles on mindfulness – suggested in the mindfulness workshops		
	Liverpool	11/10/18 onwards	Searching for and sorting scales/questionnaires for empirical studies + continued on methods section while		

			waiting for feedback from supervisors	
	Liverpool	25/10/18 onwards	Had a meeting with Dr. Watson – new added area for my research – Self-Determination Theory (SDT) – research on it starts	
	Liverpool	3/11/18	Started write-up for Dissemination case study	
	Liverpool	7/11/18	Correspondence with Dr. Watson, Dr. Eubank, Prof Cropley, Prof Deci and Ryan, Prof Sheldon – Self-reflection and SDT focus	
	Liverpool	8/11/18 onwards	Refining of research question and added research on the area	
	Liverpool	28/11/18	Dissemination case study write-up sent	
	Liverpool	4/12/18	Empirical studies ethics form write-up started	
	Liverpool	17/12/18	Ethics form sent to supervisors	
	Liverpool	8/1/19	Feedback received on ethics form	
	Liverpool	13/1/19	Sent again the corrected ethics form	
	Liverpool	22/1/19	Inputting the empirical studies questionnaires on onlinesurveys.ac.uk to be grouped and ready for sending until ethics approval is confirmed	
	Liverpool	11/2/19	Ethics form correction received, corrected and sent once again	

	Liverpool	26/2/19	Ethics form corrections from UREC received and sent corrected once again		
	Liverpool	26/2/19	Reading of article for Digital Interventions workshop		
	Liverpool	12/3/19 onwards	Further research on mindfulness, insight and self-reflection for 2 empirical studies		
	Liverpool	19/3/19	Ethics form received with corrections once again and last correction starts		
	Liverpool	21/3/19	Final draft of ethics form sent to supervisor (still needed to be sent to UREC)		
	Liverpool	30/3/19	Final draft of ethics form sent to UREC!		
	Liverpool	10/4/19	Ethical Approval finally received		
	Liverpool	10/4/19 – 18/4/19	Participant recruitment/sending of questionnaires for study 1		
	Liverpool	12/4/19	Merging empirical studies previous write-up with changes taken place in the ethics form		
	Liverpool	21/4/19	Participant recruitment successfully achieved – 153 study 1, 103 study 2		
	Liverpool	22/4/19-4/5/19	Questionnaires data input (Scoring)		
	Liverpool	4-6/5/19	Contacting participants with missing details in questionnaire scoring		

	Liverpool	8/5/19	Correspondence with LJMU Statistician Mark Scott for empirical studies		
	Liverpool	13/5/19	Meeting with Mark Scott		
	Liverpool	16/5/19-29/5/19	Research on Mediators in multiple regression + SPSS		
	Liverpool	27/5/19	Correspondence through email with Dr. Emma Bradshaw (got to know her through the SDT conference) as she offered to help out on some issues regarding the multiple regression in my empirical studies		
	Liverpool	30/5/19	Another meeting with Mark Scott		
	Liverpool	31/5/19	Correspondence with Dr. Eubank, Watson (Supervisors) and Dr. Scott (Statistician) for empirical studies		
	Liverpool	4/6/19	Statistics work + more correspondence with the above mentioned people		
	Liverpool	11-15/6/19	Write-up of results		
	Liverpool	18/6/19	1st draft of results and discussion sent to Dr. Eubank, Watson and Scott		
	Liverpool	28/6/19	Started working on last 2 applied case studies while waiting for statistician reply for my statistics results		
	Liverpool	28/7/19	Correspondence with statistician – statistics results accepted		

	Liverpool	29/7/19	Sent 1st draft of the last 2 applied case studies, reflective diary and log of activity	
	Liverpool	30/7/19 onwards	Continuation of empirical studies	
	Liverpool	06/08/19	Sent 1st draft of study 1 of empirical study (results, discussion, limitations, conclusions) to supervisors	
	Liverpool	06/08/19 onwards	Work starts on study 2 + correspondence with supervisors for meetings	
	Malta (writing up from home from this point)	21/9/19	Full draft of study 2 sent to supervisors	
	Malta	18/10/19	Correction of study 2 received from Dr. Paula Watson	
	Malta	18/10/19	Started working on corrections	
	Malta	24/10/19	Sent Corrections based on Dr.Paula Watson's comments (supervisor)	
	Malta	1/11/19	Received Martin Eubank's (supervisor) comments for correction	
	Malta	7/11/19	Sent final draft of the last empirical study based on supervisors' corrections	
	Malta	10/12/19	Received corrections for both empirical studies and started working on them (spinal operation took place 24th December 2019)	

	Malta	4-1-20	Corrections sent for both empirical studies		
	Malta	5-2-20	Applied for a post-doc post at uni of Liverpool on physical inactivity		
	Malta	11-4-20	Received further corrections on research papers and working on them		
	Malta	14-4-20	Corrections sent		
	Malta	May – July 20	Final portfolio submitted , working on corrections received from Martin Eubank (supervisor) during this period		

Dissemination

Client details	Location	Date(s)	Nature of the activity	Contact Hours	Placement Host details (if applicable)
	Liverpool	15/4/17	Delivered a talk on Mindfulness in Sports to the Liverpool Roller Birds	1.5 hours	
	Liverpool	31/6/17	Researching ways on how to create a website for business		
	Wales	31/6/17	Contacted Bangor University (Uni that focuses a lot on Mindfulness) for possible future collaboration on Mindfulness in Sports – Presenting in a Conference perhaps?		
	Liverpool	4/7/17	Participant in an MSc study about practitioners and anxiety		
	Liverpool	7/7/17	Contacted by an Assistant Professor at the University of Keane in New Jersey – interested in publishing my 2nd MSc thesis – coordinator of the Journal for Clinical Sport Psychology		
	Malta	25/7/17	Discussion to deliver a talk to the Maltese Athletics Committee, Athletes and Parents about sport psychology – was planned for the 26th but had to be postponed for another day due to location unexpected issues		

	Malta	27/7/17	Meeting with Parliament Secretary for Sport in Malta – possible future collaborations – conferences, consulting, teaching etc.		
	Malta	28/7/17	Contacted by the Programme Director for BSc Sport and Physical Activity in Malta to teach some credits at the University of Malta once I move back there.		
	Liverpool	13/8/17	Updated my social media business pages on sport psychology		
	Liverpool	14/8/17	Applied for the BPS DSEP Abstract 5 minute challenge for my previous MSc Research		
	Liverpool	21/8/17 onwards	Posted an article on my facebook page on sport psychology		
	Liverpool	28/8/17	Correspondence with supervisor regarding a presentation I had to deliver in class on Interventions in Mindfulness in Sports		
	Liverpool	31/8/17	Working on Malta Scholarship form and Class Presentations		
	Liverpool	4/9/17	Contacted Scotland BPS (used to be a member while living there during my first MSc) – opportunities to present in 'introduction to sport psychology'		

	Liverpool	14/9/17	Presented on Mindfulness in Sports during a prof doc lecture at LJMU		
	Liverpool	27/10/17	Helping an MSc student with her dissertation on Mindfulness		
	Malta	25/11/17	Meeting with Dr. Decelis – Director of the Institute for physical education and sport in Malta – possible future collaboration for teaching at the University of Malta		
	Malta	28/11/17	Meeting with Dr. Sammut – Senior lecturer at University for Malta in Psychology department – possible future collaborations to teach at the Uni of Malta		
	Malta	1/12/17	Invited on a live TV panel to talk about sport psychology in football		
	Liverpool	5/1/18	Meeting with Owner from Crossfit Liverpool to deliver a talk on Mindfulness-Acceptance-Commitment (MAC) in Crossfit		
	Liverpool	5/1/18	Possible future collaborations with BBC and SKY Sports on sport psychology awareness on TV (informal discussions held during working at Anfield among the media/press staff)		
	Liverpool	29-31/1/18	Re-arranging slides for delivery of talks and the MAC programme to make it more		

			interactive and an engaging experience for the audience receiving it		
	Liverpool	10/2/18	Delivered a workshop at Crossfit Liverpool on MAC in crossfit – interested in starting some group work		Crossfit Liverpool
	Liverpool	30/3/18	Email from Headspace app company showing interest to collaborate with me (due to Mindfulness background)		
	Liverpool	12/6/18	Wrote an article on sport psychology for the business case brochure of LJMU E-Racing – 'Driver Excellence Programme'		
	Malta	23/6/18	Invited on a TV programme to talk about sport psychology in the World Cup		
	Malta	1/7/18	Interviewed by a sport journalist on my journey as a competitive athlete, doctorate student and trainee sport and exercise psych		
	Liverpool	16/7/18	Meeting with Head Coach and another coach from Liverpool Gymnastics Club to discuss the idea to delivery sport psychology workshops to their athletes		
	Liverpool	17/7/18 – 1/9/18	Started working on the workshops to deliver at Liverpool Gymnastics Club on Self-Reflection, Goal Setting,		Liverpool Gymnastics Club

			Positive Thinking, Controlling Nerves and Team Work		
	Liverpool	6/8/18	1st Workshop Delivery – Self-Reflection	3 hours – 3 groups	Liverpool Gymnastics Club
	Liverpool	13/8/18	2nd Workshop Delivery – Goal-Setting Part 1	3 hours – 3 groups	Liverpool Gymnastics Club
	Liverpool	20/8/18	2nd Workshop Delivery – Goal-Setting Part 2	3 hours – 3 groups	Liverpool Gymnastics Club
	Liverpool	24/8/18	Wrote an article for Crossfit Liverpool website on Motivation in Crossfit		Crossfit Liverpool
	Liverpool	29/8/18	3rd Workshop Delivery – Controlling Nerves + My Bday ☺	3 hours – 3 groups	Liverpool Gymnastics Club
	Liverpool	29/9/18	4th Workshop Delivery – Positive Thinking	3 hours – 3 groups	Liverpool Gymnastics Club
	Liverpool	1-3/10/18	Refining my social media presence		
	Malta	14/10/18	Publishing of the interview I had with a sport journalist – 'Kulhadd' Newspaper		'Kulhadd' Newspaper
	Liverpool	15/10/18	5th Workshop Delivery – Teamwork	3 hours – 3 groups	Liverpool Gymnastics Club
	Malta	17/10/18	2 more Newspapers in Malta approached me for interviews on sport psych, being a trainee sport psych, my experience in sport competitions etc.		
	Liverpool	6/11/18	Applied for the role of Psychology Blogger with the BPS		BPS
	Liverpool	19/11/18 – 3/12/18	Started working on a 30 minute introductory presentation on		HM Prison and Probation Service

			Mindfulness for Probation Officers		
	Dubai	26/11/18	Have been invited as a speaker in the World Depression Congress 2019 – sadly they could only offer accommodation, therefore, due to financial reasons, wasn't able to accept this opportunity		Dubai – World Depression Congress 2019
	Cheshire	7/12/18	Delivery of the Mindfulness Workshop for Probation Officers		HM Prison Thorn Cross
	Liverpool	29/1/19	Started preparing a talk/workshop for students visiting university as part of the student advocate role at LJMU		LJMU
	Liverpool	5/2/19	Signed up for the 3i teaching programme in September – sadly had to opt out as I will have moved back home by then!		LJMU
	Liverpool	7/2/19	Helping other prof doc students on prof doc enquiries		
	Liverpool	18/2/19	Researching and learning how to create engaging adverts/posters online for delivering workshops in Crossfit – Ad Created ☺		
	Liverpool	19/3/19	Meeting with supervisor to help another MSc student on 'practitioner development experiences of trainees'		LJMU

	Liverpool	20/3/19	Interviewed by an MSc student for her study on LJMU Sport Scholars and TASS athletes		LJMU
	Liverpool	27/3/19	Interviewed by another MSc student on 'practitioner development experiences of trainees' (one discussed above with my supervisor)		LJMU
	Liverpool	27/4/19	Interviewed by a 3rd year Journalism student (I was recommended by his supervisor) on Sport and Exercise Psychology among Academy Football Athletes		LJMU
	Malta	10/5/19 onwards	Supervising my mum in her research project that she needs to hand in by January 2020		
	Liverpool	31/5/19	Video interviewed by a person who works with Channel 4 on a new programme she is organising about 'weight loss maintenance' from a psychological lens on 'experts panel showcase' – this is going to be part of a series where there are going to be more interviews on different areas where I will be invited as the psychologist.		TV Series
	Liverpool	3/6/19	Video call – helping an MSc student with providing information on the prof doc I am doing		

	Liverpool	5/6/19	Submitted my previous studies for the DSEP BPS Conference this December 2019		DSEP BPS
	Liverpool	2/7/19	Interviewed in an MSc study on Practitioner's professional quality of life		
	Liverpool	10/7/19	Interviewed in a Doctorate study on TASS practitioners with dual-career athletes		
	Liverpool	06/08/19	Publishing of the interview I've done for the 'expert showcase series' on weight management		
	Liverpool	8/8/19	Accepted to poster present my last 2 research projects		
	Liverpool	9-13/8/19	Working on the posters to present at the BPS DSEP conference		
	Malta	29+30/8/19	Attending Sports Medicine Conference		
	Solihull	2+3/12/19	Presenting my MSc and Prof Doc systematic review study in the BPS DSEP Conference		BPS
	Malta	February 2020 onwards	Will be working at the Malta National Sport School as a sport and exercise psychologist: teaching and practical – postponed		National Sport School Malta
	Malta	April 2020-July 2020	Another Sport Psychology Course Level 4 delivery – taking place online!	My teaching section at the moment: total of 23 hours per course	Learning Works
	Malta	March 2020 onwards	Bi-weekly scientific blog writing for Willingness Clinic		Willingness Clinic

	Malta	7th April 2020	Participant in a longitudinal PhD study (took part last year as well)		LJMU
	Malta	6 April 2020	Teaching Sport Psychology Course Level 4	3 hours	Learning Works
	Malta	9 April 2020	Teaching Sport Psychology Course Level 4	3 hours	Learning Works
	Malta	16 April 2020	Teaching Sport Psychology Course Level 4	3 hours	Learning Works
	Malta	23 April 2020	Teaching Sport Psychology Course Level 4	3 hours	Learning Works
	Malta	25 May 2020	Teaching Sport Psychology Course Level 4	3 hours	Learning Works
	Malta	1st June 2020	Teaching Sport Psychology Course Level 4	3 hours	Learning Works
	Malta	8th June 2020	Teaching Sport Psychology Course Level 4	3 hours	Learning Works

Reflective Diary

The reflective practice diary contains selected reflections from my learning experiences across the four professional practice related learning outcomes of the programme (as detailed below). They also evidence the learning outcomes of the reflection module to demonstrate my ability to "Conduct ethically sound work in Sport and Exercise Psychology at professional practice level", "reflect on my skills, practice, and professional development" and "reflect on my reflections". This compliments the other reflective practice requirements of the doctorate later in the portfolio, including the Teaching Diary, Research Commentary and Reflective Practice Commentary (meta-reflection).

Learning Outcome 1 – Professional Standards and Ethical Practice

Work/life balance, switching off and letting-go
27/7/17

After starting the programme (delayed from January by having to wait for HCPC approval) I was back in my country Malta on a summer break for the first time in 3 years. This was a bit of a Eureka moment for me, as it made me realise how important it is to create a balance between working hard and enjoying myself. I often struggle between staying committed to my work while also releasing a bit of control to enjoy a break so as not to end up burned out. I spent the 1st week of the break stressing out about a desire to continue working while feeling that I'm losing time to meet up with family and friends whom I haven't seen for a long time. I decided to let go from work for two weeks and enjoy the holiday to the full. It was quite difficult at first, because ever since I embarked on this journey of living abroad on my own and working on my studies and dream vocation, I have not allowed myself enough downtime. After a few days, I started breathing again and realised how, during the previous hard-working years I have switched off my 'fun self'. There were times during my study years where I was constantly asking myself where my fun side has gone. I accepted that maybe I have changed, matured, and no longer found fun in previous activities I used to do, which provided me with the opportunity to reduce my obsessed self-discipline, genuinely laugh and enjoy myself. My realisation made me feel that the child in me has been brought back to life and I was so calm and at ease. I heard Toni Minichiello speak at a TASS Conference; "It is fine even for elite/olympic level athletes to have days off", and Derry Matthews during a Randox Mental Health Seminar; "you can try to keep on pushing oneself every single day but without proper work/life balance you will eventually burn out!" These were lessons here for me on a personal and professional level. Work-life balance and self-care are important.

That said, it has been quite challenging to get back to the hard working, focused routine. I am also a bit concerned about the sudden doubts that are appearing, such as, "is this the path I really want?" "Am I able to go back to the hard working, concentrated self I was before the holiday?" "Are these just doubts because it's been too long that I felt that sense of freedom, or are they more of a concern?" Knowing that I am quite a reflective person, I knew that these kinds of existential questions were going to come up, but I believe it is quite normal to experience such thoughts. Tasting and experiencing that sense of freedom and going back to 'forced' working is always going to be tough. 'Forced' not because I don't like what I'm doing, because I always find purpose and meaning in whatever I read, practice etc., but because when I try to work, I am getting stuck (and my supervisors deserve annual leave to!). I am sure everything will get back to how it was, but like any new, difficult situation, it takes patience, perseverance and determination to arrive at where I want to be.

These doubts may also be taking place with a bit of potency because of several other personal problems taking place at the same time, and also the fact that it's been three years without experiencing the proper Maltese summer sun! I do tend to struggle to let go of anything I carry out religiously. However, I think everyone is highly resistant when it comes to deep held beliefs/habits and it is when the realisation comes that something is not functioning 100% in everyday life that one decides to take action. When I look back on my life, I realise that whenever I have loads of problems at the same time I tend to doubt myself and the path I have worked so hard to arrive at. However, I always manage to persevere to achieve what I set my mind to, and somehow enjoy the whole process, because it's these moments that make the destination worthwhile.

Sport vs clinical Psychology – Referral
6/12/17

Today I had another session with a client who I have been seeing for around two or three sessions. I have already noticed that she may be going through some performance anxiety, but during this session, I have come to the realisation that her anxiety may be a bit more intense and deep-rooted. This was reflected through the client's behaviours and choice of language and through her mum's additional detail provided on the types of episodes the client was experiencing. Considering that I have been through heavy periods of anxiety myself, I have kept on trying to deal with it using my own knowledge and experience. However, during this session, I was becoming a bit doubtful whether I could continue giving the best assistance to the client without being judgemental, biased or evoking transference, and whether referring the client to a clinical psychologist would be necessary. I was highly aware of the ethical concerns and boundaries involved (Roberts et al., 2016) but I was mindful that it may be difficult for the client to be 1) referred to

different practitioner when she started to open up about her insecurities and 2) referred to a practitioner who is more into the clinical side of psychology. When a client decides to come to therapy, he/she may already have had to deal with some inner struggles to accept the need of further assistance (Bianco et al., 2017; Bauman, 2016). Apart from that, even though it was only a couple of sessions, having to open up to a completely new practitioner may need much more effort and might be received with more resistance and even worse, cause more harm (Shiles, 2009). Due to this I tried my best to understand the client's situation, exhaust all possible options, check whether a referral would cause more harm than good, while also cross-checking with her mum (the client was a minor) to make sure that the best decision will be taken. During one particular dialogue, her Mum showed concern that her daughter might be suffering from something that she heard on the radio. Could her Mum be instilling more anxiety in the athlete or transferring her own anxieties onto her daughter?

After some discussions with my supervisor, and other stakeholders directly related to the client I felt that the best course of action would be to refer the client. As expected, this was not well- received. However, I asked myself several times whether this was something I could deal with and whether what I can offer can be of better benefit than any other specialised practitioner. Her mum showed concern about how a private specialised practitioner can be too expensive and that going through a GP referral might take her daughter too long to be seen. Since I was not too aware of how the GP system in the UK worked, I could not give her much more information other than to suggest she made an appointment with the GP. I reassured both the mother and the client that if the GP thought it was a serious and urgent matter, they would treat her as such, to which the Mum agreed.

Experiencing such a case for the first time was uncomfortable for me, as I was in a situation where I not only felt uncertain whether it was something I can deal with better than a clinical psychologist but there was also information that I was not 100% sure of (i.e. UK Health sector/NHS). Learning from this, I could have asked my supervisor not only about my ethical decision-making, but also about referral routes. One of the discussion we had on the course was the importance of having a referral network, and a 'go to' clinical psych option to offer clients in situations where referral is deemed to be required. I also made sure that I learnt to understand the NHS Mental Health system more thoroughly, and that I spend more time on the course discussing case referral.

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My philosophy
15/11/18

At the beginning of the course, I always used to have this vision of myself being a highly successful sport psychologist, working full-time with a well-known team. The more I got into the professional doctorate, the more, for some reason, this vision started to become blurry and slowly fading. Could it be due to the lack of high-profile work opportunities available? Possibly (and somewhat obvious now but not at the time!). Maybe it was due to seeking a dream/vision which wasn't actually mine, but which other people saw as prestigious? This could also be the case! It could be that I started to learn more about the difference between sport and exercise psychology and where I fitted in, including that the discipline exists beyond elite athletes). Also possible. Maybe it was a combination of all these questions! I also started asking myself why, during a class exercise, compared to the majority of the class I was the one who did not appear to have a specific approach that I mainly align with. This was something I would need to work on, and how I could better connect my own core values and beliefs with my applied practice, and getting to know other approaches in more detail to see where I really fit.

This sudden realisation took me back to questions about my previous work. As an MSc student, I had (twice!) conducted research on Mindfulness in Sport (and would so again in my Prof Doc for my Systematic Review!). While Mindfulness (Mindfulness-Acceptance-Commitment and Acceptance-Commitment-Therapy) resonates with me and I have made good use of it in my own life as well as with clients, I knew that this could not be the only active ingredient in my service delivery toolbox. In one particular lecture delivered by Dr. David Tod and in subsequent discussion with my supervisor, they both mentioned how certain therapeutic interventions are connected e.g., Mindfulness a 3rd wave CB, and that I needed to look beyond the intervention to identify the theoretical models, principles, orientations and frameworks that underpinned them. This would help connect me to Sport and Exercise psychology approaches that would ultimately connect and work for me, and may even require a revisit to the psychological approaches

spectrum and mainstream psychology literature to truly understand the theory rather than just the application!

'Yesterday' was a day I will never forget. Martin had set up a session focussed on physical activity and behaviour change (focused on Self Determination Theory; Deci & Ryan, 1985), and had invited two of LJMU's Exercise Psychologists to speak. From discussions I have been having with my supervisor, he has been noticing that I was expressing interest in exercise psychology instead of sport psychology, and felt that it would be useful to broaden my horizons. It was the best choice ever to be part of this day as for the first time I felt a stronger sense of belonging and connection between me, and my own values and the discipline. I had a sudden sense that I knew more about the direction I wanted to take in my training but also my own professional development. While I do connect with the sport 'side' of psychology, my previous experience, as a participant and worker, reflects me leading more of an exercise psychologist lifestyle rather than a sport one. I have been a fitness instructor with the health promotion and disease prevention directorate in Malta for 5 years (I stopped because I had to leave Malta for study purposes). I have completed level two and three qualifications in fitness instructing, and a certificate in diet and nutrition. I have taken care of gyms and the overall health of people from all different 'walks of life'. More philosophically, I have a genuine interest in the well-being of individuals and their lifestyle. One of Malta's biggest health 'targets' is obesity and promoting overall healthier lifestyles, which is one of my passions. It all began to make sense. I see higher value and better connection in dealing with people from everyday life to genuinely treat the well-being of the client and feel like I can make a positive difference. I began to realise my true feelings about professional sport; that the setting is restricted so much by sport politics and performance agendas that my own values may not be aligned with what it represents. As a practitioner, maybe this would mean that if I was true to myself in the way I practice I would not be understood well in sport (Harris & Adams, 2016 – in Prof doc folder) and probably feel restricted and constantly frustrated by what I wanted v what I was allowed to deliver. I concluded that, while not excluding myself from working in (professional) sport in the future work settings and populations that seemed, to me at least, to offer more potential to be accommodating of a holistic approach seemed far more attractive (Schulenkorf & Siefken, 2019; Sandardos & Chambers, 2019; Stambulova & Wylleman 2019; Burns et al., 2018; Schinke et al., 2018; 2016). For me, settings where a practitioner is able to have the freedom and autonomy to allow the nature of the therapeutic relationship to control sessions with clients (instead of being restricted to deliver a sport psychology 'quick-fix' under time and monetary constraints) are far more congruent to my own philosophy of practice at this point. I connected this in my own mind to the 3 psychological needs of SDT (competence, autonomous and relatedness), and how much one's need to feel 1) purposeful, goal directed, competent and self-determined, 2) a sense of belonging or relatedness, and 3) autonomy to be oneself without any external control.

The following day, during a meeting with TASS stakeholders, I felt a huge relief that was coming from a sense of belonging, a sense of finding my place, a sense of knowing where my past action has lead me to and where my current path is going. With the TASS, I also began to realise that while in sport, I was taking care of both lifestyle and psychological issues among elite athletes, and whether working with athletes or physical activity in the general public, I'm aligned, congruent, connected and satisfied by work that holistically targets well-being and lifestyle components of the client's context. In two days, I had drawn the important connection between how I, and sport and physical activity settings and clients could congruently fit together. I have always been intrigued by the constant struggle mentioned by Alfred Adler on being unique vs belonging. This has never resonated more than it is now! I see huge connections with the idea of keeping one's unique identity while still feeling that we form part of something. One of Adler theories, the 'crucial C's', refers to the idea that we need 1) to belong, to fit in, to feel secure or feel connected; 2) to feel competent and to take responsibility or to feel capable; 3) to feel significant and that we make a difference or to feel we count; and 4) to feel able to handle difficult situations and overcome fear or to have courage.

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My anxiety/vulnerabilities
29/11/18

Being aware of my struggle with mental health issues from previous traumatic events, I was concerned how the process of the doctorate was going to affect me. On this day, we had Neil Roach and one of his ex-clients presenting an improvisation of their sessions concerning anxiety. Although I have been controlling my anxiety very well, I did experience a panic attack during the session. Due to my efforts to control it, nobody noticed, although I did have to use my phone a few times to contact my family as a quick re-centering method. I was afraid to speak about it in class, and after class I wasn't sure if I should let my supervisor know about it. I felt that my behaviour (constantly on the phone) was not representative of who I am, and therefore I opted to let my vulnerabilities out with my supervisor. My supervisor was very understanding and complimented me on how well I handled it in the session. We also discussed anxiety in practitioner development more broadly, and we discussed the real possibility that experiencing anxiety in training was common, on top of having other issues (family problems, financial concerns, being away from family, loneliness, flatmate changes, among others). He reassured me that discussing my anxieties with him in supervision was perfectly fine, especially if they began to affect my progress on the programme.

One way or another, I have always been able to handle everything on my own and persist, but at this stage I felt bombarded with lots of competing demands and emotional drama, and felt I was drowning. After a discussion with my supervisor, I realised that I needed to take some time to deal with what was going on around me and make sure I was taking all measures to care for myself before I can continue caring for others (Quartiroli et al., 2019). The issue of having to deal with mental imbalances have at times made me question whether I am good enough to be a practitioner. However, whenever I've asked different practitioners, I've always been given the reply that passing through such experiences puts us in an even better place to understand clients better. This same re-assurance came through several other sessions on the programme. My supervisors have often stated how i) confidence in managing your own anxiety is the good next step after knowing that you have anxiety. ii) That having vulnerabilities is part of being human. iii) That we should never aim for perfection in general but give the very best service we can at any moment in time with the circumstances we have in front of us.

Being mindful of my perfectionistic tendencies, I knew I had to silence my ego and accept that I needed to draw on the additional help and support available. My supportive family (Mantai & Dowling, 2015), have been my backbone through all my life, but being a foreign student meant the only way to contact them was via video calls, which help, but wasn't enough to 'bring me back to life'. When I shared my thoughts with some of my other professional doctorate students, they expressed that 'we are all in the same boat' (Harrington, 2018), which was quite re-assuring! The feeling of universality (Yalom, 1970) helped me cope better. In addition I kept on using other self-care measures that I know always help me be resilient (e.g. working out, mindfulness, ACT, self-reflection) but still I felt I needed medical assistance. It was such a strange feeling for me as a psychologist, preaching that treatment of mental and physical health should be given the same importance, that now I needed it, I seemed resistant. I needed other professional psychologists to reinforce to me what I always knew but wasn't hearing: mental medications are no different from physical medications. This experience helped me to value the importance of creating time for self-reflection and awareness, the space to sharing difficulties one may be going through, and to seek the right social support and take the helping measures needed to 'grow not shrink'.

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The effect of the environment on us
19/3/18

Last night I had an interesting and deep conversation with a friend of mine about how I, as someone who I thought was such a highly aware and self-disciplined person, succumbed to getting lost and consumed by a situation and got scared when things were out of my control.

I thought about the lessons here for trainee practitioner psychologists when we encounter environmental challenges in our work and lose ourselves in the overall picture. Our environment (people we interact with on a daily basis, things we do/engage in, the everyday language we use etc.) allows us to unconsciously grow or diminish (Williams & Bargh, 2008), and can have a highly hypnotic effect on us. The way we see things is conditioned by our environment, and if we want to change our perception then we need to alter our perception of reality (Bargh et al., 1996).

Unconsciously, and through repetitions of getting exposed to such environments, we allow ourselves to get immersed in unconscious behaviours. It is very scary to think how one can lose oneself in such environments. On the other hand, one can use this to his/her own advantage by taking action on what type of environment he/she chooses; however, this can only be achieved through having awareness of who we are, how we define ourselves without such environmental influences, what's working for us and what's not. It can be as simple as wanting to feel more comfortable at home or as existentially complicated as wanting to change one's internal and external environment. Why are we all so susceptible to environmental suggestion? Well, we need to be! Keeping us safe is a major part of the role of the unconscious mind. It needs to be able to do this very speedily in case we need to make quick decisions. This feels like 'thin slicing' (Kay et al., 2004); we take one small element of reality and generalize it, and that will determine what behaviour to adopt.

After reflecting on the endless conscious and unconscious connections and influences the environment can have on us, I realised how important it is to make self-reflection part of one's daily processes. As a result, some interesting questions I started asking myself were: Who am I as a person? What makes me happy? What makes me sad? What are the things in my current life that I want to keep? What are the things in my current life that I would remove to achieve what I want to achieve? What am I willing to sacrifice? I believe that having a supervisor/mentor/other psychologists throughout the process of being a trainee and even after that, is a great way how I can achieve high awareness levels, allowing me to break through these unconscious patterns, while helping me to define myself without such influences (Quartiroli et al., 2019). Having an outside or observer view of one's behaviours can allow one to discover these missing unconscious patterns. Exploring the unconscious nature of these behaviours is part of a self-development process that takes place between a person and the external observer (be it a supervisor, mentor, psychologist, parent, close friend etc.) leading to achieving one's full potential at that moment in time. This represents an important part of supervision for me.

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TASS conference:
9/5/19

Some observations that resonated with me from speakers at the TASS conference I attended.

Alan Currie's talk – several soundbites from this talk left an impact on me. 1) How sports tends to be a mental treatment in itself – "Something about sport holds everything together – some athletes had problems before and after sport but not during". 2) How "people mostly are not doing sport for the mental/physical health aspect of it" – I wondered if and how this 'sat' with identified motivation (i.e. people doing physical activity because they see the benefit it has on one's body and mind). 3) Rather than failure itself, it's the perception of that failure which acts as an internal pressure; really illustrates the importance of cognitive appraisal 4) how disordered eating is the only mental issue that is found more in athletic environments than in the general population; one to look out for in practice. 5) The importance of planning ahead and being aware of local facilities when it comes to travelling abroad with athletes. A useful practical tip, I could see how this could be a significant stressor that might be so obvious it could get overlooked. Most of these points were new considerations for me - I made a mental note as things to keep an attentive eye on!

Mustafa Sarkar's talk – 1) Having a dual career can be an advantage if it allows athletes to develop resilience by having to practice switching their sport focus on and off. 2) The importance to allow space after a major event to conduct debrief with an athlete – this made me think about the distinction between getting views of the athlete in perspective v those that are emotionally charged. 3) the importance to keep in mind that

'there is always a different way to view a situation'. 4) the need for reflection on sport culture and the importance to try and make sense of it and how it informs how people operate.

Kelly Sotherton's talk – This talk really made me think about some of my deep held beliefs. She mentioned how athletes should not be told and ordered to seek professional help and rather let them decide if they want to seek it. My thinking is that psychology has such a stigma among athletes, that of being labelled for those who are 'not sane' and 'in need of help' etc. and that if athletes are not sometimes 'pushed' to seek psychological help they may never access a source of support due simply to negative sigma and misperception. It struck me how important it is to raise awareness among athletes on what sport psychology really is and how, as a normal 'ology', it can be helpful, and in then giving athletes autonomy to decide whether to seek out the services of a Sport Psychologist or not, more would!

SDT Conference
17/5/19 + 20-25/5/19

This was my first time attending a week-long conference. I found it quite overwhelming and intense at first, until I had a chat with one of my supervisors, Dr. Paula Watson (who was also attending the conference). Paula gave me advice about how to prioritise what I attended and not to try to attend everything, which would not allow me to mentally take in information that may be important: 'the why' I had chosen to attend. As an early career practitioner, I felt an anxious/overwhelming feeling that I was missing 'stuff', but I understood Paula's advice and once I came to terms with it I managed to enjoy the conference experience much better.

Some highly valuable reflections for my research, consultancy and self-development came out from the SDT conference and an interesting TED talk by Tali Sharot on behaviour change.

Reflections towards research and consultancy:
- Social Incentives - People compare themselves with others and want to be as good (or better) than others e.g. the fact that '9 out of 10 people have paid their taxes on time' has increased compliance!
- Immediate rewards are necessary to lead people to their long-term reward – e.g. use of scoring, recognition, etc.
- Progress monitoring – to get people's attention you need to highlight the progress not the decline – what good may come out of removing bad behaviour e.g. if you stop smoking you'd be able to do more physical activity

- Integrative (meaning, values, identity) motivation is more important when dealing with tough behaviour changes (smoking, exercise, diet etc.) than Intrinsic. This is because during such changes there may not be happiness while the change is taking place. It is after instilling meaning/values/identity into those small daily improvements that there might be an intrinsic motivation increase.
- The importance of self-reflection in behaviour change interventions may help us to better understand the HOW and WHY over the WHAT – this was a stimulus for my Prof Doc research!

Reflections directly related to me as a developing practitioner:
- Writing up written notes of events in a day or more time (rather than straightaway) helps reflective process, or maybe re-writing the notes taken straightaway in a day or two – some useful consideration for staged reflection.
- Even professors tend to feel a bit anxious to perform and do get stuck!
- How it's all a process of learning (feeling overwhelmed at first until realising how best to use my time efficiently) and patience/acceptance (food, different environment, lack of control, letting go) – (managed 2 days off food-logging and be ok with it after a year+ of logging every single day! – also was ok with getting back to it, maybe even more motivated than before) – good to keep in mind for future clients in relation to behaviour change
- The major difference between people who are considered to be externally motivated if they exercise for body image and myself is that I am happy with how I look and I just want to maintain that + I'm ok with accepting some changes every once a while (sometimes with some struggles through letting go some of the irrational fears) – once again, good to keep in mind for future clients in relation to behaviour change
- The happier I am with my body, the more confident I am. The more confident, the more self-determination and control I have on everything:
  - Making healthier eating choices
  - More energy to exercise
  - More open to relate with others
- This conference also re-ignited my passion towards mindfulness as I realised how similar and compatible it can be with SDT

New Clinic Work as a Performance, Sport and Exercise Psychologist – Malta
05/05/2020

On the 27th March 2020, I joined a multi-disciplinary clinic in Malta. The other practitioners range from family therapists, sex therapist, educational and child psychologist, gynaecologist, speech language pathologist, physiotherapist and counsellors. It has always been an ambition to open my own clinic (sport, exercise and health related) and reach out to other practitioners (nutritionists, physios, strength and conditioning coaches, performance lifestyle advisors) from different fields to join me. This experience was valuable to get experience of working in a multidisciplinary team environment and getting to know more about the 'nitty-gritty' of the ethical work involved (e.g. work agreements, consent forms, confidentiality, referrals etc.).

Being part of this new team has thrown up some challenges in relation to the role requirements:

1. Attend at 4 different WhatsApp chats - some more formal than others
2. Long team meetings (now on zoom) every Saturday - twice a month are compulsory, the other 2 are optional, for CPD, case reviews, or social gatherings!
3. Write 4 x 500 word blogs per month for the first 2 months and 2 blogs per month from then onwards – I'm not a big fan of their style of blogs; they seem more about getting 'clicks' from the public rather than writing a good evidence-based piece.
4. As part of the clinic's contribution to society, we have to create a piece of research in our field by joining with someone else from the team
5. For the first 6 months, 50% of the client's fee rate is taken by the clinic and from then onwards 30%.

While being part of a multi-disciplinary team was useful for my learning, the role content started to make me feel more as if I was wasting my time instead of contributing to something fruitful, and the role requirements were too controlling and lacking in autonomy.

With all this in mind, I decided to wait it out and, like everything else in my life to see what I can learn from this role. In the meantime, I'm also working on creating my own professional website to create my own business. When I have carried out in-depth reflection (Cropley, 2007) of this situation I've tried to see what it is that is actually making me feel the way I do.

'Am I being impatient with this system just because I always wanted to have my own business? Am I reacting to this, this way because I'm still stressed with trying to get the doctorate portfolio and process finished? Am I feeling hard done by the fee slicing? Is there an underlying psychological dislike to be controlled by someone else?'

I genuinely wanted to be part of a multi-disciplinary team so that we can all learn from each other. Apart from that, if I have my own clinic, I'd still want it to be based on the same multi-disciplinary team principle. I have never taken this line of work for the money. On the contrary, money has always been secondary to the passion I have to help others. I've always accepted work hierarchies but knowing how hard I've worked to get to this level this environment is making me feel like I'm back at day 1 of my undergraduate degree!

Back then, I would have seen this as an excellent opportunity and I wouldn't have changed it for anything. Now, this makes me feel burned-out and that I should take my self-care more seriously - I don't want this feeling to be transferred into the work with my clients.

I've had a discussion with some of the people in charge of the clinic and expressed how I'm really feeling. They all said that they understood my point of view and told me that I've done the right thing in speaking up. At least knowing where I stand with them and them with me helped me to feel better and persist longer. I feel that after spending all this time in the training process, you truly learn to know, understand and appreciate your own self-worth. This helps us pay better attention to the 'alarm bells' that signal that things aren't feeling right, and that attention to practitioner self-care to ensure the best service for the clients we deal with (Quartiroli et al., 2019) is of utmost importance.

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<u>Learning Outcome 2 – Consultancy</u>

Difficulty in finding work for trainees
21/9/17

Considering how ambitious, pro-active and determined I am, before I entered the professional doctorate course I was sure that one way or another I will secure a placement or job of some sort. Since I arrived in Liverpool (31st January 2017) I was taking all measures, such as enrolling in start-up and book keeping courses for my own business, meeting up and emailing all possible outlets that can offer me a place (media, sport organisations, gyms, sport clubs etc.) and also applying to all jobs in relation to my field. Somehow, things were not working out. I was in constant contact with my supervisor to see what I may be doing wrong but he also felt that I was taking all measures effectively.

People do really get interested in my work but then somehow it all falls apart. I also noticed how whenever this feeling kicks in I take much longer to concentrate on my work, which makes me have much slower production on research. As always, I did take this to my closest support network, and tried to see this from a different perspective. At this point, I was questioning my position in the course and whether this could be affecting how I am selling myself to the people when I try to promote myself? Perhaps I was not selling myself well when it came to applied work; I was using the qualification and title "I'm a Sport Psychologist in Training" but perhaps I should be focusing instead on the actual qualities that would make me good for the job or the qualities that define who Bernice is (Millman, 2011).

The plateau made me lose a bit my fire and all those existential questions like "Am I in the right course?", "Am I in the right career path?", "Who am I exactly?" After one particular lecture (28th July 2017) I realised how maybe sometimes I'm more suitable for exercise psychology. This could be because it blends well with mindfulness, nature (walks, hikes, outdoor activity etc. that I love), targets bigger audiences etc. however it could also be because the sport sector is not being available for me so I may be settling for the other possible route. To be honest I love anything related to psychology, but sometimes I feel confused on what exactly I want. This could stem from the lack of opportunities I am facing though, as before I started my sole journey on arriving to this place, I always had the vision of seeing myself with a big team. It could be that that dream is dying…

One thing I was sure of was that from such life experiences, I could actually learn to better inform my practice. One needs to be highly resilient to keep on going when putting all the effort into passion but no one is giving them a chance. It takes courage, strength and determination to keep on going and, as a future

practitioner, I believe experiences are likely to give you more empathy with clients when similar things occur in their worlds (Wagstaff et al., 2017; Collins & MacNamara, 2012).

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Initial sessions/New experiences
9-10/11/17

During initial sessions I always tend to feel opposing emotions; that of being scared, anxious and nervous vs that of being excited. Considering that every new situation has the aspect of dealing with unknown territory I believe that having such opposing emotions is quite normal. In fact, seeing such emotions as normal is the best way to deal with it, as it is the reaction to one's emotions what determines one's performance (Gardner & Moore, 2007). These two sessions were my first applied sessions after quite a long period out of consultancy work, and the first session with very young clients (9 years old and 11 years old). Part of me was doubting my abilities of whether I can handle this effectively and whether I am good enough to be paid to do this sort of work, and part of me was really excited to be challenged in new situations doing what I know how to do best (i.e. helping people). Once I was during the sessions, I felt surprisingly calm and received positive feedback from just the first session, which was very reassuring. It could be that I set very low expectations of myself, or that I give too much concern over to my possible panic attacks; whatever it is, I know that having that 'flaw' (panic attacks) will always keep me grounded and down to earth while also delivering the best performance I can in whatever I do.

1/8/18
The First day on the trampolining placement handover. Once again, I thought I would find it quite intimidating knowing it's been a long time since I've worked in an organisation setting (instead of freelance) but I found it so welcoming (especially the coach approach!). I was a bit surprised how easily they accepted the confidentiality issue (no written consent just verbal informal agreement between the kids

involved, their parents and their coach). It felt strange to do the sessions in front of everyone (even though it was far enough so that no one could hear) as I felt this could hinder the kids' concentration on the session.

Although I am eager to be in such placements where I am sure they are going to teach me a lot of new knowledge, I always tend to get scared of becoming overloaded with work (need to continue being aware of how to manage my time better and deal with all the pending stuff I have to finish). This is quite a new experience for me, as I always tend to finish everything before deadlines, but in this Prof Doc, there are many different projects to be carried out and each one of them rely on different people. I have to start working on all of them at the same time (rather than starting one, finishing and going to the next one), which I realised made me feel a little all over the place. I guess it is something that I have to learn better how to deal with and know when to juggle many things at a time, and when to focus on one thing at a time. Having said that, I also have the value of staying in the moment rather than letting myself get distracted and stressed by the future (one of my problems, which I just lately figured out through reflection). It's all about perspective!

13/2/19

Started a mentoring role today with fifteen and sixteen year olds who are disadvantaged, helping them with revision preparation and how to be more efficient in preparing for their GCSEs. I was surprised by how natural it felt for me to help them and I really felt in my element there. I always loved helping others from disadvantaged backgrounds, and this role is proving that even more. The creative ideas that started coming to my head while trying to find individual motivations to help them stick more to their revisions were surprising me in very positive ways. I knew I could be creative, but I am very happy with my performance, especially since it was the first time for me fulfilling such a role. However, come to think of it, I think I naturally do that with others even in everyday life and maybe that could be the reason why I love the lifestyle-advising role so much! I do like being a psychologist, but since people associate psychology solely with problems that need to be solved, it tends to lose its beneficial role of helping one's quality of life. With roles such as lifestyle advising people feel more at ease to try it as they have less negative stereotypes attached to them. Perhaps this is something that sport and exercise psychology needs to put more emphasis on for athletes to be more willing to make use of the service – there is a stigma (Bianco et al., 2017; Bauman, 2016).

8/3/19

Today I had a new client. In this particular case, I felt a bit more nervous than usual. When I reflected on it, I realised that this client was a lot older than all the clients I had and more importantly, older than me! I tend to find older clients more challenging as I feel "if they're older they should know better than me".

Having said that, "challenging" for me does not mean something negative but rather something that gives me even more interest to pursue. This could be coming from being the youngest sibling of three (Punch, 2018); I'm always thinking that since I am the youngest, I am always the one who needs to follow the others for example. However, even if I look at my sibling situation, it is them that are following some of my footsteps as none of them had the courage to leave home (it's not typical culture for Maltese people to leave their parents' home at a young age) and go follow their dreams, as difficult as they may be. They even tell me "we can never do what you did and we're so proud of you" but I think being the youngest will always make me feel I need to make a bit more effort to make myself believe that what I am doing is justified!

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The dilemma with charging clients
Date: 9/11/17

After 5 years of working with clubs, organisations, teams, and individual athletes on voluntary bases, today was the first time I was about to get paid for my consultancy session. I was happy delivering my work voluntarily. In fact, I have been part of some wonderful, life and knowledge-enhancing, challenging and historical experiences while being a volunteer as a performance psychologist/consultant. Not once, have I asked to be paid and I was so happy carrying out such a job that I used to go out of my way to make sure I delivered the best and most efficient work. Many people used to express how grateful they are for my work and how surprised they are with how much work I put into it without ever asking for a penny in return. I have to be honest, there were times when I was studying for my Undergraduate Degree, studying for the fitness instructing and nutrition courses, working two part-time jobs to make some money at the same time I was carrying out these voluntary sport and exercise psychology consultancies, where I questioned some

of my choices. The reward I used to get from seeing a positive impact on my clients highly outweighed the negatives.

I was about to go to my first paid session. I cannot share enough how many emotions I was feeling! Part of me was happy that I am being recognised for my work and that this was the beginning of the rest of my career life. However, another part of me was scared and perplexed. Scared because I felt that the inclusion of money made me take a harder and more critical look at the work I was delivering (even though the feedback has always been really positive and could be seen in the clients' performances). As mentioned in previous reflections, I have never given money a huge importance in my life. There were times where I even thought of going to transfer what I have learnt in poor countries voluntarily right after I finish my studies. Although this is something I really would like to do, I have debts that I need to pay. Having such a disconnection with the value of money, I started having a lot of doubts and questions on the matter. For instance, 'do I deserve to be paid?', 'how much is my consultancy worth?', 'when would it be a good time to discuss the rate? How do I bring that up?', 'considering my qualifications and experience, what would be an acceptable rate?'(Hays, 2006). When I asked several experts in the field of performance psychology I was told that a very low charge would give the impression that you're cheap and people would not come to you, while a very high charge would push people away, however, I was not being told what the right amount is. After researching and networking with other practitioners, I realised that the lack of a straight answer was due to a huge variability in what applied practitioners charge for their services (Meyers et al., 2001). Eventually, I settled on £50 for an hour's session.

The inclusion of money started to create doubts whether this was something I wanted to do; it is similar to the hobby vs job debate. When something stops being a hobby and becomes a job, even though the activity is one that is intrinsically motivating, it can become less motivating once it becomes a job (Ramos et al., 2016). Not that I was treating my voluntary experiences mentioned earlier with less professionalism than a job required, but because, with anything that is new, questions and doubts emerge. After considerable amount of reflection time and discussions with applied practitioners whom I feel share similar philosophies and beliefs, I have come to the realisation that:

1) Since we live in such a capitalistic society, I need to make some money to be able to live
2) As long as I keep on delivering the same professional service I was delivering while I was volunteering (maybe even more), the same satisfactory result is going to be received, leading to the same rewarding feeling

3) I make sure that I consider the context of the client in question before I arrive to a fee decision – some clients may come from rougher backgrounds who may not be able to pay the fee required

4) I will always perceive the money as a bonus, rather than a must, of the consultation process

As my aim when finishing the doctorate is to continue focusing on the idea of starting my own business, I need to keep all the above points in mind while also making sure that I remain realistic about the business process. In the process of building clientele, I need to make sure that I have some other kind of income that is being generated from another job or role so as not to start perceiving my clients as my only source of income, therefore, resulting in a more pressured recruitment. Knowing this in advance, I already have networking ideas and plans. These include delivery of fitness classes (I used to work as a successful fitness instructor before I left Malta), working alongside the Malta government health promotion directorate (used to work there before I left and still in contact), continue collaborating with the Sports Parliament Secretary and some possible teaching roles at the University of Malta.

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Resistance in sessions
20/12/17

My fourth session with one particular client was quite testing. He was not willing to talk nor nod or anything. I didn't really know what to do but kept calm, talking slowly and trying different techniques. We took a break. The client's mother informed me that her son had a psychology session with his PE teacher that morning. Eventually I decided to go back to the client to check whether he wanted to talk it through. This time he did share some words, and the thing that stood out from what he said was that he felt he already

made the psychological effort of talking to his PE teacher about his issues, so he didn't want to go through it all again with me. This made me realise how although the inclusion of different stakeholders in the consultancy process can be of great benefit, however, if the stakeholders are not in contact (i.e. me and his PE teacher), then it can be a bit confusing and overwhelming to the client (Olusoga et al., 2009). Apart from that, having to open up twice in a day can be quite taxing on a person, especially if that person was still very young to grasp the aim of wanting him to open up on specific issues.

18/4/19

Today I had a psychological session with a TASS athlete whom I find a bit challenging, as she is not that vocal. I find myself trying to see what the best questions would be to ask to make her open up a bit more about herself, especially since her performance is not improving. I figure she is the type of client that may need a lot of time to warm up to someone. Therefore, I allowed the process of our relationship to take its time. This in itself was teaching me a valuable lesson by knowing that not every session has to involve some kind of exercise or task. Dialogue driven sessions could be the space she finds most useful to build trust in me. It feels important to have a balance between sessions were an actual task is carried out and sessions where the client leads the session by allowing the space and freedom for them to open up and be autonomous.

After a number of sessions, today I feel we reached a new level. I figured out that she seems to be much more able to express herself through art/drawing (Çetin & Güneş, 2019). I asked her to give me a scenario of her preparation to a competition and if there are any specific tasks she performs before/during/after competition. She mentioned how she is into her Doodle drawing and that she was thinking of using it as a distraction. Through this, I decided to ask her to draw what we had been saying throughout the sessions that needs to be carried out for her to perform better. The result was so interesting and captivating to watch that I felt I had my first true connection with this client! This shows how important patience and rapport building is in the process of the therapeutic relationship (Hector et al., 2018).

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Athlete vs Trainee Sport and Exercise Psychologist
27/1/18

Being an athlete experiencing a competition really gives me more insight into how an athlete/client feels in such a situation. Strangely enough, I was not anxious. On the contrary, I was quite calm (even though I was sick just before it and not because of any psychological issues). The reflection that came out of this was that I realised that for me, the competition was only an added activity in my life, sort of a hobby, which I really enjoy rather than an activity that my life totally depends on. If it was my main career, I think it would be different. From this reflection, I realised how important it is to enjoy the whole experience rather than focusing on winning and, through that, winning can be more within one's reach (Gardner & Moore, 2007).

25/2/19

Crossfit Open (crossfit competition around the world based on 5 weeks of competitions – 1 workout per weekend) was back and I was competing once again. I felt very confident with the first workout. However, my performance did not seem to be in line with my mental state. I performed very badly in it, which left me mentally devastated, mainly because I knew that one of the movements involved in the workout was a movement I had targeted as a weakness from last year, and have improved immensely. It was so frustrating to see that I made so much progress in between last year's competition and this year's, and then, when the time to prove myself arrived I disappointed myself. This was a good revelation for me both as an athlete and as a trainee sport and exercise psychologist. The way I reacted reminded me of how our perspective can become blurry in the face of certain emotions, which is something I need to keep in mind when dealing with future clients. When clients express extreme disappointment over a loss or some other obstacle after loads of hard work, reminders of all the small improvements that have been achieved throughout the whole process is of utmost importance. Having said that, both negative emotions and setbacks are part of being human and they do not make one a failure. On the contrary, being aware of them and working through them allow for a stronger, more resilient self (Wagstaff et al., 2017; Collins & MacNamara, 2012)

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Guest Lecture - Dr. Pete Lindsay
19/4/18

I reflected on some important points that resonate with me after this lecture:-

- Sometimes clients can be the best in teaching you how they do what they do – it is important to research a sport well before meeting up with a client in a specific sport, and use their expertise.

- Being adaptable is key when it comes to being a psychologist – showing humbleness, willingness, creativity, tolerance, hunger, humility and being smart – I feel these are good personal qualities for service delivery in our profession.

- It is important to allow clients or teams create an identity as early as possible because if they don't create it, someone else will create it for them and they start believing it. To help a team or individual create an identity, sometimes the psychologist needs to go back to the athlete's/team's history to find what biggest impact/passion is driving them/him/her

- Bringing out personal values in athletes is crucial and should be carried out as early as possible in the therapeutic relationship. Sometimes it can be instilled by having an intimate discussion, but sometimes additional tools are needed.

- Creativity is key if we want to be good psychologists – one of my own values!

- It is important for clients to feel comfortable to talk with us in both formal and informal settings – making use of both settings is crucial to understand an athlete/team better. Having both a formal and informal contact with athletes can help our understanding of the WHY, and the context in which a problem is taking place is important in order to address it properly.

- It was valuable to do the Spotlight profile. I agreed with most of the results, but was surprised by one of them: when under pressure I seem to see myself as superior to others??!! I was never really aware of this (I believe that everyone is equal), but maybe it shows how pressure can really switch change how we behave and others see us. It gives me something to be more aware of next time I find myself under pressure.

Athlete's transition from junior to elite level
27/9/18

Today I experienced the struggle of an athlete transiting from a junior to an elite level in one of my own clients. The client had been practicing tennis to a very high standard, winning medals and achieving levels he never thought he would achieve. After a setback that took place in a setting that the client was not that familiar with (higher level, different type of ball used, absence of the coaches' support, absence of team mates, new location etc.), the client did not want to face the sport that he was so good at anymore. Instead, he felt that his time in the sport was over.

After hearing about the difficulty faced by athletes during transition from junior to elite levels during a discussion in class, I was intrigued to research more about it. As stated by Vaeyens et al. (2009), "earlier onset and a higher volume of discipline-specific training and competition and an extended involvement in institutional talent promotion programmes during adolescence are not by definition associated with greater success in senior elite sport". The literature base provided me with some key practical implications for my work with this client. Firstly, I explored the stress related anxiety associated with the increased demands in his sport. Secondly, I sought to teach the athletes some important life-skills that he could use to be able to cope more effectively with the changing demands he was experiencing. Thirdly, I sought to involve his coaches and parents in education about such transitions and the social and psychological effects they have. For me, this was a good example of the importance of evidence-based practice.

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The debate of Eclectic vs Integration vs Pluralistic approaches
31/1/19

Practitioners tend to use particular tools and techniques in their consultancy process more than others based on their practice philosophy (See Keegan, 2016). While I understood the congruence and alignment that this creates across a Psyhcologists' approach, I also reflected that this is, to a degree, dependent on the client and context presented, and that a degree of pragmatic flexibility, rather than staying rigid and true to a pure philsophy, while aligned, may be unhelpful in practice. I am comfortbale with the notion that an effective therapeutic encounter should be based on that particular individual in that specific situation at that moment in time. Early in my training, I could never keep to grips with the distinction between an eclectoc v an integrated approach.

After reflection, reading and today's Prof doc session, I have arrived at the realisation that being 'eclectic' and 'integrative' have shared elements of pragmatism, but are different in that an integrated approach has a philosophical foundation and position, where as an eclectic approach focuses (literally) on what works, without philosophical consideration.

I understand how every model of approach has its own important features that can be used to provide an effective service to clients by practitioners who hold beliefs and values that align with certain approaches. As described by Hollanders et al. (2003) and Cooper and Dryden (2015), none of these approaches are inherently wrong. They just refer to the adoptation of a range of theoretically informed techniques located within different approaches based on the individual and situation presented in therapy. In that sense it's fine (usefully so) to adopt some flexibility to use different approaches, but not to the detriment of choosing the ideal approach to emerge from case formulation, as opposed to just trying things out randomly without any scientific justification.

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The importance of re-visiting client notes from previous sessions
11/07/19

While writing the case study of a specific client, I came across a flaw that I was doing. I was made aware that my monitoring of my client records prior to every session was not thorough enough, which would have helped me when I was struggling to come up with ideas about how to get the client to open up more easily. As explained in Keegan (2015), apart from making use of the supervision provided to better inform our practice, it is highly important to reflect and monitor carefully the record notes taken during the consultancy session. Although, as an act of memory aid, I always check the last session notes taken before I meet up with each client, I failed to monitor the records taken in the earlier sessions when I was struggling to understand the reason in the client's dip in performances. When I was writing the case study, I could see around four different instances where the client raised her love towards art and doodling. I failed to make a connection and make use of it as a tool for better self-expression. Although it is true that it is easier to spot such aiding consultancy-based phrases once the matter is known, this was a 'nudge' for me to go back to all the record logging to identify where there might be information I had missed through a lack of reflection in, but especially on action. Engaging in such a task would act as an enhanced reflective process (Keegan, 2015) informing my practice, allowing me to view the sessions from a different perspective. As the findings in Cropley et al. (2007) suggest:

> "Higher levels of reflection resulted in greater self-awareness. As a result of becoming self-aware, participants highlighted a range of additional benefits, such as access to and understanding of knowledge-in-action, the development of coping strategies to reduce the negative impact of consultant emotions experienced during a session, and the facilitation of self-evaluation… Consequently, consistent with other work (e.g., Anderson, 1999; Woodcock et al. 2008) the process of reflection significantly augmented learning and should therefore be considered good practice for professional development [and to] develop [the trainee sport and exercise psychologists'] ability to reflect in and on practice and consequently improve decision making processes"

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Key Role 3:

Importance of systematic reviews
5/10/18

The process of carrying out a systematic review has not been an easy task. Considering I was the first one in my professional doctorate cohort to start with it, there were multiple times where I felt like giving everything up! I was frustrated at times about whether what I was doing was right, but there were times where I felt happy and satisfied with the new knowledge I was learning. After several attempts sending the systematic review for corrections, I received the amazing news that I successfully passed. The relief I had was indescribable! It was at that point that I could finally see the true value of how important systematic reviews were to the academic world. I could understand how important it was to go back to previous research, test the quality of papers, check for bias and provide a neutral, scientific perspective of what the research was really showing, rather than what the authors wanted the research to show. It was at that point that I felt I understood what my supervisors really meant by 'critical analysis'. I no longer read scientific research to find out what they found, but started to read deeper to critically examine how and why the authors found what they did. I can confidently say that, even though undertaking the SR was a tough process, I am grateful to have learnt how to critically analyse effectively when it comes to identifying other people's positions. I feel more confident that I can evaluate the evidence, weigh up opposing arguments, 'read between the lines', recognise techniques, synthesise information, reflect on issues, and draw conclusions (Cottrell, 2017).

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Qualitative vs quantitative research…and practice!
26/6/19

When I started my first ever research project back in 2013 (pre Doctorate), I was confident that a qualitative approach was more aligned with my values. This is because I loved the depth, richness, and stories of people going through life. At that point, I felt that qualitative research really mimics the therapeutic relationship in consultancy. Giving the participant/client the space to open up about topics that can be of a highly abstract nature (O'Halloran et al., 2018). As strange as it may sound, I used to love transcribing the interviews as I used to see it as a discovery quest. Discovery in a sense of exploring the participant's story in the most raw and genuine way possible. I remember how much the process of transcribing used to make me feel connected to the participants' story.

During the Doctorate, I have continued to reflect on the alignment between the philosophy of my practice and my research. When I was at the PSYPAG event listening to Dr. Tod's keynote he made a distinction how in his experience, sport psychology within the professional clubs/teams/organisation context tends to be a bit more technique focused rather than client focused (Tod et al., 2019). He drew parallels in how this exemplified the different approaches a practitioner might take with their clients, whether it is a more structured, 'quick-fix' (technique-focused) or more narrative, open and story-like (client-focused). Through this distinction, questions came to my mind, and I reflected that my research and practice had become quantitative, where-I seemed to be engaging more with techniques that aimed to yield quantifiable answers. Good science, but I wasn't sure this was me. Had my Philosophy changed, or had I just lost sight of it?

During the lecture, Dr. Tod was describing how qualitative research tends to seek and add richness and depth, which is similar to having a therapeutic session where the emphasis is on the practitioner-client relationship rather than quick fix solutions. I remembered how much I enjoyed reading the transcripts of interviewees in a study. While I see the value in mixed-method research, my conclusion was that, for me I would always need to explore the meaning within human-to-human dialogue to feel congruent and connected to the research and practice I undertake. I sensed that this needed to shape my work philosophy and approach from this point forward.

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Juggling writing tasks and the iterative process
5/7/19

When I have a lot of writing projects, I tend to fall into the trap of wanting to be quick and finish everything in the least time possible. This is because I always want to feel that I am being pro-active, taking care of my to-do list, and meeting my own deadlines. I am one of those people where I feel I have to focus on one task at a time and once that task is finished, I move on to the next. I get frustrated when projects stall or plateau due to some process (correction, ethics, participants etc.). I soon realised through my plan of training that this kind of approach / mind-set was not going to work during the professional doctorate, as there were so many parallel tasks to be tackled it was impossible to focus on just one thing at a time. That would be a challenge to my normal way of doing things! What I learnt from this was that while I may have multiple projects 'on the go', I still need to apply my focus to one thing at that moment in time. Whatever I will be doing in the next hour, day or week does not matter. Once I managed to arrive to this reasoning, I was able to work on my tasks with better focus, concentration, and less of an overwhelming feeling.

We had a writing workshop at LJMU. I wrote the following reflection after the event:

> This workshop has been excellent and a real revelation. As seen through one of the videos
> shown in the workshop, I have always thought that the qualities of a good writer tend to be
> reflected in how quickly one writes a paper/book etc. Quickness in writing has nothing to do
> with how good one is. On the contrary, the more revision and re-writing one does, the more a
> writer can get that writing edge; meaning, being an excellent writer is not an innate quality but
> rather something that can be learnt through endless drafts (iterate process). As with the nature
> vs nurture debate, one can only get better, through the process of revision and re-writing. One
> is not born a good writer; while also, one will never reach the end of mastery in writing, as there
> will always be room for improvement in each revision one makes. Therefore, one must be aware

that revision is important, but at the same time not to the point of obsession that endless drafts are carried out without ever finalising the product.

From this workshop, I learnt that writing, similar to development, is not a simple straight line, but a process of going back and forth. Quickness is not equal to greatness. On the contrary, as the idiom states, 'too much haste results in less overall speed'. All this time I used to believe that 'one day I will arrive to a point that I will only need a few weeks to write a paper'. Oh how wrong I was! I could finally understand those awkward moments during supervision meetings where the supervisor used to make me think on what I really want, and then send me back for further research. I used to think 'I've spent so many hours trying to write this, why is he sending me back to revise what I have written if I feel that it is reflecting what I intend to find?'. In reality he didn't want me to change what I have written or change the outcome of what I intend to find, but rather wanted me to revise what I have already written to perfect my writing in that second, third, fourth draft I write. By this I do not mean that I should start re-writing everything, or that supervisors should not give any helpful feedback to their students regarding their writing, but to understand that in order for writing to be effective, and of publishable quality, it requires the process of iteration (Marczewska, 2018; Vardi, 2012). It is in that process of iteration that self-reflection on the what, why, how of writing takes place, leading to further critical analysis of one's writing, and ultimately, creativity (Marczewska, 2018).

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The 'politics' of research publication

Little did I know how entrenched 'politics' is in the world of research. When I was writing the systematic review, it was crazy to me to read published studies with such poor qualities (e.g. missing intervention details, lack of data reporting, missing confounding variables, lack of clarity in relation to bias, among others). This was the first instance I started really questioning the publishing process. What are they truly after? Do they really peer-review the studies before publishing? Are all studies accepted if people paid enough money to satisfy the publishing houses? What is the process exactly? How are studies accepted or denied?

I also started to become more aware of the importance of impact and significance in research studies. In other words, you could have a rigorously designed study, but if the experimental hypotheses were not supported then it would be unlikely to be published due to lack of impact. I had just experienced this in an initial phase of my first empirical study, where I did not find any statistically significant results based on my research question. It was suggested that I add further research questions that might make the study suitable both for doctorate level, unless I could provide an excellent critical analysis on the explanations for the non-significant findings.

I had not encountered this before, and it made me think about the status of studies I was reading in the literature, and whether originality, significance and impact trumped methodological rigour and quality in the 'political game' of publication. This really made me think how easy it is to manipulate scientific studies. Why are studies with statistical findings only published, when not finding a result might still be an important finding? Contrary to this, why are studies with poor methodology (for example, small sample sizes, lack of data reporting etc.) showing a significant result being published and used as proof of how the applied intervention worked? A clear example of this was when I was carrying out the systematic review, where low quality papers have been published and used as proof that mindfulness is an efficacious intervention for psychological therapy with clients. While based on my own experience of mindfulness I do believe in its effects, however, as shown in my systematic review and in other research (Van Dam et al., 2018; Schöne et al., 2018; Noetel et al., 2017; Sappington & Longshore, 2015; Gardner & Moore, 2012), careful considerations need to be taken both when reporting and when interpreting results from Mindfulness research.

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Key Role 4

Social media for business

In today's digital and hyper-monitored world, it is of utmost importance to be mindful that a self-promoted business will not thrive by just relying on certificates. In order to make oneself known, heard, and credible to possible clients, authorities and collaborators, the needs to move with the progress of that current generation is crucial. Although the technology progress makes self-promotion easier, and possibly less expensive, than previous times in relation to sharing benevolence, integrity, honesty, competence, among others, however it does come with its own risks (Wang et al., 2016). Some major risks would be the pressure to: 1) deal with many social media platforms (to attract as many people as possible), 2) learn how to use the different platforms, and 3) the paranoia induced through being constantly watched, i.e. intrusion of privacy (Wang et al., 2016). Although what is shared is completely a self-choice, however, how 'what is shared' is perceived is a very different story.

I have always been the type of person who is extremely aware of the image I portray both in real life and in virtual life. There were times where people used to ask me to loosen up a bit and be a bit more relaxed about it. This could be because in Malta, since it is such a small country, everyone is focused on what other people are doing. Apart from that, offering voluntary help in political agendas and with political figures whom I feel share the same values as myself, therefore, being in the public eye, has fuelled my self-image awareness.

The following are some of my reflections that I collected throughout the professional doctorate in relation to the struggles with professional public image:

7/6/17

Awareness of what to put on my Facebook page – the struggle between posting sport psychology stuff and posting some of my more personal experiences in sport psychology! It is the struggle of the professional self and social self once again. This is quite a recurrent theme in my life. The struggle between belonging and being unique. Sometimes it even goes beyond that to the struggle between having some recognition and helping others. Once I was having a discussion with my best friend (who was also studying psychology at the time), where she raised this question and really kept me thinking, "why do you love helping people? Don't you think that it is because it gives you satisfaction, i.e. quite a selfish act?" I kept on thinking for a long time about this and, yes, it is true that after all this hard work sometimes I feel like I need some recognition (especially when I have been constantly away from my family (which is not that common for Maltese people) and moving from a place to another to educate myself. However, I do not think I am doing this as a selfish act, I am not helping others to make myself feel better, but seeing others improve does make me feel better. Nothing gives me more happiness than seeing someone flourish. In addition, the potential to be better, has always been in that person, he/she only needed my professional help to aide him/her bring out that full potential. So, in reality, it was not my help that made that person feel better, but that person made oneself feel better (I was just the mediator to help find the lost self in that particular person).

27/3/18

Lately I started posting some reflections with regard to personal interests, sport life, and sport psychology. It started out of nowhere, and I am realising how people are enjoying my writing. Before I used to get people positively commenting on what I write but never thought that it could turn into something (maybe because I never believed that people want to hear what I have to say or maybe because I did not want to be identified as a 'know-it-all-ranter'). Ever since I have started taking more care of my social media for business matters, I am realising how much this is needed to showcase oneself based on credibility and how this can easily turn into a business in itself. I love researching about personal interests and questions and then educating the public on what I find. I feel this can be a wonderful niche for me. In fact, I even got an email from the headspace app company interested in collaborating with me.

5/6/18

Sometimes I find that whenever I am focusing on the business side of things (networking, travelling, getting to know people in high authority or even celebrities etc.) it gives me a lot of thrill and excitement. When I tried to reflect what is giving me such a thrill I came up with some answers: a) that of reaching a step closer to making my dreams more real, b) gaining additional knowledge about different cultures, people, sports etc. while also c) loving the additional recognition/fame that comes from all this. When I met with Dirk Kuyt (ex-Liverpool football Player) and we had an informal chat/quick interview on his football career, I put something on social media (with his consent) and it received a lot of positive feedback and recognition. However, I always find myself torn in such situations as to whether I look like I am seen to be bragging about things or putting myself out there at others expense. Rather, I am doing this to understand more about the life of professional sports people so that I can transfer that both to my own athletic competitions, to my clients/athletes and disseminate useful information to others. I should not be afraid to market and promote my services, as long as I do so in an ethical and professional way.

Although the nagging thought of how I am being perceived is constantly present, perhaps this is a good thing so I am conscious of checking. I have learnt that in reaching out, as long as my intention for the business promotion is good (such as increasing awareness, inspiring others, educating the public), the perception of others reflect my attempts to promote credibility in my own work but also the profession at large.

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3 min thesis presentation
6/3/19

I booked a 3-minute thesis poster presentation at the LJMU Doctoral Academy conference, which was an opportunity to learn how to present formally at a conference and how to prepare myself for a research dissemination presentation. I found the event useful, and learnt how vital it is to choose the best visual medium to make an audience engaged and interested in what you have to say during just three minutes.

I also learnt a lot from watching others present. Many had a good 'presence' while presenting. They were calm and confident in what they were saying, which came across really well and made me more interested in their research. It was quite a new experience for me. As a result of attending this presentation, I started researching on how to create effective visual presentations, using alternative media. I took part in a webinar called '"Get Creative! Research with Pictures & Stories" after this experience. I was surprised how even a formal presentation can easily include fun and humorous material – something to try next time!

Another interesting insight from this event was the realisation that I was in a room filled with PhD students, lecturers, senior lecturers and professors. Being in the room with them as part of the Doctorate Academy felt quite unreal, and I reflected that it would be good for me and other members of the Prof Doc Group to attend more of these events, to learn from others, to network, and just to feel more a part of the LJMU doctoral community.

TV as a medium to spread awareness

In 2012, I was a twenty-two-year-old final year Psychology and Theatre Studies degree student, where a TV producer approached me to join a TV programme panel as an undergraduate student discussing mental health. I was so scared to do it and shy with closed body language on screen, but I got through it relatively unscathed! I have always liked TV, and see it as a medium to transmit a message or share your view to a large number of people.

During the professional doctorate, there were several occasions where I was invited for TV programmes, and as a Trainee Sport and Exercise Psychologist I now have different messages, experiences and opinions to share. Appearing on TV always feels a stressful task to me, and I started asking myself why I putting myself under additional stress when I can just avoid it and solely focus on promoting my work through other social media, in addition to attending conferences, and networking. I came up with several answers:

1) Television can be one of the best mediums to spread on messages to the public (Neupane, 2019). I had always had this frustration that sport psychology is not seen as a credible vocation by the general public, partly because they find it more difficult to understand compared to professions like physiotherapy, nutrition, strength and conditioning, and coaching. Although this is improving, it is us, the psychologists, that need to raise the awareness of how important sport psychology is. This is where Television can be an ideal place to target bigger audiences and spread the message.

2) From experience, I have arrived at the understanding that being seen on TV tends to add credibility to one's career. The perception of people tends to change towards you. They start seeing you as someone they can rely on (Condry, 2017). In fact, after my first experience on TV, I had more people interested in inviting me on their shows.

3) In addition to the above, TV has been a good medium to network with like-minded people, while also getting to know more people in authority who can make it easier for you to access the platforms you need to making your message heard and showcase yourself and the discipline.

I feel I always need to keep in mind the WHY of doing things to avoid losing track of intention. This was brought to my attention from a TV interview I did to raise awareness of the psychological aspects of weight management. I took part to put across important good-intended messages. After the interview, the director/producer thanked me for my contribution, and talked about how people like me were rare in the TV industry, as I was interested to be part of her showcase to pass on good knowledge to help the public, not for the sake of publicity. I am constantly surprised (not in a good way) how many people are so plainly motivated by publicity rather than by their own true values, philosophy and intrinsic motivation to raise awareness among the public. It reminded me how important it is to self-reflect on the WHY of doing things, and in disseminating in public forum I should remain humble and authentic to ensure that my experience and knowledge is shared to help others.

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Providing supervision
8/5/19

Supervision can be a way of 1) teaching, 2) raising awareness to areas that need attention, 3) self-reflection, 4) critical analysis, 5) self-development, among others (Sheu et al., 2017; Coren & Farber, 2017; Carroll, 2010). However, I have learnt much more about it over the course of the Doctorate, and in working with my own clients (a form of supervision) my view about effective supervision has changed.

In working with clients who are looking to you for support and guidance, as a trainee you see things from the other side and gain another perspective. You are the helper rather than the helped, in effect, the

supervisor rather than the supervisee! This was a perspective that was new and alien to me! I remember sitting down with my Mum to discuss a dissertation idea for her diploma study - a chance to be a supervisor! Once we started discussing her ideas, I could easily pinpoint how she seemed to be highly confused, as her research question was not clear in her head. I could empathise with that! I kept on challenging her to find out exactly what she wanted to find out and what research question she wanted to answer by carrying out this project. After a long discussion, I told her to go and do further research to see what was already available and to make a clearer idea of what she intended to find out. I sounded like my LJMU Prof Doc supervisors!

I had been in her situation many times, and was able to understand her emotions. This experience, and others I have had with clients since, allowed me to see how far I had come. From being that naïve student unable to understand why things were being asked of me, to now being the trainee able to anticipate, and professionally act on every step, emotion, behaviour, and task needed to help clients achieve the utmost from their Sport and Exercise Psychology experience. In addition to that, this experience also made me understand better, and be grateful for, the supervision carried out with me throughout all my academic studies. I could understand that supervisors were delivering the best possible supervision and that, supervision, when carried with the student's self-development and critical thinking learning in mind (Sheu et al., 2017; Coren & Farber, 2017; Carroll, 2010), can be a tough process.

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Consultancy Case Study 1

A Mindfulness-Acceptance-Commitment (MAC) intervention for a young elite tennis player experiencing anxiety following a traumatic sporting event.

Background to the current case

The client involved in this case study was an 11 years-old high-level tennis player who has been practicing tennis since a very young age. In an initial discussion with the client's coach, the main presenting issue was his apparent extreme and sudden negativity about himself and tennis, which was having a negative effect on his performance. Since the client was only 11 years old, the coach initially referred me to his mum, where a more in-depth view of the case emerged. From this point onwards, the casework was based on interactions between me, the client and his mum. She explained how her son had a sudden increase in worries and anxiety after a national level tournament, which was the first one he had competed in quite far from home. She mentioned how her son had stepped into a negative thinking cycle, dwelling on a previous national tournament where he performed badly and she feared he was beginning to distance himself from tennis.

His mum communicated how her son shared most of his worries with her, and initially the client wanted his mum to be present in the sessions. Although I felt that this might result in him withholding information, on balance, it was important to facilitate this, at least initially, until the environment was less daunting for the client and he was willing to engage in 1-to-1 meetings. It would also help to reassure him and his Mum about the nature of the work we might do together, and enable them to build a secure relationship with me.

From the very first session, the client and I established the goals, boundaries, confidentiality and expectations of the consultancy through an informal discussion and the use of a consent form to which he and his mum agreed. The main agreed goal was to re-engage him with his passion for Tennis but also to appreciate goal related processes more (rather than being too winning focused), and relieve the intense negativity around bad performance. We agreed that communication between sessions would take place through emails (with the help of his mum) or if anything was urgent through phone text. The sessions were held at the client's home as both the client and his mum felt this to be the most comfortable place for the client to be able to discuss and address his issues. With regard to confidentiality, considering the client's age, he was happy for me to share our sessions with his mum, and that going forward, we would discuss any themes that arose in 1-to-1 sessions that I thought it would be useful for him or me to share with his mum to secure consent. We also ensured that his expectations were realistic; that he understood that this

might not be a quick fix and that it might take some time, which would give us time to understand his needs and develop case formulation and intervention.

Philosophical approach

My main core values as a psychologist centre around a belief that there is a 'best' in all people, which I look to bring out based on what they want to achieve in sport and life. I also value client autonomy as a psychological need, so in my work I strive to facilitate clients to arrive at positive solutions to cope autonomously and to let them find a perspective which best fits their needs and priorities to embrace their ultimate potential. I hold the belief that everyone has the ability to self-heal to create empowered change as long as they are willing to work on their inner and outer awareness, accept what the priorities are at that moment in time, and be willing to commit to their own values. My philosophy of practice is based on these values and beliefs, which resonate with what Keegan (2016) describes as a client-led practitioner adopting a construalist approach. This approach is in line with Cortlett's (1996) Socratic Philosophy where, instead of aiming for a 'quick-fix', long-term development and sustainable changes is what I prefer to focus on.

Needs Analysis

The initial presentation by the client's coach and informal chats with his mum both expressed how the client has suddenly became very negative, constantly seemed to be feeling anxious, and also how he had started to become avoidant when it came to trying harder in tennis, which had not been the case previously. The client's mum showed great distress while discussing this issue with me, as she felt that she had never seen her son act in such a way towards something she believed had always been a passion for him.

In the initial meeting with the client, there was a lot of client resistance at first. His mum was present for the first session, which helped, and as it went on, he started feeling more comfortable to open up. Once he started to trust me more he seemed to feel very comfortable in expressing himself and his presenting problem. This shows how making the client-practitioner relationship central will determine the therapy's effectiveness (Longstaff & Gervis, 2016). He discussed how he seemed to be mentally stuck in dwelling on that one previous event where he performed very badly, how it felt very difficult for him, and how the fact that he didn't win it (used to win all previous matches, medals etc.) made him feel like a complete failure (sole focus on winning). Although he was able to share successful experiences (by showing me medals he had won), and discuss how he had reached the elite level required to play in the nationals, he kept coming back to the negative event. His body language was negative, and I sensed there was a vulnerability in how the client was feeling and how this experience was quite traumatic for him. Towards the end of the session, the client felt happy that he opened up about it, and he started feeling more hopeful that this is what he needed to start working through his presenting issues.

Case Formulation

Based on the needs analysis, it was evident to me that the client was not fully aware of what was happening to him psychologically, based on the negative experience and his negative reaction to it, or what was changing for him as a consequence. My sense was that he would benefit from greater levels of awareness and understanding about the psychological impact of disappointment and how to deal with it more effectively. Acceptance of that one negative episode as a learning experience, and having the psychological flexibility to view the experience to be normal and transient, would help him to focus more on what needed to be taken care of in the present-moment, while also approaching/facing the problem to reduce avoidance. The intention was to facilitate a reduced level of anxiety by understanding the situation better, changing the client's perspective about the transient situation, while learning that sometimes setbacks happen, which can teach us how to get stronger.

Taking the client's context and my own practice philosophy (to allow the client to be the main agent for change) and formulation of his needs into account, a Mindfulness-Acceptance-Commitment approach (Gardner & Moore, 2007) was deployed. Mindfulness has shown to be a beneficial intervention for use with sport performers (e.g., Jackson &Csikszentmihalyi, 1999; Ravizza, 2002; Aherne et al., 2011; Kee & Wang, 2008). As described by Forner (2017, preface):

> "Mindfulness is both a measureable state and an abstract experience. The education and understanding of what mindfulness is and how to achieve mindfulness is not as simple as following instructions, but it does come from following simple instructions. Mindfulness can be very hard and very easy to achieve. Mindfulness is both a felt experience and theory of practice. Mindfulness is a tangible experience and an intangible feeling as well as an intangible experience with tangible feelings. It is both abstract and concrete, implicit and explicit, objective and subjective. The difficulty in understanding what mindfulness really is in part exists because we are trying to understand the human condition and the human species, and these can be two distinct things. When we embark on understanding, teaching and explaining mindfulness, we are trying to capture a human anatomical function and an abstract concept. Understanding mindfulness is no easy feat; we are both complex and simple creatures. Mindfulness is not just a theoretical notion; it is also philosophical debate and a real felt embodied experience".

The combination of Mindfulness alongside Acceptance-Commitment-Therapy (ACT) allows a client to develop skill that is easier to grasp, personal and tangible, in comparison to using Mindfulness on its own. It allows one's perception to change (important to this client) via a meditative process that decreases activity in the amygdala associated with a reduction of fear, and an increase in the activity of the pre-frontal cortex

associated with higher order brain functions such as awareness, concentration and decision-making (Lazar et al., 2005). Present-moment awareness creates a state of being where dysfunctional thoughts, emotions and behavioural patterns (such as avoidance), and links between those dysfunctional thoughts, emotions and behaviours are brought out in the open for a client to work on (Lazar et al. 2005). As a result, this enables decreases in anxiety and increases in concentration and good-decision making, which were key psychological outcomes that would benefit the client.
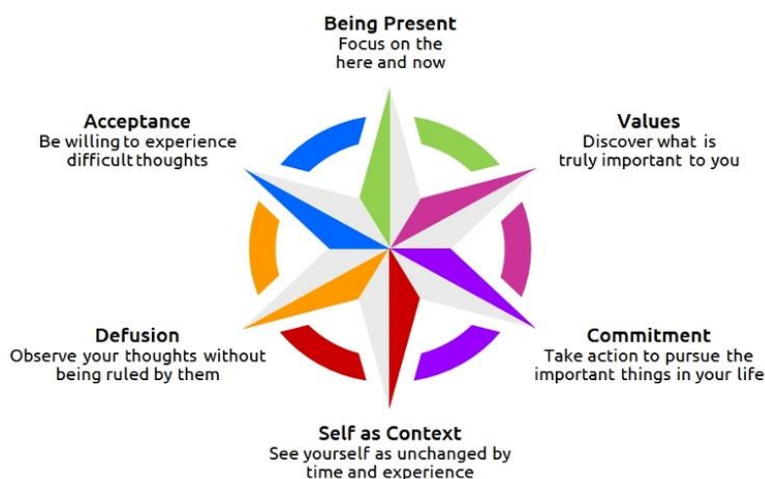
Figure 1: Six processes in ACT to increase psychological flexibility (Hayes et al., 2006)

The ACT process brings these links and associations into the conscious state, which helps the client to break them down by changing a client's perspective in how they react to such links or patterns. Some specific procedures involved in this perspective change (figure 1) include bringing out the individual's values, allowing an environment of acceptance, learning that one's experiences are temporary and transient (psychological flexibility), and eventually eliciting behaviour modification based on one's values. Such changes allow the client to experience a reduction in anxiety and be better able to better focus on the task without any distractions.

Intervention

First Session: I introduced the intervention to the client, which was a modified version of the MAC (to make it more suitable for an 11 year old). We discussed how we needed to i) re-engage his positive mind-set and emotions towards tennis by accepting that his traumatic experience was only based on one transient and previous event (focus more on the present moment). ii) To shift focus from winning to enjoying the whole process of performance and training (acceptance of this shift). iii) To become more 'in touch' with who he is as both an athlete and as a person (bringing out values) and change dysfunctional behaviours to more values-driven ones.

Second session: I introduced the idea of present moment awareness and asked the client to bring a tennis ball, pen and paper. The idea of this exercise was to practice present-moment awareness with something related to his sport, by asking him to tell me about the shape, texture, material, special features etc. of the ball and to write down the feelings the ball creates. The inclusion of feelings was to see how intense the client's anxiety level was towards tennis, what kind of language he was using to describe it, and to check whether it would be feasible to push further in getting him to approach his fear rather than avoiding it.

Third session: The client had found the application of the technique used in session 2 successful, and he had made use of it in his sport and everyday life. Based on this positive progress, I moved on to using a Brief Centering Exercise (see appendix 1) during sessions to promote more attention and awareness (Gardner & Moore, 2007). The client was given the task to move the tennis ball task into a court setting and increase the number of times per week he practiced the Exercise (see appendix 2a). The idea here was to allow the client to replace the fear created from his previous negative experience and to realise that setbacks (losses) are a normal part of competing and that they are transient experiences (not part of one's identity).

Fourth session: There was a sudden turn of events. Mum told me that school noticed that the client was not being his usual self (he was very negative and withdrawn in PE, which was unusual). The school PE teacher talked to him privately about being negative and resistant in the class. As a result, this session was quite challenging, and one that, considering the previous improvement, I was not expecting. I tried several techniques to get him to talk. I asked him gently what was going on, gave him space / long silent pauses, tried a 'draw and no talk' exercise, the brief centering exercise, and reminded him about his progress and why he wanted to see me in the first place. He was resistant to talk and there was little cooperation - it was tough! Given I had started to get to know the client and his reaction to specific situations, I tried to be a bit more assertive by using a different kind of language and tone (Bhatia, 2013), pointing out that his behaviour was neither helping me nor himself. I felt this would trigger a reaction, as he did not want to feel like a disappointment or to make others feel bad by his actions. After doing this, I gave him some space to reflect and it seemed to help. He was willing to open up to his mum, apologise to me, and was willing to reschedule the session for the following week.

Fifth Session: An explanation of last session took place, where the client expressed how he "found the other lecturer helpful but not as helpful as the talks between us". He felt the tennis issue was "90% fear of that episode and 10% him just starting to grow out of the sport".), and he reported how football is "easier and less negative because when the team loses it does not mean that I done something wrong but the team as a whole". He started to discuss how he did not like to be seen as a failure, or feel that failing was completely

his fault. We explored whether this meant he wanted to quit Tennis (his mum does not want him to quit) or whether it was more a case of acceptance and commitment towards overcoming the fear rather than avoidance of the negative experience). During this session a re-evaluation of acceptance, values and commitment (approach vs avoidance behaviours) took place to help him re-visit and reflect on the improvements that he felt had taken place so far and where we needed to arrive in the forthcoming sessions (Hayes et al., 2012). Towards the end of this session he mentioned that his grandad had just died a few days before this session (mum had already informed me about this at the beginning of session), and so I took a little time to allow him space to discuss how he was feeling about losing his Grandfather.

Sixth Session: In this session, the client kept on bringing up his grandad while discussing his feelings and didn't want to talk about Tennis. I agreed that this was fine, and that it would illustrate how the approach we had been working on could be applied to sport and non–sport events; he liked this idea, so I used an ACT based approach in our discussion of his grandad's death. ACT allow him to become aware of the emotions involved in the grief process and acceptance of those present emotions (Hayes et al., 2012). I asked him to write down all the good qualities about his grandad, and we discussed how those qualities relate to his own life. This allowed the client to consider his grandad's qualities and how they may be 'lived out' through his actions. It was quiet powerful. A repetition of the Brief Centering exercise as an ending to the session took place to allow the client to be aware and reflect on the session (Gardner & Moore, 2007).

Seventh Session: In this session, after asking the client in previous sessions to in order to get back in touch with his tennis slowly and gradually by attending a tennis court which is not connected to his competitive tennis practice environment, he came back enthusiastically letting me know that he did have his first experience in an actual tennis court. In previous sessions, I asked him to bring his pre and post reaction to it and he did (see appendix 2a). In addition to this, the client had another in-between session exercise (homework) to bring out the client's values in his performance (see appendix 2b). The exercise is made up of six questions targeting different performance areas or skills, for example, 'what type of teammate do you want to be?', 'what do you value about your activity?' and 'what type of activities do you enjoy and why?'). The exercise showed how the clients' coping skills (based on ACT and Mindfulness) had improved compared to the initial sessions, but the examples from his personal life always came from football, skating and other hobbies, and not tennis. When this was brought up, he expressed how he didn't like the change of level in tennis: from fun to challenging and stressful (promoted to a high elite level). Using examples from the client's life served as a reminder of how acceptance of his values, through hard work and commitment, taught him to understand how values must always be his anchor points that remained 'front and centre' during times of both positive and negative experiences (Gardner & Moore, 2007), which would assist him with his motivation to return to tennis. He showed how he was aware of his values and still

willing to get back to tennis, however he seemed unable to commit to a full return to his tennis at this moment. After exploring how the client was unconsciously using mindfulness in his daily life (during skating and walking the dog), we explored how this can be beneficial and replicated in sport to help him cope when the sporting environment became more stressful.

It is interesting to note that this was the first time I met the client's Dad, and from the Dad's use of language and body language I got the impression that his Dad did not really share his son's passion for, or interest in, sport participation (even though it was his dad taking him to the competitions before). This might be something else that I needed to explore with the client…

Eighth Session: Due to the lack of compliance with between-session exercises, mainly the task given in session 3 (that of practicing tennis in an actual tennis court that is not related to his actual competitive training environment – appendix 2a), once again, a re-visit to the client's values and behaviours took place (Hayes et al., 2012 – appendix 2b and 2c). The client still kept on mentioning how he wants to go back to tennis and that these sessions are helping him getting back to where he was. This was also the first time the client expressed his initial dream "to get a scholarship in tennis and play internationally" and that he was aware of the commitment needed for this and willing to "give it all it takes" if that happens but still feels that he needs more time to "solve the tennis problem".

At this point I started noticing a vicious pattern of how the client wanted to continue with his tennis but somehow there was something holding him back, and I was not sure if this something was related to the client's readiness for competition or whether it was related to something beyond this. Both the client and the mum were constantly expressing how the father seems to be 'stressed out' with work and how the client misses spending time with his father. The client mentioned how before his father's increase in workload, it was him who used to take the client to tennis. Additionally, the client's mum did make an intense remark where she expressed how the client's cause of the sudden anxious attack in tennis was related to this. She stated how the decreased support from the client's stressed-out father made the client feel there was too much responsibility and too much independence placed on him leading to the client's mind and body to shut down. At this point, I felt that the client needed a reality-check to bring out what the true problem with his reluctance to tennis was. We explored the client's relationship with his parents. After the session, I felt there were two options:- 1) to do a session with the parents separately followed by a session with both the parents and the client to explore any underlying parental relationship issues. 2) To go with the mum's suggestion of increasing the intensity of the exposure by taking the client to the place he used to train for his tennis. This would facilitate the next step in the intervention by allowing the client to reconnect with

the emotions he experienced on the court in the Tennis environment, while I could be there to observe and monitor the process.

Another sudden turn of events: Although the client and I felt the sessions were helping him want to go back to Tennis and continue with his achievements, it became apparent that his dad held a different view, and felt it was not the time for his son to go back to Tennis. This decision felt quite drastic and sudden to me. Based on what the client's mum told me, his dad was under stress at the time and did not want the client to continue, as he did not have enough time to spend with his son due to working away during the week. I wasn't sure whose interests were being served here, the client or the dad, and part of me felt the dad was being a little selfish. I tried to stop myself making these judgements, but felt disappointed that our work had come to what I thought was a premature end. A few days after what turned out to be our last session, I knew that the client's mum had arranged a meeting for her son with one of his oldest friends from tennis. Sadly, this meeting was cancelled, which left the client feeling extremely upset. I felt the client was desperate to get back in touch with tennis, and told his mum that after achieving so much as a performer and making progress through the sessions, it would be a real pity to stop. However, the client also expressed how he prefers to use the few free time his father has, to spend some real time with dad. At this point, I had to leave it up to the parents and told them that if they ever need me in the future I will be more than happy to continue the work.

Evaluation

To evaluate the effectiveness of the consultancy, the evaluation process was triangulated based on i) my own observations of how I felt the client progressed through the intervention tasks and his behaviours during the consultancy phase, ii) social validation obtained from the client's mum, and iii) the Consultant Evaluation Form (to monitor my effectiveness).

Intervention Observations during Sessions

The tasks used during the sessions mainly involved written exercises based on the ACT approach and meditation practices (such as Brief Centering Exercise in MAC). These where designed to allow the client to stay in the moment, increase both internal and external awareness, reflect on what his purpose, priorities, strengths and weaknesses were, and to have something tangible to consider and reflect on after each session. Through these exercises, I observed that the client's language started to change into a more accepting (e.g., accepting that failures are necessary to improve oneself and that commitment is needed in order to maintain high levels of performance) and pro-active/committing form (committing to the hard(er) training that is involved when an athlete moves into elite division). Even though at this stage change was largely verbal

rather than behavioural, the fact that the client could start making connections between what his values and priorities were to his life in general was a significant and positive step forward for him personally.

Intervention Observations between Sessions

The tasks used between the sessions mainly involved written exercises through the use of specific MAC forms (e.g., performance values form), and more active meditative exercises to allow the transfer of meditation to the clients' daily life through the use of specific MAC exercises (e.g. the washing a dish / brushing teeth exercise). These where accompanied by some gradual exposure exercises related to tennis and the other sports he practiced. Similar to the during session exercises, his improvement in the written exercises between session where reflected in the change of language he started using to reply to the tasks. For example, in his active exercises, I could notice that whenever he did a task his eagerness in doing them and depth in explaining them was more positive and very pleasant to hear. Through the gradual exposure exercises, even though compliance was not at its optimal, the client was always willing to go a bit further than previous sessions (e.g., taking it from the home to a tennis environment, or doing it more frequently from once a week to twice a week etc.)

Social Validation

With the consent of the client, before and after every session a briefing with his mum took place. These briefings helped to inform the sessions but also generated insight about the client's progress. From these social validations, I was able to acquire useful detail that helped me to evaluate the impact the sessions were having on the client. For example, his Mum told me that the PE teacher had noticed a positive change (return to normal) in the client's behaviour at school. She reported positive changes in the client's mood post my sessions with him and that he had told her he was enjoying our sessions. She had begun to observe him practicing his tennis strokes through random instances of shadow tennis training in the kitchen!

Consultant Evaluation Form (Orlick & Partington, 1987): Based on the CEF form (see appendix 3a and 3b), the client seemed to find the sessions "definitely helpful" and "feel more positive". The scores for the first question in the CEF, 'please rate your sport psychology consultant on each of the following characteristics by using a number from 0 to 10 as seen on the scale below', ranged between 7 and 10 with the average being 8.56. At first, he found it hard to understand some of my words due to my Maltese accent, but eventually he started to get used to my accent and found the "content perfect". In fact, in the second question regarding to the effectiveness of the consultant, he scored +4, where the minimum was -5 and the maximum was +5.

Reflection: What would I have done differently?

As this was my first very young client, I was quite anxious but excited to work on this case. It was quite challenging at first, but then I realised how kids can manage to use so much creativity and imagination when it comes to dealing with problems. Considering that I try to be as creative as possible when it comes to session delivery, there were times when I did have mental blocks about how to present an issue to the client in a very easy and clear manner. However, the creativity and imagination the young client presented me with was so refreshing. It helped me to deal more effectively with my own creativity blocks (he did some of that work for me!) and allowed me to follow my personal philosophy more: that of giving the client the power of being in control of the change process through that acquired awareness of one's thoughts, beliefs, values and actions (Gardner & Moore, 2007).

Psychometric tests: Normally the MAC suggests starting the programme with several psychometric tests (e.g., Acceptance and Action Questionnaire; Penn State Worry Questionnaire; Young Schema Questionnaire; Frost Multidimensional Perfectionism Scale and Mindful Attention Awareness Scale). Considering that the client was young, (some tests can be a bit difficult for a young person to understand) and that both he and his mum were very open about the presenting issue I opted to explore the concepts normally quantified from test results through informal discussion in our sessions. Key themes (he was quite avoidant, worried a lot when he performed badly and was quite perfectionistic in the sense that he sets too high of standards for himself) did emerge during the sessions. The issue with his dad may have presented itself via the young schema questionnaire data, and could have been addressed in earlier sessions.

The fourth session episode: While being mindful of the ethical considerations i.e., not being able to disclose any information due to data protection and safeguarding issues, I wondered whether I should have asked whether I could have spoken with the client's PE teacher, or even arranged a consensual observation session at his school. This could have helped me to understand more about the client's behaviour at school, and given me additional insight on how the client used to be before the tennis episode.

The dad issue: Looking back, I think I should have addressed the hunch I had about his dad not wanting him to continue playing, and maybe it would have been a good idea to have a session with client, mum and dad present. This may have clarified the situation, maybe even the client's uncertainties, with all parties, and perhaps opened up some valuable dialogue as a basis for possible future Tennis participation. Having said that, still being a trainee I was not sure that I was ready for such a 'confrontation'! Part of me was feeling that there might be other underlying issues between the parents. Maybe I should have had another meeting with my supervisor at this point to give me an additional 'expert' view.

Overall: This case enlightened me in areas of practice I had never previously considered when working with clients of a younger age group. From that perspective alone, it was an extremely valuable experience for my own practitioner development. In addition, it taught me an early and important lesson about applied practice, namely that in training (and I am sure post-qualification too) we need to be prepared for, and have strategies to learn how to deal with, consultancy when it does not go to plan or come to a satisfactory conclusion.

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Appendix 1: Brief Centering Exercise:

Brief Centering Exercise

This brief exercise will help you focus on the immediate moment. You will also begin the process of developing the skill of mindful attention. This exercise should take you about 5 minutes to complete. As with any other exercise or activity, before you start, remember that success requires the development of specific skills, and a commitment to working on the development of these skills is the first step to success.

Please find a comfortable sitting position. Notice the position of your feet, arms, and hands. Allow your eyes to close gently. [pause 10 seconds] Breathe in and out gently and deeply several times. Notice the sound and feel of your own breath as you breathe in and out. [pause 10 seconds]

At this time, focus your attention on your surroundings. Notice any sounds that may be occurring. What sounds are occurring inside the room? What sounds are occurring outside the room? [pause 10 seconds] Now focus your attention on the areas where your body touches the chair in which you are sitting. Notice the physical sensations that occur from this contact. [pause 10 seconds] Now notice the spot where your hands are touching the front of your legs. [pause 10 seconds] Now notice any sensations that may be occurring in the rest of your body and notice how they may change over time without any effort on your part. [pause 10 seconds] Don't try to alter these sensations; just notice them as they occur. [pause 10 seconds]

Now, let your thoughts focus on why you have chosen to pursue this program. [pause 10 seconds] See if you can notice any doubts or other thoughts without doing anything but noticing them. Just notice your reservations, concerns, and worries as though they are elements of a parade passing through your mind. [pause 10 seconds] See if you can simply notice them and acknowledge their presence. [pause 10 seconds] Don't try to make them go away or change them in any way. [pause 10 seconds] Now allow yourself to focus on what you want your performance life to be about. What is most important to you? What do you want to do with your skills? [pause 10 seconds]

Remain comfortable for a few more moments and slowly let yourself focus once again on any sounds and movements occurring around you. [pause 10 seconds] Once again notice your own breathing. [pause 10 seconds] When you are ready, open your eyes and notice that you feel focused and attentive.

Appendix 2: Exercises used in between sessions

2a: Test trial of tennis in a relaxed setting:

> When I put my clothes on it reminded me of when I
> had to get up early to go to an important Tournament. I have
> a special red jumper that I got from doing a big tournament and
> representing Lancashire. I went twice. The first time we didn't do well
> because we were all ten and everyone else was 11. No-one won a match
> in my team except me. The second time we ended up coming second.
>
> (Before)
>
> After
>
> At first I was a little nervous as I hadn't played in a
> while. It took me some time to get used to it. Dad and I
> had a great laugh! All round it was a great start to the
> day!

2b: Performance values form:

> What type of tennis player do you want to be? A
> What stops you? B
> What do you value about sport? challenge? enjoyment? friends?...
> What stops you? D
> Training - is developing skill important to you? & why + what would
> you want to get better at? E
> What stops you? F
> Technical skill - what do you want to work on? or do more of? G
> What stops you? H
> Tactical skill - what do you care about? I
> What stops you? J
> Fun - what do you enjoy, why? K
> What stops you? L
> A Good, kind, encouraging football player
> B NOTHING
> C challenge enjoyment friends
> D NOTHING
> E Yes, it could help me in later life. Better at Att + getting
> F NOTHING
> G I want to work on my football skills and maths
> H Not working hard enough
> I Family + doing well
> J Feeling negative
> K Skating and being around friends
> L Nothing
>
> I apologize for the writing
> Had to do it quick!

2c: Committing to performance values form:

Footy Match

1. There weren't any except the fact that referee was dreadful. I will explain to you soon.

2. I was taken aback with one thing when he turned round and asked us to 'shut up'.

3. As I am a kid and he was adult, I couldn't really say: 'look, you're a rubbish ref, go away'.

4. It felt good to know that there was nothing troubling me at the time.

Bike ride with Dad

1. We were going to go to 'billinge woods but there was a sign saying we couldn't so we met mum and Ellie somewhere else.

2. I was slightly annoyed because I have always wanted to go there + it has bike jumps

3. I couldn't have done anything because it would technically be prohibited.

4. I zoned out and enjoyed it with my dad. It felt good.

Appendix 3a: CEF Form

Table 1
The Sport Psychology Consultant Evaluation Form

Name _____   Consultant's name _____
Sport _____

Please rate your sport psychology consultant on each of the following characteristics by using a number from 0 to 10 as seen on the scale below.

not at all										yes, definitely
0	1	2	3	4	5	6	7	8	9	10

1. Consultant Characteristics   Ratings
   Had useful knowledge about mental training that seemed to apply directly to my sport.   _____
   Seemed willing to provide an individual mental training program based on my input and needs.   _____
   Seemed open, flexible, and ready to collaborate/cooperate with me.   _____
   Had a positive, constructive attitude.   _____
   Proved to be trustworthy.   _____
   Was easy for me to relate to (e.g., I felt comfortable and that he/she understood me).   _____
   Fitted in with others connected with the team.   _____
   Tried to help me draw upon my strengths (e.g., the things that already worked for me) in order to make my best performance more consistent.   _____
   Tried to help me overcome possible problems, or weaknesses, in order to make my best performance even better and more consistent.   _____
   Provided clear, practical, concrete strategies for me to try out in an attempt to solve problems, or improve the level and consistency of my performance.   _____

2. How effective was this consultant?

	hindered/ interfered									helped a lot
effect on you:	−5	−4	−3	−2	−1	0	+1	+2	+3	+4	+5
effect on team:	−5	−4	−3	−2	−1	0	+1	+2	+3	+4	+5

3. Do you have any recommendations to improve the quality or effectiveness of the sport psychology consultation service being offered (write suggestions on back of this evaluation sheet).

Appendix 3b: Client-filled CEF Form

It was useful to review your questions with joe, the scores below are absolutely his answers with no input at all from me. He smiled broadly about his time with you and reiterated that you definitely helped him and that he still feels more positive. He continues to find the relaxation exercise the most useful! We have talked a lot about tennis more recently, there have been tears and regrets. As I sit here he is playing table tennis with gusto, not quite the same as tennis, but a little way in that direction! I will continue to try to see if his coaches will meet briefly with him. Please find Joe's responses below:

Question 1
A) 8
B) 9
C) 8
D) 10
E) 8
F) 7
G) 7
H) 8
I) 9
J) 10
Question 2
A) +4, he almost gave you 5!
B) he left blank
Question 3
He felt bad that at times he found it hard to understand your words due to your accent, but knew the content of what you said was perfect and was therefore understood. He was very embarrassed that at times he found it hard.

I do hope these answers help and assist you, please do let me know if you should require anything further at all.

Consultancy Case Study 2

Background to the current case

The client is a 20-year-old student-athlete who is part of the Talented Athlete Scholarship Scheme (TASS). She plays both rugby and netball (more leisurely) with her focus being on rugby. She is currently a 2nd year university student studying for an undergraduate degree in civil engineering while also professionally playing rugby. In her regard, she is a Dual Career Athlete in a Sport friendly university environment (Morris et al., 2020).

I am part of the TASS team within the University, where-as a Trainee Sport and Exercise Psychologist I fulfil a Performance Lifestyle Advisor role. The lead Lifestyle Advisor at the university approached me to provide some support to the student athlete.

Based on the first initial meeting, it was clear that this client's sessions were going to take more of a holistic approach based around psychology and performance lifestyle, rather than a narrower focus on performance psychology. Even though the client felt she was a well-prepared and organised person, her expectations from our sessions where based around me helping her to develop her time management and future planning skills. In addition, she expressed how working with me would be helpful in knowing she has a support system and resource that gives her 'space', where she can feel secure and trusting to open up about issues that may be troubling her during her scholastic/sport year, while also helping her to get through them in the most efficient way possible.

The expectations and agreed aims and objectives of our work, and the ethics boundaries of our interactions, including confidentiality, where discussed through an informal discussion in our initial intake session. We agreed that contact would take place via university email, meetings would take place on university premises, and that consent for such sessions was in place through the TASS agreement signed with the lead lifestyle advisor before we met. The TASS system enables the sharing of information between the stakeholders (lifestyle lead, strength and conditioning coach, physiotherapist, psychologists/lifestyle) involved with the TASS athletes as a form of open confidentiality (documented in the TASS agreement the athletes sign). Being conscious of how this deviates from the BPS code of conduct (closed confidentiality), I made the client aware of how confidentiality would work for us. If there was anything she was not happy for me to share with other TASS stakeholders, I would be able to respect her right to privacy and not share it with the other support staff. Although this turned out not to be something that needed to be activated in

our work, in my mind it was an important ethical consideration to have it placed with regards to my own professional standards of working.

Philosophical Approach

This work (and the documentation of it in the case study), enables me to consolidate my professional practice philosophy, and to draw on the 'golden threads' evident in case study 1 that reflect my core values and aims as a psychologist. Specifically, I aim to provide the best service I can, at that moment in time, with the circumstances I have in front of me, and, from the client's perspective, bring out the best in them based on what they wish to achieve, while facilitating client-driven solutions about how to cope autonomously, cope with performance and lifestyle issues they encounter. My belief is that everyone has the ability to self-heal and, through this process, attain what they want to attain and change what they want to change, as long as they are willing to work on their inner and outer awareness, accept what the priorities are at that moment in time, and be willing to commit to their own values. I also embrace how each client is a new and different case who have both similar and different life experiences. Due to this, I highly value longer-term work with clients that allows time for trust to build between client and practitioner, facilitating a genuine interest in, rich understanding of, and empathy for, the client's story.

Needs Analysis

The needs analysis undertaken involved a series of dialogues, one with the client during the initial meeting, another with the lead lifestyle advisor at the university, and a further group meeting between all university TASS stakeholders, involving the strength and conditioning coaches and physiotherapist. This enabled triangulation to occur across the stakeholder groups, and the consensus was that guidance in relation to being a dual-career athlete, assistance with time management and future planning and having an extra "safe space" where the client can express herself freely in a trust-worthy environment was required. As a result, the need to contact further stakeholders such as parents or other coaches, or carry out any psychometric testing, profiling or client observation were not deemed to be required. It was felt that a holistic open-ended approach was appropriate to enable the client to have monthly sessions over a long-term period. Liaison with other TASS stakeholders was something to keep in mind throughout our sessions, should there be a need for input from other specialists at some point.

Case Formulation

Based on the needs analysis, I formulated my work using a holistic framework. Given the client's needs, combined with and my own values, beliefs and practice philosophy, I sought to use a framework based on the work of Burns et al., (2018), which takes a person-centred and autonomy-supportive micro, meso and macro level approach (Burns et al., 2018; Schinke et al., 2018; Sandardos & Chambers, 2019) when dealing

with clients. These levels represent psychological factors, performance strategies, interpersonal relationships and lifestyle practices (Burns et al., 2018; see Figure 1), that facilitate an integrated and holistic view and perspective on the athletes world (Schinke et al., 2016).
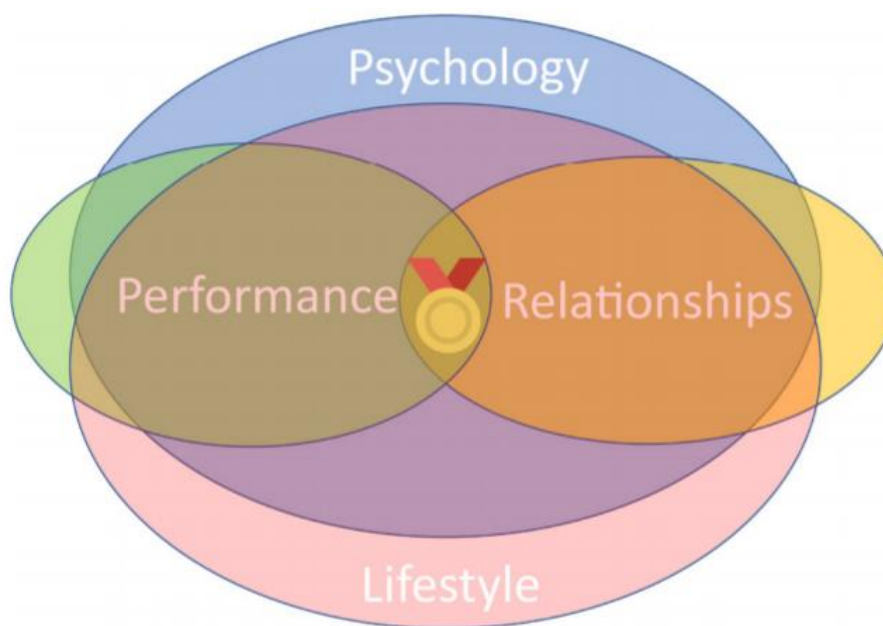
Figure 1 – Contributors to World Class Performance (Burns et al., 2018)

As a result, several areas of holistic exploration where targeted throughout our sessions together, based on the client's experience and needs. These included dealing with unexpected minor injuries, the connection with her parents, coping with exam stress, checking her work-life balance and time management, considering future career planning, and establishing a support network. In terms of consultancy process, I remained cognisant of the client's need for a safe, secure and trusted space to express her emotions freely and without judgement, while also helping her to deal with any unexpected occurrences that took place in a performance lifestyle context. I found the integrated approach afforded by this framework (Schulenkorf & Siefken, 2019; Sandardos & Chambers, 2019; Stambulova & Wylleman 2019; Burns et al., 2018; Schinke et al., 2018; 2016) really helpful in guiding my own thinking and how I directed the client to consider her issues in an integrated and holistic manner.

Intervention

Based on the foundations of my professional practice philosophy and the needs analysis and case formulation undertaken for this client, I felt congruence and alignment for a model of approach underpinned by cognitive psychology, in particular Self-Determination Theory (Deci & Ryan, 1985). This would enable me to foster autonomy, and use Socratic Questioning (Corlett, 1996) as a cognitive technique that would facilitate client-driven solutions. In my training, I have found a number of professional practice articles

useful in informing my model of approach. Firstly, the importance of the relationship in effective service delivery is important to the values that inform my own practitioner identity, and forms a common active ingredient of my service delivery. (Tod et al., 2017). Secondly, the work of Gustavsson et al. (2016) identifies the features of effective use of autonomy-supportive dialogue:-

- relying on non-controlling and informational language,
- providing explanatory rationales for therapeutic suggestions,
- taking the client's perspective during therapy,
- acknowledging and accepting negative affect as normal
- displaying patience to allow time for self-paced, long-term and sustainable learning to occur
- identifying, vitalising and supporting the clients' inner motivational resources

I have found this approach resonates with my own core beliefs and values about client interaction when facilitating behaviour change e.g., better time management and future planning skills in the case of this client.

The session-by-session description that follows reflects both the work that was carried out with the client and the model of approach that parallels the elements above.

Session 1: 22/10/18

The first intake session was an informal introduction to Sport Psychology work, allowing us to clarify each other's expectations and begin to form rapport. It also gave the opportunity to discuss ethical issues, such as how I would deal with confidentiality and competence boundaries, as well as logistical issues relating to preferred meeting times (afternoons or early evenings), days (mostly Wednesdays or Thursdays), location (LJMU premises as her preferred choice). We discussed the client's expectations and aspirations for the work (helping her with life management, organising, time management, and providing a listening ear and additional support throughout the year). In addition to this, she gave me a brief overview regarding her social, educational, financial, sport and emotional/psychological background. From the intake session, I already began to notice the highly deterministic behaviours and pro-active approach the client took. She seemed eager to learn more about herself and to establish a network of people who could provide her with support. She was proactively researching and engaging with providers where she could secure the opportunity of a placement in line with her studies. She was willing to go and search out more information on any signposting I suggested. She seems to be autonomously motivated (Reeve et al., 2008).

Session 2: 4/11/18

Using the holistic model, I explored her thoughts around 'psychology', 'performance', 'lifestyle' and 'relationships'. She mentioned that she was having a back problem. From a relationship perspective, I

checked whether the related support networks (Hings et al., 2018; Stambulova & Wylleman 2019) had been contacted, and if not reminded her who to contact. From a psychological perspective, we explored her response (thought and feelings) with regard to the injury. I established that contact with the support network had occurred and that psychologically she felt (and seemed) "fine" about the injury. In exploring the lifestyle element of the framework, she opened up a discussion about the importance of work/life balance, and of how pro-active and focused she is in that regard. However, she expressed that she might need some guidance on her time management. Considering that being a student-athlete can be quite hectic, it can be easy to find oneself 'off balance' and unable to pay enough attention to important areas in one's life. As a result, in order to take a 'helicopter view' of her life, we carried out the 'wheel of life' activity (see appendix 1) (Meyer, n.d.) as an effective means to explore time usage and better management of it. She was surprised with some of the results, mainly with the large amount of time she spent sleeping. In line with providing an autonomy support environment (Reeve et al., 2008), I facilitated a discussion to enable her to consider how she might improve her time management and to undertake further self-reflection and discovery on it when she was back home.

During this session, I also addressed a recurring psychological theme that I saw emerging quite frequently during our talk; that of attending her sport for the enjoyment of meeting her friends. I wanted to clarify whether she was in the sport because of intrinsic sport related motivations (Burns et al., 2018) or whether it exists as more of a 'means to an end', leading to something unrelated to sport itself (e.g. social connection). She clarified that while she did enjoy the company of the other girls but she also loved rugby, so the sport was the primary motivation for engagement, which the social connection being a valued but secondary 'fringe' benefit. This opened up a psychology based discussion about her reaction to a 'critical moment' of deselection. We discussed how she felt, and she expressed that while she was unhappy about it at first (because she cared) but was eventually able to accept it, and had become better at coping with this over time. I was surprised by such mature behaviour towards non-selection (perhaps I was too judgmental here) but we discussed how she could more quickly accept the reality of the deselection 'critical event', and how to transfer that mind-set to other critical events when they occurred. In the context of her wider situation, she arrived at the rational conclusion that de-selection could not have arrived at a better time, as her last year at university was going to be intense and might have required her to sacrifice some of her Rugby in any case.

At the end of this session, she expressed how she felt she needed to add a bit more muscle for her Rugby (performance). We discussed how other support networks (strength and conditioning coach) could be used to help, and how adding muscle may not be a very quick task, and from a psychology perspective how she could focus on making small and shorter term goal related improvements to enjoy the process rather than

setting an end target weight (Gross et al., 2018). She expressed her approval towards this as a good idea, and that it might help her to get back to her favouring wing position instead of her current full back.

Session 3: 3/12/18

Everything seemed to be going well. In this session, the client expressed how she was feeling "on top of everything". From a performance perspective she was excited for the rugby training to be starting once again (she'd had some netball league games in the meantime to keep her fitness going and she had enjoyed them), and that her injury was being well taken care of by the physiotherapist and strength and conditioning coach. From an academic (lifestyle) perspective she felt well prepared for her exams while still having good work-life balance (within realistic circumstances – we discussed how during exams it tends to be normal to have a bit less social contact to focus more on the exams – positive normalisation of the situation).

Session 4: 25/1/19

During this session, apart from the usual holistic check-ups (school, sport, injury, family, social life etc.), the client mentioned that she had secured a placement in connection to her degree (civil engineering). Once again, I was very pleased with her dedication and pro-active approach towards her career ambition. She was positive about her exams finishing and went they had gone well, while the placement was giving her a newfound sense of added purpose. She felt an optimal balance between sport and university, which is important for dual career athletes to navigate their Dual Career territory successfully (Stambulova & Wylleman 2019). Specifically, her dual career management and career-planning competency seemed good, and she was demonstrating resilience ad adaptability to her current and changing circumstances (Brown et al., 2015)

It was in this session that the client discussed her connection with her parents (relationship). She expressed how she misses her mum as she's "constantly away for work" and that her father tends to have a bigger influence on her lifestyle choices as he's a rugby league coach, was used to play rugby (sport) and was carrying out a PhD (academic) – a dual career athlete influence! Through an autonomy supportive approach, we discussed the importance of social support but also determining and following her own path that she really wants to pursue rather than what her parents want her to. She confirmed that all her life choices are hers, but that her mum not being around or available all that much does make her upset, although she was unsure why that was, given neither was at home all that much. I explored the idea that it was normal to miss family connection, even though she was used to being independent, and she agreed that this was probably an accurate assessment of her reality that would help her to rationalise and take ownership of her thoughts and emotions when considering the relationship she had with her parents.

Session 5: 22-2-19

The client had experienced a setback in the form of a new injury (sprained ankle), which was already being take care of within the TASS support networks (strength and conditioning coach and physiotherapist). She was surprised with the way she was coping with it, and mentioned that before our sessions together, she used to be far more panicky, and that meeting up and openly discussing challenges had made her feel more confident and equipped with coping skills to deal with such setbacks efficiently. We discussed the importance of awareness of ego and keeping it in check during injury rehabilitation, by following the advice of the rehab coach and accepting the situation, while retaining her athletic identity to feel part of the team during her recovery (Hayes, 2019).

Her feedback during this session was highly reassuring. She expressed how "it feels good to have these sessions as I feel I'm not drowning in my thoughts and it keeps me on track"…"I also love the fact that I can get things off my chest"

Session 6: 13-3-19

In this session, the client reported some changes she had made in relation to the way she was taking ownership and responsibility. For instance, the client reflected positively on her perceived competence to cope with her injury, which, based on a meeting she had arranged with her physio, was physically improving all the time and had allowed her to look forward to the start of the Rugby season in a month's time. She was not encountering any fear of re-injury. Her parental connection had taken an up-turn. She had spoken with Mum, and as a consequence of their conversation, she expressed how her mum was spending more time with her, and that she liked it! Through our work together, the client had started to become more competent and autonomous to be more self-determined in her behaviours e.g., seeing the physio and speaking to her Mum.

Session 7: 1-5-19

We planned an early May session, as she was unable to meet up in April. Considering that almost two months had passed since the last time we met, it became apparent that her injury was not healed 100%. While she did express how she was following the advice to keep on attending rugby sessions, which was helping her to maintain a sense of athletic identity, she now expressed some emotional frustration, especially given the rugby season had started. While empathising with her feelings, I tried to get her to normalise the situation by discussing that her experienced psychological response to injury was a typical reaction to a critical event that can cause distress. In order to assist my consulting approach, I chose to explore some development of her acceptance, drawing on my experience and expertise in using

mindfulness-acceptance-commitment intervention techniques. I felt they would help her to accept the situation (Hayes, 2019), and as a result assist her injury recovery (MacDonald & Minahan (2017).

Session 8: 15/7/19

This was our final session. The client was transitioning out of the university for the summer (and thus the TASS scholarship agreement). This also coincided with me leaving the UK in August and not continuing to deliver lifestyle support as part of the TASS provision. Moreover, the client was doing well and felt positive about her sport and career outlook, so there was mutual agreement that she should now continue without my assistance, and that this was a natural point to terminate our work together. This session ended on a very positive note. Her injury was completely healed and she was playing rugby again (with her coach complimenting her performance), and she had passed all her 2nd year exams. We discussed our work together, and she expressed how the sessions and opportunity to have a safe space to share her thoughts had helped her to cope with return to her sport, and developed her time management skills within sport and life contexts. I offered to remain available to her remotely should she need any help from me in the future, and to ensure continuity of support until the next academic year when someone else would take over my position.

Evaluation

Evaluation of the consultancy took the form of her evaluating me and my practice (based on the Consultant Evaluation Form - CEF), and my evaluation of the client through her progress with the intervention tasks and my observations of her cognition and behaviours during the consultancy. I also acquired social validation through the feedback she gave in sessions, alongside the feedback from the LJMU TASS lifestyle lead and other stakeholders (LJMU TASS Strength and Conditioning, Physio and her own coach's feedback) involved directly with the client. For this client, the broad holistic approach meant that my key indicators where less dominated by actual sport performance (e.g., coach feedback on her rugby play), but included other psychology strategies e.g. coping with injury return, lifestyle e.g. improved time management and relationship indicators e.g. speaking with Mum.

As can be seen in the CEF (see appendix 2), the ratings were indicative that, in her view I had been effective. The only low marks given were those related to the team, but as she explained, this was because I was only seeing her individually and not as part of the team. While the sessions may have gone well because she was an exemplar student-athlete, at the same time she did express how she benefitted from my assistance in helping her to navigate the scholastic/sport year. Based on all the client and stakeholder feedback provided and the change witnessed in some of the client's behaviours, it was evident that salient psychological performance strategies, interpersonal relationships and lifestyle practices outlined in Burns et al's (2018)

integrated and holistic model had been enhanced through the autonomy-supportive we had sought to undertake.

Reflection

Holistic Approach:

At first, I felt this client might be quite a challenge. It was not her, rather me being more used to sport psychology, not being fully integrated with other stakeholders (Physios, nutritionists, strength and conditioners etc.), and being left to work in isolation on performance psychology issues, but with the expectation that we will work like the other specialists to secure quick fixes. I had the opportunity to work with this athlete on a longer-term basis, without any specific problems to target or fix. This felt very refreshing and liberating, but that said I felt quite unsure on how to conduct the sessions without a clear intervention goal or technique driving the work – it was just 'me and my dialogue' – no gimmicks or tricks! The 'scary freedom' to work in this way made me realise that, contrary to my previous belief (sport psychology is only targeted for quick-fixes, therefore, high structured programmes/interventions are needed), I realised that an open and holistic approach can work just as effectively and efficiently. Being able to target an athletes' development on a multi-dimensional athletic, psychological, psychosocial, academic and vocational level (Schinke et al. (2018), across performance, lifestyle and relational domains opened up a wholly different perspective on Sport Psychology practice for me. I felt this experience developed and broadened my competence to work across the performance, development and well-being continuum, and illustrated to me how my practice philosophy and approach can be applied to more holistic sport psychology needs in addition to those that are more narrowly performance enhancement focused.

Time allocated per session:

This particular case study made me realise that it's not that I don't fit into the sport-psychology world, but rather that I value sessions that allow me to develop a genuine, professional relationship with the client much more. I have loved longer than the 30 min per session allocated by TASS for our sessions. Sometimes I thought we were only just getting started! While I tried my best to make the best use of those 30 mins, while also not be too rigid and stopping the session at exactly 30 minutes if the client needed a bit more time, it made me realise that time limited sessions are not ideal, particularly when adopting this type of 'technique-less' based approach and holistic perspective.

Meetings between stakeholders:

For the first time as a practitioner, I had the opportunity to have meetings with all the involved stakeholders who were also having sessions with my client. I really valued these meetings as they served as reassurance for my work, sometimes even making me aware of additional information, which may be fruitful for the

athletes' development (e.g. injury progress from strength and conditioning and physiotherapist coach). Such meetings made me feel part of a team whom genuine intentions were solely towards improving the quality of life of the athletes involved. The only drawback was that I wished we had more frequent meetups, but it taught me the value of inter-professional working and being part of a multi-disciplinary team. I would relish rather than resist this if, and when, the opportunity arose again in future work.

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Appendix

1) Life Wheel:

Identify up to 10 activities that make up the majority of your week:

Lectures - 22 hrs
Private Study 35hrs
Netball - 5hrs
Social 10
Cooking 7
Sleep 42 hrs
Showering 2 hrs

123/360 3° = 1hr

Divide the wheel on the right by the number of activities listed above. The size of each segment should reflect the amount of time (resource) taken up by each of the activities above

2) CEF

Please rate your sport psychology consultant on each of the following characteristics by using a number from 0 to 10 as seen on the scale below.

not at all										yes, definitely
0	1	2	3	4	5	6	7	8	9	10

1. Consultant Characteristics

Ratings

Had useful knowledge about mental training that seemed to apply directly to my sport. — 8
Seemed willing to provide an individual mental training program based on my input and needs. — 9
Seemed open, flexible, and ready to collaborate/cooperate with me. — 10
Had a positive, constructive attitude. — 10
Proved to be trustworthy. — 10
Was easy for me to relate to (e.g., I felt comfortable and that he/she understood me). — 10
Fitted in with others connected with the team. — 5
Tried to help me draw upon my strengths (e.g., the things that already worked for me) in order to make my best performance more consistent. — 8
Tried to help me overcome possible problems, or weaknesses, in order to make my best performance even better and more consistent. — 10
Provided clear, practical, concrete strategies for me to try out in an attempt to solve problems, or improve the level and consistency of my performance. — 8

2. How effective was this consultant?

	hindered/interfered									helped a lot
effect on you:	−5	−4	−3	−2	−1	0	+1	+2	+3	+4	+5
effect on team:	−5	−4	−3	−2	−1	0	+1	+2	+3	+4	+5

3. Do you have any recommendations to improve the quality or effectiveness of the sport psychology consultation service being offered (write suggestions on back of this evaluation sheet).

Consultancy Case Study 3

Background to the current case

The client is a 17-year-old student-athlete who is part of the Talented Athlete Scholarship Scheme (TASS). She is a competitive archer with team Archery GB competing in Junior and Senior national and international events. She is also a university student studying Art, Media, English literature and English language. In my role as a Trainee Sport Psychologist and a Performance Lifestyle Advisor within the TASS team at the student's university, the Lead Lifestyle Advisor approached me to work with the client.

Based on the first initial meeting with the client, and from information gathered from the lead lifestyle advisor, it was evident that the client needed assistance both with life management in relation to her approach to dealing with her dual career status as a student-athlete, while also learning how to cope better with her performance anxiety. As part of consultancy intake, the boundaries of work together, including the management of ethical issues and confidentiality, where discussed openly through an informal discussion. We agreed that client-practitioner contact would take place via university email with meetings held on university premises. We both agreed to meet up on a twice-a-month basis. The contracting and consent for our sessions where established via the TASS agreement signed with the lead lifestyle advisor before we met. As part of the TASS protocol on open confidentiality, permitting the sharing of information between stakeholders (lifestyle lead, strength and conditioning coach, physiotherapist, psychologists /lifestyle) I made the client aware that anything she was not happy to be shared would remain confidential. We clarified the exception to this i.e. if I felt there was risk of harm to self and others (as communicated in the BPS Code of Conduct). In this case, in relation to the established protocols there were no resultant instances where confidentiality where evoked or breached.

Philosophical Approach.

This work (and the documentation of it in the case study), enables me to consolidate my professional practice philosophy, and to draw on the 'golden threads' evident in consultancy case study 1 and 2 that reflect my core values and aims as a psychologist. Specifically, I aim to provide the best service I can, at that moment in time, with the circumstances I have in front of me. From the client's perspective, I seek to provide an autonomy-supportive environment to bring out the best in them based on what they wish to achieve, while facilitating client-driven solutions about how to cope autonomously with the demands they face and critical moments they encounter.

My belief is that everyone has the ability to self-heal and, through this process, attain what they want to attain and change what they want to change, as long as they are willing to work on their inner and outer awareness, accept what the priorities are at that moment in time, and be willing to commit to their own values. I also embrace how each client is a new and different case who have both similar and different life experiences. Due to this, I highly value longer-term work with clients (hence why I asked for longer time to be allocated for this specific client) that allows time for trust to build between client and practitioner, facilitating a genuine interest in, rich understanding of, and empathy for, the client's story.

I have also learned through this training process that complete alignment between my own values and beliefs and those of my clients is not always possible. With the client's needs, interests and well-being placed 'front and centre', there will be times where I have to adopt a degree of flexibility in delivering a therapeutic method in a way, e.g. more practitioner-led, than I would like that does not wholly align with my usual model of approach. Keegan (2016) refers to this as a pragmatic approach, where it is plausible to accommodate beliefs in the pragmatic acceptance of something that works. In this case study I needed to consider how I could approach a practice approach to best support this client to cope more effectively with their performance anxiety, and thus help me to feel I have helped them, while maintaining a sense of my own congruence and alignment to philosophy of practice I hold.

Needs Analysis

The needs analysis was carried out through informal dialogue with the client during our initial meetings, conversations with the lead TASS lifestyle advisor, and through a group meeting between all the TASS stakeholders involved (strength and conditioning coaches and physiotherapist). There was a consensus across the support team that from a performance psychology perspective, the client needed support with her ability to deal with performance anxiety.

In the initial stages of the needs analysis, the client was somewhat closed and communication was a little minimal. While I sensed she was anxious (so not just in a competitive anxiety context!), perhaps due to uncertain expectation about how the work with me was going to go, she expressed willingness to be in sessions for as long as was needed. Given this, I felt she needed time to settle in to open up and talk more freely about some of the anxieties she experienced as an athlete, both in sport and more broadly in her dual career. I used this to enable her to gain confidence to talk, even though the dual-career management issue was not the focus of the case study - the athlete made it clear that the performance anxiety issue was her main concern. On the positive side, neither of us were in any particular rush, so the decision to start to build our one-to-one work slowly and to establish a client-practitioner relationship that allowed her to trust and build rapport and confidence formed the basis of our interactions at this point.

In beginning to explore anxiety, I began by asking the client to elaborate on what performance anxiety meant to her. She characterised this as "negative thinking", and worry about "not being able to do more to score" which was not allowing her to improve in her performance, regardless the hard work she put in. Additionally, her presentation (e.g. closed body language and difficulty / reluctance to speak) during our initial meeting, made me feel like she was struggling psychologically to understand and articulate her feelings. The nature of her anxiety, was mainly due to the irrational thoughts that were causing the athlete to lose her focus and concentration on what mattered most during her performance (i.e. her target), leading her to lose confidence in herself and in her abilities overall.

Case Formulation

Based on the needs analysis (competitive cognitive anxiety) and my practice philosophy, a Cognitive-Behavioural approach grounded by Self-Determination Theory that drew on Cognitive Therapy and the use of Mental Skills Training was a congruent and pragmatic approach for a young (student) athlete to help her deal more effectively with performance anxiety. As described well by Beck (1970) and Ellis (1962), maladaptive cognitions contribute to emotional distress, giving rise to specific and automatic thoughts in particular situations (Hoffman et al., 2012), in this case, during archery performance. Therefore, understanding the nature and effects of her anxiety through a cognitive-behavioural lens would help to:

1. Collaboratively understand the cause of negative thinking/anxiety pattern through autonomy-supportive dialogue
2. Improve the athlete's relationship with anxiety and negative thinking
3. Change the maladaptive cognitions into more functional ones, leading to changes in the reaction towards irrational thoughts and, in overall emotional distress
4. To be more confident with her autonomous choices in relation to how she interpreted the anxiety for her performance
5. Re-direct her focus from an external one (score) towards an intrinsic one (self- and task-focus).

Intervention

First session: 27/12/18

The first session was an informal introduction to get to know each other and discuss logistical issues (preferred meeting times, days and location), and expectations and aspirations, including ethical issues in relation to confidentiality and referral. I began a multi-contextual assessment of her social, educational, financial and sport background and we stared to discuss some of her psychological needs, including the need for better anxiety control.

Second session: 10/1/19

We began by focusing on performance lifestyle factors (school, sport, work-life balance, social life, home etc.) to identify any possible non-sport related factors that she may be putting more pressure on her performance. The client did express a desire for a greater quantity and / or quality of her friendship circle ("only 2 close friends"), but otherwise there were no other factors identified as contributing to performance pressure.

From a performance psychology perspective, I gathered that:-

1. She wanted to manage her emotions (particularly anxiety) more effectively and not let them interfere with her performance, but seemed to want only to talk about the psychological issues bothering her in a very limited way before closing down her willingness to engage in further communication.
2. She constantly compared herself to others
3. She constantly mentioned how she was afraid of "not doing well" and of "trying too hard"
4. She needed more self-belief and focus on herself rather than others

In considering these observations, I felt her constant focus on other competitors was making her lose focus and attention on her own performance, leading her to make mistakes, dip in performance, and increase her level of fear and worry. With the intent of collaboratively exploring her view of herself as an athlete in a subsequent session, I gave her some SWOT analysis homework to start to get her to think about herself as an archer see appendix 1).

Third Session: 31/1/19

The client found the findings of the exercises (see appendix 2) interesting – she was surprised, but mentioned that she now had "more awareness", about how much she focused on others, how this was directly related to the extreme pressures she put on herself and how this was affecting her performance. It was interesting that her coach had told her that she places too much attention on others and puts too much pressure on herself, and had suggested psychological support before to address this. Having been resistant to the coach's suggestions, after completing these exercises she felt more motivated to tackle these issues and was more willing to change her approach. In-depth discussions where held about what "focusing on others" meant and how this affects her and her own behaviours. I suggested that we might work on her behaviour awareness in her training and competition settings using Mental Skills Training; every time she caught herself focusing on others (dysfunction behaviour), she switches that by taking a deep breath and allows her focus to go back to her own performance (Kushner, 2011). I explained how this 'simple switch' will allow her to reduce the frustrations towards her dysfunctional behaviour and, as a result, be able to switch her focus back to her performance quickly.

Fourth Session: 14-1-19

This session was relatively short, but in seeking to monitor how her increased behavioural awareness was progressing, she expressed positively how both her and her coach felt that the client was less annoyed or frustrated in her training and she consequently felt less anxious. She mentioned a competition in Slovenia that was coming up at the same time of her school exams, but she was looking forward to and felt well prepared for her exams, suggesting that she was managing her time well and supported with dual career solutions. Her only anxiety was that she has gone up in age group and her shooting distance had increased by 10 metres. We had some discussions on this being an uncontrollable, accepting the reality of the change and trusting the work she had put into training at the new distance. This would enable her to prepare her competition mind-set effectively in a way that normalised the competition stress and her anxiety response.

Fifth Session: 7/3/19

During this session, the client discussed how she and her coach had changed her arrows (stiffer), which seemed to be helping her to aim better. She expressed how she was enjoying the sessions, and she did not want anything about them to change. In my own mind, I had been finding it difficult to gauge much improvement, but perhaps her comment reflected this was less about measurable performance change and more about the benefits of enjoying the process of having someone to talk to about her anxiety who could listen and advice. Her concerns about fearing other competitors (based on the upcoming Slovenia trip) emerged again in this session.

From a cognitive psychology perspective we did some awareness based work around her appraisal of anxiety, and discussed the idea that pressure induced anxiety is inevitable, and therefore represents a normal feeling in sport. While she was interested in working on her ability to control anxiety to develop a more positive expectation to be able to cope effectively, she found the notion that competition anxiety is a normal experience, not just for her but also her competitors, valuable. From a self-determination perspective, she related well to the idea that she could normalise the interpretation of her own anxiety, while seeking to develop competence through coping strategies to control its effects, through either anxiety reduction or anxiety reinterpretation via cognitive restructuring. She regarded this as a positive way forward, and felt it represented a much more functional way to think. She recognised how her current perception about anxiety was dysfunctional and to a degree, irrational. As a result, we co-created a written exercise (see appendix 3) to provide a tool she could have autonomy over and 'own' its use when she was in the competitive environment.

Sixth Session: 4/4/19

In this session, the client mentioned that she had discussed the areas we were working on in our sessions with her coach (constant focus on others, fear and anxiety about competition, and "new ways" to think about anxiety). It was positive that the coach was working to try different ways to help her with in training, such as getting her to practice on a closer target so that she would not be able to focus on other people and concentrating on her own shooting. She felt that this and the exercises we were carrying out together was starting to really help, and she reported having a much better focus as a consequence of "getting to grips with her performance anxiety", and that for the first time she was starting to ignore her focus on score.

Seventh Session: 18/4/19

Although only 14 days passed between this session and the previous one. The client discussed that while her improved focus during shooting was going well, she was nearing both her exams and her competition, so she was starting to feel more anxious about those. Given the receptiveness of her coach to the psychology work she was doing with me, I suggested to her that, if she agreed, it might be useful for me to contact her coach to collaborate on the work we were doing. For me, I sensed that if her coach and I could reinforce the messages we were giving her, this might give her a greater sense of the coherent support system built around her, and give her more confidence to deal with the anxiety she was experiencing. She fully agreed and gave me her coach's email (the coach had already mentioned to her that he was open to contact with me). Unfortunately, this never materialised, as I never managed to get a reply back from her coach to any of the emails I sent.

During this session, I asked the client to explain her thought patterns in relation to her competition/ in as much detail as possible. She came up with a number of self-talk statements, such as "don't doubt it" and "don't back off". While these were helpful to a degree, we discussed how more positively reframed, simple, and performance-associated statements that focus on what she should rather than should not do might be useful in order to stop negative and harmful trains of thought and empower her to be the best archer she can be (Hatzigeorgiadis et al., 2011). We came up with statements that were meaningful to her, such as "stay in your bubble", "believe in the shot" (see appendix 4). (Wegner et al., 1987). These became part of her pre-performance preparation and pre-shot routine.

It was in this session that I also discovered the client's love for drawing. We discussed how she could use drawing as 1) a distraction from focusing on other people's scores in between shooting as part of her performance psychology routines and 2) considering her reserved style of communication, a mediating tool to allow her to express herself more in our sessions. Drawing benefitted our client-practitioner relationship, not only because she liked me asking her to do it but also by serving as a medium through which the client

was comfortable to express herself. For example, when I asked her how an archer in control of her anxiety looked, she found it easier to represent this by drawing an eye, an archer target with the arrow in the centre and some key words that associated with the image (see appendix4). Using this technique I was able to get in-depth information and insight about the client's inner world, and after drawing, the athlete was then able to use her drawing to open out what she was really feeling and experiencing (Çetin & Güneş 2019; Liesch & Elertson, 2018; Woolford et al., 2015)

Eighth Session: 30/5/19

This session debriefed the Slovenia competition. Her feedback was quite negative. She did not perform "well enough" and cited a focus on others – "not wanting a [particular person] to beat me" and "winning "medals", a repetition of the task irrelevant foci we had been working to alleviate in our sessions. It was interesting that the squad psychologist who was present at the competition had told her to work on: 1) Managing expectations, 2) Overthinking, 3) Focus and 4) Not to focus on negative – focus on what she achieved so far. The positive for me was that the Psychologist's own analysis of the client's needs was the same as mine, which helped me overcome my own anxieties about my need analysis and formulation and whether I was going down the right track. We discussed what the other Psychologist had said and how it reinforced what we had been working on, and she understood that while the plan was the correct one there was no magic solution that I could prescribe that would fix the problem. In this vein, we discussed what the other Psychologist had told her about managing expectations, and how expectation and pressure to perform was a frequently recorded example of a competitive stressor that was an antecedent of anxiety. Specifically, I got her to consider whose expectations where being met (and that these should be her own rather than those of others), and whether she felt her self-expectations were too high or too low.

We ended the session with some self-reflection to make sure she realised that every experience is an opportunity to learn something from (Hector et al., 2018). During the discussion she brought up how other competitors "looked like they are already winners" and how she felt "inferior" standing next to them. In referring back to the drawing exercise, and what someone who looked like a winner…looked like… we discussed how the image one portrays does not necessarily determine how one is feeling internally. We discussed the importance of body language and how she can use it to give her more confidence and self-belief, while giving others the impression of a more calm and confident opponent (Furley et al., 2012; Greenless et al., 2005).

Ninth Session: 14/6/19

The client told me that she had discussed our previous session debrief with her coach, who had found the conversation useful, and told the client to be confident to 'speak up more and let her know what she was

thinking and feeling' so as a coach he could offer more help. The client had another upcoming competition in 2 weeks' time, so we re-visited our previous normalisation of anxiety and distraction control strategies, using techniques such as breathing, self-talk and task-focus attention to target the issues associated with her negative (over)thinking and task- irrelevant focus that were hindering her shooting performance. The client drew images of what it was like when she engaged in negative (over) thinking and being distracted. We finished the session by practicing some breathing exercises as a tool she can use whenever she finds herself thinking negative thoughts, which would help her to learn how to let go of the thoughts and switch to a relevant task focus

10th Session: 11/7/19

In the competition debrief, the client was more positive in her reflections. She expressed how she had normalised and controlled her anxiety using the techniques we had worked on to improve her initial pre-competition focus, and she did not start out focusing on others or their scores. In archery, the calculation of score takes place after each end of arrows, which makes score an explicit and unavoidable focus. The client felt that she had become more pre-occupied with score as the competition went on, which led to a performance drop. We discussed that the key here was to develop an ability to switch focus as required and to re-focus on her shooting process prior to each end of arrows. I suggested that she should start practicing the Self- talk statements and breathing exercises after each end of arrows during practice, to allow her to regain her task-focus attention in-between shooting periods and before each end. She asked for some additional material related to concentration and attention increase. I gave her some apps and sites (gathered through research) that she can use and that have been highly recommended to athletes as concentration and focus increasing fun tools, such as, Headspace, Memorando, Elevate and Happy Neuron.

11th Session: 25/7/19

As we had reached the end of the TASS scholarship agreement and I was leaving the UK in August so would not continue to deliver Sport Psychology sessions as part of the new TASS scholarship year, we had a discussion on how I would withdraw from support as a process. This meant that it was our last face-to-face session. I was keen to re-assure the client that I would still be available for ongoing skype sessions to continue to support her remotely if that was something she wished to do. Following the British Psychological Society Professional Practice Guidelines (2017), I was conscious of considering the needs of the client and referring her on to another professional with appropriate skills and experience. In this regard, I ensured a smooth handover to my successor in the role.

I was concerned that we hadn't quite finished what we started (i.e. helping her deal successfully with her performance anxiety). We discussed her feelings in relation to the ending of face-to face sessions, as I

expected her to be a little more uncertain and anxious about the sessions ending. I was pleased that the client stated that she felt more positive and confident about her psychological development, and she expressed that she understood much more clearly what she needed to work on and had "all the tools needed" to do that. Based on the autonomy I had given her to develop her own solutions with my support, she felt that this was a "good time" for this to happen, being reassured that she was able to contact me if she felt the need to do so.

Evaluation

The evaluation process was based on the Consultant Evaluation Form (to monitor my effectiveness), the client's progress with, and feedback about the intervention tasks and her performance, and social validation via the lifestyle lead and other stakeholders involved to evaluate the effectiveness of the intervention.

Considering how challenging I found this client to be at times, I was surprised with her positive feedback in the CEF (see appendix 5). The vast majority of questions where scored 10 / 10, with an overall effectiveness rating of +4 / 5. The difference between my perception of effectiveness outcomes and hers might have been due to the fact that I felt more work needed to take place for me to feel I'd finished what I'd started and done my job as well as I could – I was still concerned about that, even though the client (said she) wasn't. However, as found in Cahill et al. (2003), Klein (2003) and Pekarik (1983; 1992a; 1992b), clients who still might have some treatment to complete, but who attend some sessions, still manage to secure considerable gains. The only score that was rated slightly low was the one about whether the work was 'directly related to my sport' and she did add a useful comment about observing her in the training/sport environment. I felt this was fair, and was something that I would want to do as a practitioner, but I wasn't sure if it would be allowed by the sport / coach (I would have asked if he had replied to my e-mails) or by the TASS scheme. While persisting to get the go ahead from your employer is one thing, I do value the need to understand the client and the sport in context, and is something I will ensure that I do going forward.

Feedback from the client about the interventions we developed during the sessions was positive, and I empowered her at the start of each session to tell me how they had gone, and whether they were working / not working for her. The client found the sessions and the new insights she managed to gain out of them useful, and there was some sense from her that the MST and coping strategies we had co-considered and she had developed were of benefit to her anxiety control ability, and had started to positively influence her competition preparation and anxiety experience in competition. Her coach had begun to acknowledge and corroborate this enhancement and work with the client in integrating the strategies we had developed into her pre-event and pre-shot preparation. There was a collective sense that this could with time and further practice, translate into improved performance.

Social validation came through the multi-disciplinary team that I, as a TASS practitioner, was part of. Team meetings / interactions to inform practitioners about the progress of clients in all performance areas, indicated agreement that while this client was a 'work in progress', she was perceived to be making improvements in her psychological approach and ability to cope with the presenting performance anxiety.

Reflection

Short time allocated to clients through TASS

The TASS Performance Lifestyle Advisor role meant that there was a short time allocation of 30 minutes per athlete. This proved to be quite difficult and limiting in this particular case. After a discussion with the TASS lead, I negotiated that athletes needing psychological assistance could receive an extension of the 30 minute session time as developing the trust between the practitioner and the athlete might take longer, therefore, increasing the time taken to arrive to the ideal case formulation. The time increase allowance has helped me to be 'more present' with the client (rather than constantly being focused on the time) while also allowing me a fuller focus and genuine interest in establishing her need, and how I could best help her psychological development. Having restricted time seems to be quite a common theme among professional organisational settings. Thus I need to accept that even though this aspect of work context has the potential to conflict with my values and the associated philosophy underpinning the way I like to work, I need to develop a congruent 'Brief Contact Intervention' informed approach that meets my and the client's needs when time is more limited. Therefore, I should not focus on the quantity of the time allocated to a session but rather the quality of that session. In fact, several studies have still shown promising results from brief interventions (Lane et al., 2016; Moore et al., 2015; Kimura et al 2015; Balk et al., 2013). Having said that, if I'm ever in a situation where I'm working within a professional sport organisation and I have enough authority to make decisions on how much time athletes are allocated for psychological interventions, I would ensure that there will be enough time set aside, equivalent to other performance sectors.

Client communication and the use of drawing and location

Lack of communication from the client and willingness to fully open up was an issue throughout most of the sessions, but particularly early on. She rarely used eye contact at times, which was quite difficult for me in maintaining conversation and being able to get a deeper understanding of what she was telling me. When I discovered her passion towards drawing and decided to use it as a communication tool for enhanced self-expression it did help a lot. The drawing medium helped the client express herself more, and I felt frustrated looking back that I didn't pick this up earlier than I did; I discovered it towards the end of our sessions together. I think that if we had more time together, we could have managed to develop our relationship and communication levels more effectively, and potentially attain greater improvements in her

self-development and sport performance. The other thing that I felt inhibited our communication was the consultancy setting. Although the client agreed with the location of our settings was fine, it was a communal rather than private and secure space. Firstly, it was obvious to passers-by that she was talking to me, and secondly, while the conversation content was confidential she was very conscious every time someone passed by, which used to distract her attention. Looking back, I should have brought this up with the lead and requested a more private space – location, location, location, not something to be underestimated!

Client's coach

When the client's coach offered his email to me via the client I was reassured that he was willing and interested in being contacted to work together with his athlete, and I was really looking forward to acquiring and sharing as much information as possible to be able to better help the client. Unfortunately, this never materialised, and as the coach was delivering his message / feedback through the client, I was unsure whether the clients' second-hand representation of the coach was real or modified in some way. Along with the pragmatics of client observation and consulting location, establishing a coach-practitioner dyad (and coach-athlete, psychologist triad) is of considerable value to aid understanding of the presenting issues and to co-construct viable solutions for the athlete. This was another reason why going to the client's training location would have been much more fruitful as it would have allowed me to glean more in-depth information from the stakeholders directly interacting with the client.

Supervisor advice

Another major lesson for me through this case was that I waited too long to realise that I might need additional advice. My perception of slow client improvement may have been down to the client, but also my approach. While she was positive about the process, more discussion with my supervisor, being a neutral observer in the situation and highly experienced sport and exercise psychologist, might have helped me to check and challenge the content of my work and the approach taken. By instigating more dialogue with my supervisor, it would have helped me to consider new areas to tackle and explore what I might have been missing. This not only indicates the value of supervisory dialogue in guiding what to do and how to do it, but also highlights situations when client v practitioner–led practice is influenced by the nature of the client. For some clients, such as this one, there has to be a degree of practitioner-led consultancy to move the client forward and perhaps open up for collaborative discussion opportunities later in the therapeutic relationship.

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Appendix 1: Exercises given on 2nd session

Exercise 1:

- If I told you to remove the archer side of you, who would you be?
- How do you want others to remember you? (around 5 words)

Exercise 2: Swot analysis

Strengths	Weaknesses

Opportunities	Threats

Exercise 3: Self-reflection on sport

1. If I could change one thing in my sport that happened in 2018, what would it be?
2. What are the three most important things I learned in my sport this year?
3. What is the one obstacle or challenge I overcame this year in my sport?
4. What is the #1 thing I need to work on to become a better archer in 2019?
5. What is the #1 thing I need to do in 2019 to get more enjoyment from my sport?
6. Am I satisfied with my coach, parents? If not, what am I going to do about it going into 2019?
7. What am I most grateful for in my sport in 2019?

- How do you feel as you look over your lists? What are the highlights?
- What themes and patterns do you notice?
- If there was one thing that stood out, what are you 1) most EXCITED about and 2) MOST AFRAID of? Circle them both!

Appendix 2: Results of exercises – discussed in 3rd session:

Important for each exercise try to be as honest as possible so that we can get the best result out of each of them. If you find yourself that it's too much, don't worry. Just divide the exercises and maybe even do 1 per day rather than all at once. That way you can have time to reflect in between each exercise.

Exercise 1:
- If I told you to remove the archer side of you, who would you be? (think of yourself as Heather the individual) *Like watching TV shows, films + drawing*
- How do you want others to remember you? (around 5 words)
  Good at my sport.

Exercise 2:
Swot analysis

Strengths	Weaknesses
Handle pressure okay.	*Care what people think too much*

Opportunities	Threats
Better, Artello, Rob George Foundation, xS wings – sponsors *Parents, coach – help* *Archery GB*	*Funds*

Strengths – what do you think you already have that can help you in always improving who you are?

Weaknesses – what do you think you already have that may be an obstacle to improving who you are and who you want to become?

Opportunities – who are the people/places/sponsors/ that can help you improve further?

Threats – what do you think can be an obstacle in general (e.g. time, travelling etc.)

Exercise 3: Self-reflection on sport
1. If I could change one thing in my sport that happened in 2018, what would it be?
2. What are the three most important things I learned in my sport this year?
3. What is the one obstacle or challenge I overcame this year in my sport?
4. What is the #1 thing I need to work on to become a better archer in 2019?
5. What is the #1 thing I need to do in 2019 to get more enjoyment from my sport?
6. Am I satisfied with my coach, parents? If not, what am I going to do about it going into 2019?
7. What am I most grateful for in my sport in 2019?
- How do you feel as you look over your lists? What are the highlights?
- What themes and patterns do you notice?
- If there was one thing that stood out, what are you 1) most EXCITED about and 2) MOST AFRAID of? Circle them both!

Exercise 3

1 - Bronze medal match in Italy - got too nervous
    Youth Olympic selection - wish I would have shot better
2 - Try not to put too much pressure on myself
    - Not to get over whelmed
    - Not to concentrate on other people's shooting and comparing
    myself to them.
3 - Beating the no. 1 seed in Italy and getting to a medal match
    in my first international
4 - Not concentrate on others.
5 - Not to put so much pressure on myself
6 - Yes.
7 - ~~mmmmmmmmm~~
⬛ - their support
   - Not to ~~be~~put pressure on myself
   - that I do it to myself
   - Most excited - World Youth Champs 2019
   - Most afraid - not being good enough to get selected to go to the
     World Youth Champs.

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Appendix 3: Fifth session written exercise:

Qualification round
↳ may or may not get in to team event
↳ top 3 GB girls (maybe)

that thought is normal — other competitors will be thinking the same

Practice 70m more — more volume of arrows
Improve more at S+C

Awareness of thought
normalise it
focus on breathing — positive-change focus
continue working hard/improving

Appendix 4: Seventh Session:

focus
just you + the target
balance the shot
trust the shot
stay in your bubble
don't back off
believe in the shot
don't doubt it
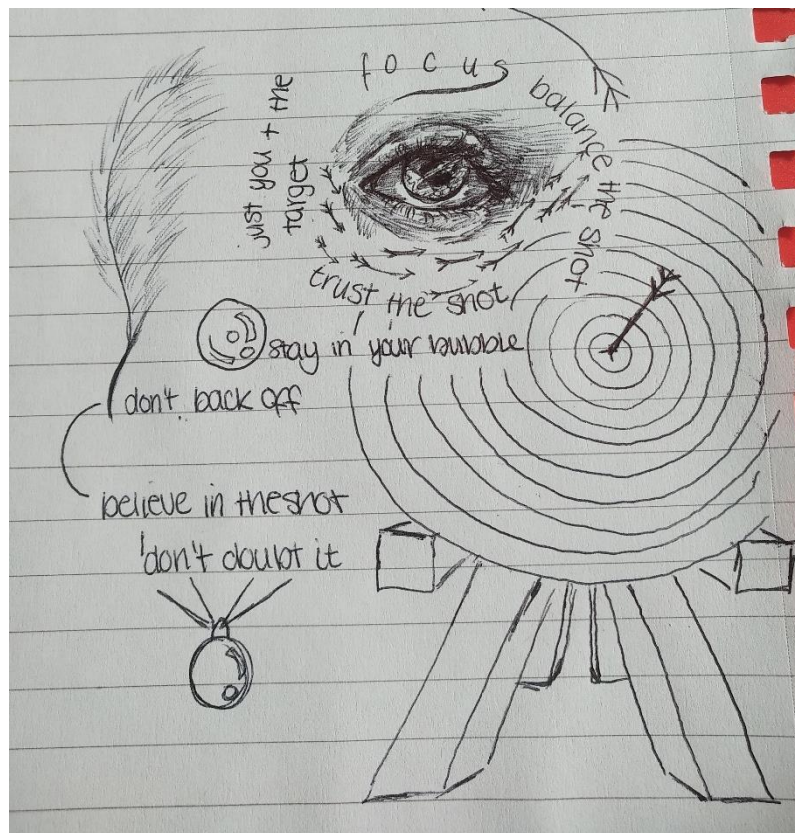
Appendix 5: CEF

Please rate your sport psychology consultant on each of the following characteristics by using a number from 0 to 10

not at all										yes, definitely
0	1	2	3	4	5	6	7	8	9	10

1. Consultant Characteristics

Ratings

Had useful knowledge about mental training that seemed to apply directly to my sport. — 7

Seemed willing to provide an individual mental training program based on my input and needs. — 10

Seemed open, flexible, and ready to collaborate/cooperate with me. — 10

Had a positive, constructive attitude. — 10

Proved to be trustworthy. — 9

Was easy for me to relate to (e.g., I felt comfortable and that he/she understood me). — 10

Fitted in with others connected with the team.

Tried to help me draw upon my strengths (e.g., the things that already worked for me) in order to make my best performance more consistent. — 10

Tried to help me overcome possible problems, or weaknesses, in order to make my best performance even better and more consistent. — 10

Provided clear, practical, concrete strategies for me to try out in an attempt to solve problems, or improve the level and consistency of my performance. — 10

2. How effective was this consultant?

	hindered/ interfered										helped a lot
effect on you:	−5	−4	−3	−2	−1	0	+1	+2	+3	(+4)	+5
effect on team:	−5	−4	−3	−2	−1	0	+1	+2	+3	+4	+5

3. Do you have any recommendations to improve the quality or effectiveness of the sport psychology consultation service being offered (write suggestions on back of this evaluation sheet).

Probably ~~come~~ come to see the sport.

Consultancy Contract and Report

Sport and Exercise Psychology Consultancy Contract

Your Name: ███████████	
Address: ███████████ ███████████ ███████████ ███████████	
Email: ███████████	
Mobile: ███████████	
In case of emergency, please contact: **Name:** ███████████	
Contact no: ███████████	

Explaining the Service

Sport and Exercise Psychology Consultancy is designed to give you a relationship through which you could develop multiple aspects of your psychological wellbeing and performance. It's a little bit like having a sports coach to share ideas on your tactical development with, or an S+C expert to help you explore your physical status, objectives and ways of working.

You are ultimately in charge of your own development. This means you can ask as many questions as you like, and ultimately hold the power to making any advances in your psychological development. I will work with you to offer as much input as you like along the way.

Assurances

Whenever we talk, I will uphold the content of our conversation as confidential. This is to assure you that you have a safe place to share ideas, concerns and otherwise. The only time this would ever not be the case, is if I deem that you or someone you know may be at serious risk of harm. This may appear unlikely to you, and you can be rest assured I would always look to discuss my concerns with you first in any case.

You having trust in our relationship is of paramount importance for me. As such, you may wish to consider who you *would* like me to be able to speak to on your behalf. For example, coaches, parents, teammates and other key people will often ask after you (with very good intentions) and I will not share comment, unless you grant me informed consent to do so. I hope that we can talk this over at the start of our work together, and even review its status from time to time.

I will store all of your information (e.g. contact details, session notes, development plans, etc.) digitally and on a secure system. I will never share any of your information with any third party. For your reference, I keep session notes for 5 years so you and I can revisit them if ever needed.

Finally, for your peace of mind and my own continued development, I engage in ongoing supervision with a professional senior in my field. As such, I may discuss aspects of the topics we cover with them, as to help me stay at my best in supporting you. If you have any questions about my supervision, what I may discuss with my supervisor, or any other aspects of what I have explained to you in this document – please do ask.

Summary

Bernice Sant is bound by the British Psychological Society's code of ethics, which is based on the principles of respect, competence, responsibility and integrity.

If you ever have any questions, concerns or feedback relating to the services provided to you by Bernice, you can speak in confidence with her Supervisor, Dr. Martin Eubank, available via: M.R.Eubank@ljmu.ac.uk

Contract Duration: 6th Nov 2017 – 12th Feb 2018

Number of sessions: 8 x 1 hour

Service Aims

To identify the nature and cause of your competition anxiety and provide psychological recommendations about how to deal with the anxiety effectively.

Service Objectives

1. To provide you with understanding of your competition anxiety and where it is coming from.
2. To provide you with psychological strategies to help you deal with the competition anxiety effectively.

Athlete Consent

Prior to signing this document, please feel assured that you can contact me (Bernice Sant) with any questions you may have.

I'm available on: 07442825547 or Bernice.sant@hotmail.com / B.Sant@ljmu.ac.uk

Having read this information, I consent to participating in Sport and Exercise Psychology Consultancy with Bernice Sant according to the above statement of service and confidentiality.

Athlete Signature: █████████████

Date Signed: ██████████████

Psychologist Signature: ████████████

Date Signed: ███████████

Sport and Exercise Psychology Consultancy Report

Service Outcomes and Recommendations

Objective 1: Understanding your competition anxiety and where it is coming from

Through the explorative discussions during our sessions, my aim was to make you aware of what was happening to you psychologically. My sense was that you would benefit from greater levels of awareness and understanding about the psychological impact of your anxiety and how to deal with it more effectively. The intention was to facilitate a reduced level of anxiety by helping you understand the situation better. Changing your current "fear" perspective about the key events that had caused the anxiety, while learning that sometimes setbacks happen, would revive your positive emotions towards tennis and teach you how to get mentally stronger.

Taking your specific context and your needs into account, the approach I took aimed to increase your psychological flexibility (see Figure 1). By helping you to accept the difficult thoughts you were having through a willingness to share your experiences of competition anxiety and the negative episode you had as a learning experience, this gave us the opportunity to explore a psychologically flexible alternative in how you viewed the experience, i.e. that anxiety-laden critical moments in sport are normal and transient. Adopting this alternative perspective would, in turn, help you to deal more effectively with anxiety and allow you to focus more on what needed to be taken care of at specific moments in time, while also approaching/facing the problem to reduce your avoidance of it, such as being unable to discuss and 'face' tennis.
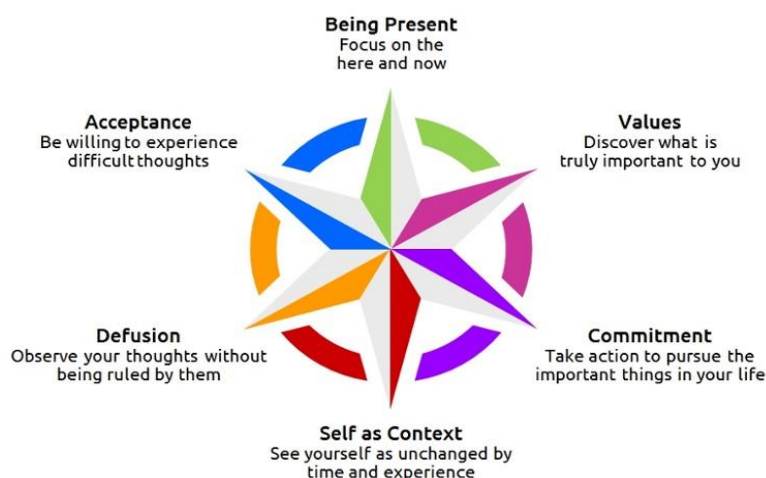

Figure 1: Six processes in Acceptance Commitment Therapy to increase psychological flexibility (Hayes et al., 2006)

Objective 2: Psychological strategies to help you deal with the competition anxiety effectively

The Acceptance-Commitment-Therapy (ACT) allowed you to grasp and develop personal and tangible skills that enabled your past 'fear' based perception to change through present-moment awareness. We practiced this using the ball, pen & paper exercise and the brief centering exercise. Being focused on the present moment created a state where dysfunctional thoughts (such as 'I am no longer made up for tennis'), emotions (such as the extreme fear of tennis) and behavioural patterns (such as avoidance of tennis), and links between those dysfunctional thoughts, emotions and behaviours were brought out into the open for you to work on.

Through our sessions together, you became more aware of these links and associations, which helped you to break them down by changing your perspective in how you reacted to such links or patterns. As a result, this enabled decreases in anxiety and increases in concentration and good-decision making, which were key psychological outcomes for you.

Specific procedures involved in this perspective change included the following:-

1. Bringing out your values (e.g. doing the performance values form)
2. Allowing an environment of acceptance (e.g. gradual tennis practice trials)
3. Learning that your experiences are temporary and transient (psychological flexibility through joining performance values with gradual tennis trials)
4. Eliciting behaviour modification based on your values (e.g. combination of tennis/football practice and committing to performance values).

Such changes allowed you to experience a reduction in anxiety by shifting your mentality to one of growth and challenge in enjoying the whole process of performance and training. You also learned to accept that it's not always 'plain sailing' when it comes to sport and life in general, and you became better able to focus on what needed priority at that moment in time based on your own values as a person and as an athlete.

Going forward, my advisory recommendations to you are to continue exploring yourself in relation to sport, to ensure that you maintain awareness of the link and 'goodness of fit' between the sport that you do and the values that you hold. This can protect you against losing the fun element of your sport and burning out. Another recommendation would be to focus on setting realistic process-oriented goals. These will focus you on the objectives that you can control, and motivate you to maintain effort and persistence towards tennis training and competition. Finally, you should monitor your sources and experiences of

anxiety (and related behaviours) and be ready to make use of the psychological flexibility processes you learnt in our work together to stay 'on top' of your competition anxiety.

Bernice Sant

Teaching Case Study

Introduction to the client group

The following teaching case study documents delivery of a training programme to equip elite gymnasts with mental skills to compliment the hard physical training they do week in, week out. The training programme consisted of a combination of all four modes of teaching: didactic teaching, enquiry-based learning, discussion and action-learning (Skinner, 2005), and these are discussed within the case study. The deployment of all four modes was carried out in a balanced way to meet the coaches' aim for the programme, namely to 'provide an introduction to sport psychology as an aspect of training and performance to the gymnasts, and introduce some basic sport psychology concepts for the gymnasts to use in practice and competitive events.

The group consisted of around 45 Elite, compulsory, pre-compulsory and national level Female Gymnasts between 6 to 17 years of age. The gymnasts formed part of the Liverpool Gymnastics Club. There are 5 coaches in total taking care of these gymnasts. Each coach looks after between 8-10 athletes. The training is intense, requiring the athletes to train 3.5-4 hours, four times during the week, and another 5 hours on Saturdays. A couple of the athletes did double session days, where they would do two 3-hour sessions on the same day.

Identifying programme objectives and group needs

The head coach called a meeting with me to discuss the topics she wanted me to deliver. She had a clear idea of what she wanted, and therefore the programme content was set, requiring little opportunity to base the workshop content on my own assessment of group need and the development of a needs analysis framework. The workshops programme included 5 main topic areas, each of which was to be delivered separately across the course of five sessions: These were:- i) Self-Reflection, ii) Goal-Setting, iii) Controlling Nerves, iv) Positive Thinking and v) Teamwork. All the coaches held an agreed consensus about the psychological areas to target for these workshops based on their own collective understanding of the needs of the Gymnasts.

Programme Design and Resources

Once the programme objectives had been clarified with me, I was able to work with the coaches on the gymnast's needs in relation to the format, structure and delivery of the sessions, and how this would be best achieved based on the learner group. In line with Skinner (2005), the ideal way to deliver such workshops would be to provide a mixture of teaching methods to keep them engaged: direct teaching, discussion, enquiry-based learning, and action learning. This would ensure that key messages would be delivered while enabling the group to engage in the development of their own learning within learning that required their input and interaction. Both the coaches and I agreed to divide the 45 athletes into smaller groups (approximately 10-15 athletes per group) or each workshop, as having them all together would defeat the purpose of the workshop environment (Springer et al., 1999). It was important to create a learning environment that afforded individual attention to each athlete, while keeping everyone engaged as much as possible through applying different styles of learning depending on the individual (Skinner, 2005). As the majority of the gymnasts where aged between 6-10 years, the groups were split by gymnast's availability, and repeated 3 to 4 times depending on how many athletes were present on the day. It was agreed that the workshops would be delivered weekly, unless, due to a need to work around competition and schooling, there was a need to take longer in-between sessions. The head coach suggested that each workshop would last 40 minutes (after the first workshop, it was apparent that more time was needed for the young athletes to have enough time to work through the workshop exercises and discussions, so the time allocated to the sessions was extended to around 50-60mins per group). The resources needed for such workshops involved:

- Teaching plans and work / activity sheets to deliver the material and keep the athletes as motivated, concentrated and engaged as possible.
- Visual aids (PowerPoint slides) with a mixture of text, pictures, videos so the athletes had something to follow while I was explaining sport psychology concepts.
- A quiet room with space for the athletes to sit or lie down comfortably in a circular style to aid discussions and for tasks and activities to be undertaken in each session.

Guiding Pedagogical Theory

As explained above, a combination of different forms of learning where used for these workshops. Direct teaching to deliver key expert driven messages was used in the form of PowerPoint slides, which had a mixture of text, visual and auditory styles to accommodate both verbalisers and imagers (Skinner, 2005). Discussion was encouraged when possible through interaction between the gymnasts to make sense of the abstract psychological concepts in their own creative way to connect the didactic learning to their own

gymnastic context. DeJong and VanJoolingen (1998) define Enquiry Based Learning as an educational strategy involving learners actively participating and taking responsibility for the discovering of knowledge. Providing an environment for enquiry-based learning to give the gymnasts autonomy, while supporting and challenging them by allowing a space for asking questions represented a key aspect of the learning strategy and climate. Finally, action learning through use of tasks, and then applying what Gymnasts were learning in practice with their coaches was used to ensure appropriate and accurate translation of their learning into their sport. Considering the young age of the group, and the complexity of sport psychology concepts, simple games where used as creative ways to explain and understand the psychological concepts being discussed.

Programme Delivery and Description of workshops

Workshop 1 – Self-Reflection

Workshop 1 was aimed to enhance the gymnast's understanding of self-reflection, the importance of how self-awareness, as an initial step for self-improvement, and self-reflection go hand in hand (Rice & Perry, 2012), and the different types of reflection. I used some exercises during the session (bringing out values, SWOT analysis, brief centering exercise, see Appendix) to allow the participants to develop more self-awareness. I also included an exercise for the next session where the athletes needed to reflect on their gymnastics journey so far and their future aims (as preparation for the next workshop on Goal Setting).

Considering this was my first workshop with such a young and diverse (different ages) audience, the abstractness (and therefore more difficult to grasp) of the topic (Von Wright, 1992), and the limited time I initially had with each group (40 mins per group), it was quite a challenging session. The challenge mainly involved difficulties in giving enough time to the young athletes to understand each concept and have room for questions and discussions. After discussion with the coaches, we agreed to modify the session logistics, including better age group division and increased understanding of the specific audience I was delivering to, and a 10-15mins increase per session to give more time. It was also felt that I needed to include more material and activities, which actively engaged the gymnasts in their own learning.

Workshop 2 – Goal Setting

The second workshop was on Goal-Setting. At the beginning of the workshop, we discussed the exercise I had asked the athletes to do at home from the previous reflection session. After that, the focus was on establishing a better understanding of how to identify and plan for completing their goals, receiving tools to assist in goal completing and discussing challenges or roadblocks that can be encountered during goal setting and how to deal with them. This was carried out with the support of more creative visual aids and

engaging material (such as pictures, videos and a game at the end). A simplistic SMART (Doran, 1981) goal approach was used to allow the athletes to focus on a short-term goal they wanted to achieve (see appendix). The SMART approach translated to Specific, Measurable, Achievable, Realistic/Relevant and Timely. The reason for introducing this was to help the athletes understand how to identify their goals and plan to achieve them by appreciating the daily process goals that will eventually lead them to their performance and outcome goals (Weinberg & Gould, 2015).

 The session ended with a knee-tag game (Collard, 2018) to teach the athletes that weaknesses, such as areas/movements that need improvement, should not be avoided but rather approached through taking calculated risks (e.g. slowly stepping out of comfort zones). The athletes were then given another set of 'homework' questions to reflect on for our next session.

Workshop 3 – Controlling Nerves

This workshop was based on controlling nerves. We started with a discussion on the exercise they had to reflect on from the previous week, and then continued with activities and discussion that aimed to increase their understanding of the signs and symptoms of nerves, and cognitive-behavioural methods such as psychological skills training that can help the gymnasts to deal better with them. As described well by Beck (1970) and Ellis (1962), maladaptive cognitions contribute to emotional distress, giving rise to specific and automatic thoughts in particular situations (Hoffman et al., 2012). Visual aids (pictures and video) where used to help the gymnast's to better understand the nature and effects of nerves. Additionally, the importance of acceptance of the presence of nerves as a normal part of competition was explored, alongside ways to change one's narrative about them (Wood Brooks, 2013). Increased nerves can cause a psycho-physiological response. Therefore, psychological skills of, relaxation and visualisation, which reinforces the athletes' autonomy, and provides an effective integration of psychophysiological techniques into the practice of sport (Pineschi & Di Pietro, 2013), was introduced. As a result, the session ended with the brief-centering exercise (see appendix), and a discussion of how the gymnasts could make effective use of it. It was suggested that the Gymnasts should practice the relaxation/visualisation exercise on a daily basis to help develop their mental preparation skills (Pineschi & Di Pietro, 2013), and to consider how it could be used closer to competition as a pre-event / performance routine.

Workshop 4 – Positive Thinking

The fourth workshop was on Positive Thinking. As described by Seligman (2014), positive psychology involves the study of happiness, of how people flourish, and what makes life worth living. There are five factors leading to such well-being, which involve positive emotion, engagement, relationships, meaning and purpose, and accomplishment. These five factors are targeted through three main areas: the past

(through well-being and satisfaction), the present (through current happiness and flow), and the future (through having hope and optimism).

Since the third workshop, the gymnasts had taken part in a competition. We started the workshop with a discussion of how the competition had gone, and whether anyone had used any of the techniques learned in the previous three sessions to help their mental preparation. I was happy to hear some gymnasts talk about how they made use of the workshops we done so far in their competition. One of the most prominent and common feedback theme was how they had interpreted their nerves differently before going into their performance – for some, seeing nerves as excitement which is helpful and normal for their performance made them enjoy the process and let things be (rather than dwell on some past failures). This provided a good link to the positive thinking topic.

For this workshop, we initially used a lot of discussion-based activity to reflect on the three previous workshops and how positive thinking was connected to how they reflected, set goals and control nerves. This helped them to define and describe what they thought positive thinking was, and I used a 'strengths game' to get them to consider what they were good at, to illustrate how thinking about and focusing on positives made them feel. We concluded that positive thinking did not imply that they always had to be positive and avoid the identification of 'negatives' and areas for improvement, but to approach life's challenges with a positive outlook and, not to avoid or ignore the 'bad things'. This helped them to understand that positive thinking involves making the most of potentially bad situations, trying to see the best in other people, and viewing oneself and one's abilities in a positive way (Wilson, 2017).

Similar to the core values, beliefs and approaches I draw in my consultancy, Self-Determination Theory (SDT) (Deci & Ryan, 1985) has become very central to the way I teach and train. As a consultant, I draw on SDT in my core values, beliefs and approaches, and to that end, this similarly informs my work as a teacher and trainer. I believe in giving clients competence and autonomy, so this also translates into the way I empower them to take responsibility for their own learning and development, and facilitate them to do that. As a result, to this point, the workshops were based on the self and from a broad theoretical perspective how to create autonomy and competence in oneself through self-reflection, goal setting and managing one's inner imbalances around the way one thinks and manages own emotions. To end this session, and create a bridge to the next and final session on Teamwork, I asked the gymnasts to write something positive about all their other teammates (strengths game, see appendix). This was undertaken to teach them how one needs to see value/worth in successfully developing strong and healthy connections with oneself and others around them, and from a Self Determination Theory Perspective sought to operationalise the other psychological need of relatedness (Deci & Ryan, 1985).

Workshop 5 – Teamwork

The last workshop was based on Teamwork. My aim for this workshop was to help the gymnasts understand what it means to be a team and what worth comes from being part of a team. I wanted them to think more about the unique strengths they possess (we referred back to the 'strengths game' from the last workshop), and how they collectively contribute to the team's identity, values and goals (Jaffe & Scott, 2018). Even though gymnastics is an individual sports, however, these athletes train together almost every day for very long hours, resulting in a team with common goals, values and a common identity. Having clearly defined team identity, values and goals will pave way for more efficacy and stronger cohesion. This will lead the 'team' to perform better, resulting in an ongoing loop of even greater cohesiveness, and better results (Mullen & Copper, 1994). Once we had discussed the psychological principles of 'being a team', the workshop focused on how teams are built, and I used a team building exercise to illustrate how as individuals they can contribute to enhance the team's overall experience and performance (McEwan et al., 2017). The exercise ('how many shapes does it take, McGraw, 2000 – see appendix) involved the gymnasts choosing a shape from the five different shapes I scattered around the room. Once they made their decision I told them what each shapes represents, and had a discussion whether they felt that the representation of that shape really reflected who they are, and that some shapes would resonate more with their sense of identity than others, but not everyone would identify with the same shape. The game ended with the lesson that even though they were scattered all around the room next to different shapes, they all make part of the same team and that the task of effective teams is to work out how the many different shapes that contribute to the team's values and goals fit together.

Programme Evaluation and Reflective Summary

To facilitate programme evaluation, I used a combination of athlete feedback, coach and parent feedback and reflective observation to gauge the effectiveness of the programme content and my own delivery. After each workshop I routinely asked the gymnasts what they learnt from the session, what they liked most, what they didn't like that much. This enabled me to evaluate how the material I was delivering and how I was delivering it was being received. I also asked the coaches for their feedback when they asked their gymnasts about how the session had gone and what they had learned, and whether they had observed any changes in Mental Skill or approach in the training or performance setting. I also took the opportunity to talk with some of the gymnast's parents about the work I was doing and whether they had any feedback from their child athlete about the sessions I had done.

A summary of the overall feedback received from the gymnasts, coaches and parents is as follows:-

- The athletes reported that they had really enjoyed all the workshops. They liked all the material that had actively engaged them in their own learning in each session, while being a bit less keen on the lecturing part of the sessions (but understood that this was helpful to aid their understanding of some of the key concepts). On the last day of the workshops, many of the gymnasts came up to give me a hug and to tell me that they didn't want the sessions to end and that they wanted me to stay and do more work. This was a nice feeling that I had made a positive impact and really made me feel grateful for such an experience.

- The coaches were impressed with the overall improvement in their athletes. Many talked about athletes who were now working on goals to reach and setting new goals, learning ways to feel more confident and positively changing their perspective towards competition nerves, enjoying the process of being an athlete more and being engaged within their own gymnastics environment, and feeling more connected as a team. The coaches gave me positive feedback on the impact of the work I had done, and thanked me for the effort I had put into the workshops to commit time to help their athletes' psychological development. The coaches expressed interest in me doing similar work in the future, and we discussed moving beyond the existing workshop programme to hold coach and parent education sessions, taking a more holistic perspective towards talent development, to optimize the environment and support system around the athlete or team (Henriksen et al., 2014).

- The parents who I managed to meet up with were very interested in, and appreciative of, all the work I was doing with their child athletes. Some left positive messages about the workshops and how they thought they were helpful for the gymnast's psychological development with the coaches, which was pleasing.

The reflections below provide a number of personal observations about the work I undertook with this client group:-

Different ages – Sometimes I felt that younger age groups found it difficult to understand some concepts even though I tried my best to make the material and delivery as simple as possible. Generating different slides with different age groups (although I did use different language with different age groups) would be something I would have done differently, although only having a couple of weeks to prepare for these workshops would have made the preparation of different slides for each group difficult.

Less engaging group – one of the groups was very difficult to engage. This made me feel quite insecure; were they not understanding the material, were they just not interested, or was the way I was delivering the material not engaging them? I found that coaches observing the sessions frequently used to tell the gymnasts

to speak up and share what they had in mind in order to generate meaningful discussion from which they could learn. Trying to find more engaging and innovative ways to connect groups like this to the material and prompt discussion would be something I would consider and do differently, although I need to accept that not every individual is going to be willing to share what they have in mind.

Lack of time – In the first workshop I found it really challenging to fit everything into the 40 minutes initially allocated, especially when this was so new for the athletes and me. It left me feeling lost and a bit frustrated. Sometimes I had to leave out material (e.g. the summary of the whole session at the end) when time has been used up. After discussion with the coaches, this was solved from the 2nd workshop onwards by increasing the duration of the sessions. However, I felt that I needed to be better prepared to respond to the scenario where there is insufficient time to get through material and be more relaxed and worry less! Keeping to time where possible, but also being flexible when there is a need to skip content when valuable and meaningful learning is taking place is something I need to be better at. There is always homework to set and 'another time' to learn!

Delivering to consecutive groups– After delivering 3 workshops consequently without any breaks, I felt drained. I had never done back-to-back workshops in that format, and not with clients of a young age, and I was not aware of how tiring it can be. It was hard to keep their attention at times, and to maintain my own energy levels; perhaps this was reflected in my delivery and their engagement? This was a key learning experience. On the one hand, I should have ensured for my benefit that there was a short break between each session. I should have thought more about how to deliver the material, and to vary this in each session. I could have divided the groups further within sessions, which may have helped them to be more eager to contribute, and take more responsibility for their own learning, rather than putting too much emphasis on me asking too many questions. Practitioner energy is important, and I felt that my approach did not help me to maintain this. .

Realisation that I love teaching! (in an engaging workshop setting) – While I found the delivery to be challenging, I learnt the value of searching for, being creative with, and constantly updating material to engage the specific audience you're dealing with. That said, I found it so rewarding to see the group in front of me learning something useful from me in a fun, and engaging way that they can use as both a sport and life skill. Apart from that, I was surprised how such a young audience could give me such great insights about life, for example, when one of the athletes in the controlling nerves workshop said "if nerves feel like butterflies in my stomach, and butterflies are really beautiful, then nerves are not something negative but positive". The simplicity in kids is something that we, as adults, can all learn from and make sure that we never let the child in us die.

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Appendix

Swot Analysis Exercise used during Self-Reflection Workshop:

Strengths	Weaknesses

Opportunities	Threats

Brief Centering Exercise used in the Self-Reflection and Controlling Nerves Workshop:

Brief Centering Exercise

This brief exercise will help you focus on the immediate moment. You will also begin the process of developing the skill of mindful attention. This exercise should take you about 5 minutes to complete. As with any other exercise or activity, before you start, remember that success requires the development of specific skills, and a commitment to working on the development of these skills is the first step to success.

Please find a comfortable sitting position. Notice the position of your feet, arms, and hands. Allow your eyes to close gently. [pause 10 seconds] Breathe in and out gently and deeply several times. Notice the sound and feel of your own breath as you breathe in and out. [pause 10 seconds]

At this time, focus your attention on your surroundings. Notice any sounds that may be occurring. What sounds are occurring inside the room? What sounds are occurring outside the room? [pause 10 seconds] Now focus your attention on the areas where your body touches the chair in which you are sitting. Notice the physical sensations that occur from this contact. [pause 10 seconds] Now notice the spot where your hands are touching the front of your legs. [pause 10 seconds] Now notice any sensations that may be occurring in the rest of your body and notice how they may change over time without any effort on your part. [pause 10 seconds] Don't try to alter these sensations; just notice them as they occur. [pause 10 seconds]

Now, let your thoughts focus on why you have chosen to pursue this program. [pause 10 seconds] See if you can notice any doubts or other thoughts without doing anything but noticing them. Just notice your reservations, concerns, and worries as though they are elements of a parade passing through your mind. [pause 10 seconds] See if you can simply notice them and acknowledge their presence. [pause 10 seconds] Don't try to make them go away or change them in any way. [pause 10 seconds] Now allow yourself to focus on what you want your performance life to be about. What is most important to you? What do you want to do with your skills? [pause 10 seconds]

Remain comfortable for a few more moments and slowly let yourself focus once again on any sounds and movements occurring around you. [pause 10 seconds] Once again notice your own breathing. [pause 10 seconds] When you are ready, open your eyes and notice that you feel focused and attentive.

Questions to complete in-between sessions after Self-Reflection Workshop:

1. If I could change one thing in my gymnastics that happened in 2017, what would it be?
2. What are the three most important things I learned in my gymnastics this year?
3. What is the one obstacle or challenge I overcame this year in my gymnastics?
4. What is the #1 thing I need to work on to become a better gymnast in 2018?
5. What is the #1 thing I need to do in 2018 to get more enjoyment from my gymnastics?
6. Am I satisfied with my coach, parents? If not, what am I going to do about it going into 2018?
7. What am I most grateful for in my gymnastics in 2017?

- How do you feel as you look over your lists? What are the highlights?
- What themes and patterns do you notice?
- If there was one thing that stood out, what are you 1) most EXCITED about and 2) MOST AFRAID of? Circle them both!

Smart Goal-Setting Worksheet used in Goal Setting Workshop:

SMART Goals Worksheet

This worksheet can be used to develop clearly defined, effective goals.

S	**Specific** What am I going to do? Why is this important to do at this time? What do I want to ultimately accomplish? How am I going to do it?
M	**Measurable** How will I know that I have reached my goal?
A	**Attainable** Can I see myself achieving this goal? Can I break it down into manageable pieces?
R	**Realistic** Is the goal too difficult to reach? Too easy?
T	**Timely** What is my target date for reaching my goal?

Questions to complete in-between sessions after Goal Setting Workshop:

1. Tell me more about what you would like to be able to do?
2. What makes this important to you?
3. What would be the first step you could take to achieve this?
4. How long would it take?
5. What would you have achieved in a week's time that would have moved you towards this?
6. What about in a month?
7. What would you be able to do that you cannot do now?
8. If someone was to see you doing it in the future, tell me in detail what they would see?
9. Describe how you would look differently from how you look now?
10. If you knew someone that has already achieved this what sort of things would you want to ask them?

Controlling Nerves cartoon used, alongside the video, to explain nervous vs excited:
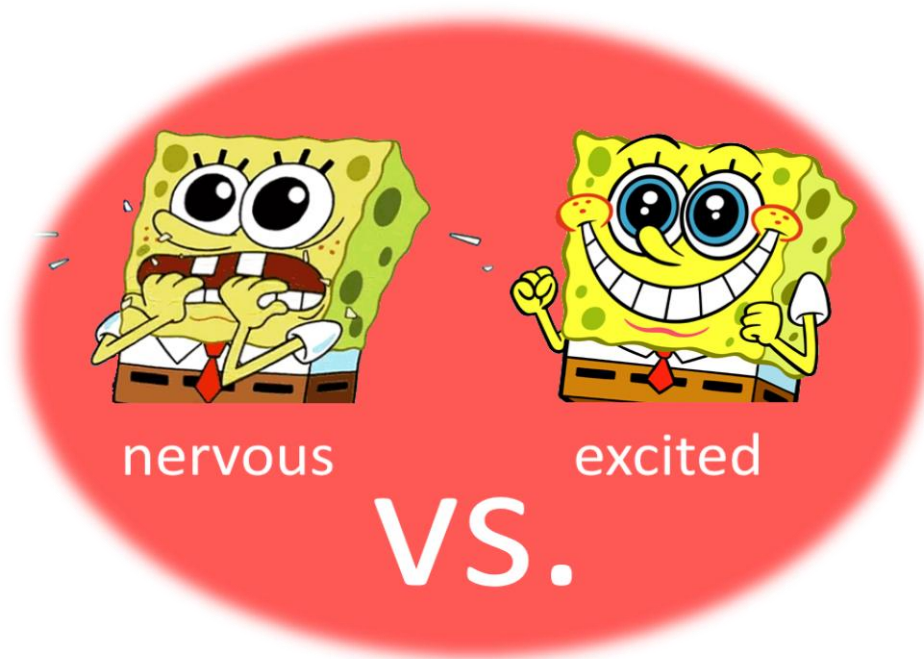
Positive Thinking Strengths activity

Teamwork McGraw (2000) activity

14. How Many Shapes Does it Take?

JUST THE FACTS: It takes all types of team members to create a balanced, cohesive team. This activity will give participants the opportunity to gain a better understanding of the roles different people play on a team and the importance of each role.

Time
20 minutes

Materials
- Five large pieces of paper, each with one of the following shapes drawn: square, rectangle, circle, triangle, and squiggle

Directions
Before beginning this activity, place each of the five shapes in a different location in of the room. Ensure there is enough room for participants to move around for this activity. Discuss the fact that teams are all made up of people who perform different roles. Think about a sports team (football, basketball, soccer, hockey, etc.). What might happen if one basketball player hogged the ball all of the time? What might happen if the quarterback tried to run the ball all of the time instead of passing? So, it takes all different types of players to make an efficient and winning team, right?

Now, switch gears. Tell participants that not only does it take all different types of players to make a team effective; it takes all kinds of shapes, too.

Say something to the effect of: "I want you all to look around the room. Five different shapes are hanging up. The shapes are a square, a rectangle, a circle, a triangle, and a squiggle. What if I told you that knowing whether you, your co-workers and friends are squares, rectangles, circles, triangles, or squiggles could help you build better teams and better careers?"

Ask participants to stand up and take a few moments to think about the shape they like best or find most appealing. Then ask participants to walk over to that shape.

Once everyone has chosen their personal shape, use the information in Activity 14 to tell them a little bit about each shape's "personality." In fact, when you are finished with this activity, many participants will want to have a copy of what the shapes mean.

Conclusion
Discuss the following questions with the group:
- Do you think people have the characteristics of more than one shape?
- Why do you think it is important to have all different shapes working on the same team? Offer some of the information below, if appropriate:
  - The Square, Rectangle, and Triangle are all convergent. This mean they are working TOWARDS something specific and finite, and they do it in a logical and systematic way. But they might be lacking in personal creativity.
  - The Circle and Squiggle are divergent. This mean they are creative, extroverted, and intuitive. They will reach out around them into new areas and to other people. But they aren't particularly systematic or dependable.

Journaling Activity
Do you think it is easy or difficult for different types of personalities to work together? Why is it important to not only understand how you work best, but to learn how others work best?

Extension Activity
Spend some time with participants to explore different types of personality assessments for the purpose of team building. Have students take different assessments and determine the validity of each. Research further and find out which occupations are best suited for which types of personalities.

Another option is to have participants think about and describe their favorite sport and compare players on those teams with the different roles found in the workplace. Examples might include: boss - coach; customer - fan; player - co-worker; etc. See how many different types of comparisons can be made and how important it is for all of these roles to work together in order to create harmony on a team.

Teaching Diary

Education and dissemination, including, more often than not public speaking, is an area that many, me included, find quite daunting. I have experienced anxiety problems in my life, and this, combined with being a foreigner for whom English is a secondary language adds to this unnerving and sometimes overwhelming territory of professional practice. That said, it is a challenge for me to overcome, or at least manage well - as always, I love challenging myself! Ever since I started learning how to efficiently control my anxiety and find meaning in it, I was more able to face my own fears about communicating and disseminating to client groups directly. In fact, when my panic disorder was at an extremely high level, I remember pushing myself into situations that created the most anxiety to learn why that anxiety is there, what it is in that particular situation that creates anxiety, and how I can make it better. Although I cannot say that my fear of public speaking has completely gone (and that is probably normal and a good thing!), I have learnt to find real strength and purpose to commit to targeting an area of my service delivery that I need to improve. As I am highly passionate about helping others to be more aware of the importance of good mental health and stronger, resilient mentalities, I had to be able to improve this area for myself and to practice what I preach!

During my time in training, I had a number of opportunities to disseminate my work, including formal presentations and, most commonly, workshop delivery. In this Teaching Diary, I have chosen four reflections that capture, for me, some key experiences of Teaching and Training (through delivering sessions across different settings and client groups), and how, over time and experience, my anxiety in Teaching and training contexts has changed as I've developed as a practitioner. Dealing with anxiety has personal meaning and resonance for me, which is why I've chosen to include these reflective learning experiences in the diary. The diary concludes with some summary reflections that generate reflective commentary on how these experiences have informed my development as a teacher and trainer.

10/2/18: Talk about Mindfulness-Acceptance-Commitment (MAC) with Crossfit athletes

This held some major fears for me, as most of the audience were known associates / friends. I was feeling quite anxious, as they already have set expectations of me. At the same time, it was excited to show my Crossfit associates what I do and maybe to get them interested in it. The challenge I felt stems through living up to my own and their perceived expectations, leaving a good impression, and teaching them something of value that they could take away and use. Thankfully, although there were some challenging questions to answer at the end of the session, I was able to answer all questions to a satisfactory outcome. In fact, there were people approaching me afterwards to show interest in starting the MAC programme in

a group setting (because they felt that the individualised programme price was a bit too much for them). I reflected that I should be more confident in what I know. People attend sessions because they are interested in the topic and learning more about it from someone else. Thus, they are interested in what I have to say, so my audience is 'on-side' from the get-go. If I prepare and deliver well they will likely take something away, and if people want to know more they will ask, and I'll be able to tell them what I know! Anxiety is part of public speaking, but I need to learn not to fear it so much and find ways to embrace it in my Teaching and training encounters

I still struggle with charging and how to pitch costs based on the audience I am dealing with and the question of value for money. For example, since in this case all athletes were mainly recreational competitive athletes (i.e. not professional), even though they were interested in the programme, but they were not willing to pay that much. While I understand the adage that anything is only worth what someone is prepared to pay for it, I'm conscious of not lowering the value of a programme by making it cheap (Hays, 2006). All the doubts and questions I have regarding charging my clients have re-emerged. I need to understand the value of product, price-points for my time and expertise and set out my stall!

31/1/18: Preparation for workshops with Gymnastics Liverpool Club

While preparing the 'teamwork' workshop I realised how difficult I am finding it compared to other workshops I already prepared. After trying to find some exercises to carry out with the athletes during the workshop, and carrying them out myself, I realised how, although I am willing to try my best to work with others, help others, and support others in any situation, I do work better independently. Perhaps that's to do with my anxiety and my fear of letting others down. At least if I'm on my own I'll only risk let down myself? I do understand the value of teamwork and know how important teamwork is in sport and other performance settings. At the same time, I think I felt a bit conflicted in preparing the workshop promoting teamwork, while another part of me is constantly reminding me what I value and who I am in relation to working on my own. It felt like a bit of a contradiction, or even me being a fraud. Perhaps that was the problem. I was transferring my own needs and wants, and not 'uncoupling' these from the client group and context for whom teamwork was more important than it was for me! My life experience and background was also shaping my own prejudice here. Having been on my own for quite some time and dealing with everything myself (although having family support but only through virtual means), I have had to make decisions and get things done in isolation rather than in a team. In making sense of this, it was interesting to see how my own beliefs had begun this transference (de Haan, 2011) in a project that was external of, and not for me! Going forward I need to be aware of this and work out more effective solutions quicker. As a reaction to this, I made sure to increase my self-reflection and self-awareness

when creating teaching material. I need to read more on counter-transference to inform myself better, and focus a bit more on evidenced-based research for the theoretical aspect of the delivery. If I allow clients to have space for discussions with me and with themselves to continue building on what they're expressing, I will create a much better climate to foster their own involvement in learning.

6/8/18: Workshop with Gymnastics Liverpool Club

Given my anxieties about dissemination in a public speaking format, I was pleasantly surprised with how comfortable and relaxed I felt when delivering the workshop. Normally I panic when it comes to public speaking. In trying to make sense of this, perhaps my growing experience in these settings means I am getting more used to it. I was certainly well-prepared and felt that I knew my material, so maybe this was a contributory factor to feeling more relaxed and confident. The audience was quite young and I thought that for the next workshop, I would try to come up with more age relevant examples, but overall I felt positive about the workshop content and my delivery of it. More deeply, maybe I am in a better place in my life and the new perspective I am taking lately of seeing every new thing as something to enjoy and learn is allowing me to be in the moment (more mindful!) and enjoy the experience of my practice. What this experience tells me is that I need to learn to reframe my cognitive approach towards new experiences. While accepting (Hayes, 1999) that every new experience, however exciting, may throw up challenges from time to time, I need to remind myself how far I have come over the course of the doctorate, and my ability and confidence to deliver to client groups has improved significantly from where I started. Going forward, this will be a fruitful part of my future thinking and action about public speaking. It is becoming easier as I develop, and that's a good feeling for me.

My first two lectures (13/4/20):

At this stage in my development, I am now preparing and delivering academic lectures – based on my own anxiety experiences I never thought I'd reach this point! The lectures I prepared for a level 4 Sport Psychology Course have to be delivered through an online video medium (Microsoft Teams) due to Coronavirus. More anxiety! I felt a bit apprehensive about how this was going to be received and how I would handle virtual delivery. Will the participants be able to engage? Will I be able to deliver the material this way? What about keeping eye contact with the students? Will I be able to make the participants feel genuinely listened to? Will they still learn in the same way? Will we be able to create a discussion atmosphere to allow a space for creative thinking? So many questions have been popping up in my head.

I talked about these doubts and uncertainties with other lecturers and with the course organisers. Seeking support is not something I would have always done for fear of showing weakness or being judged, which is part of my anxiety too I guess. My colleagues made me feel better as they showed me how what I'm feeling is normal and universal – others were having the same thoughts – that helped, not just me then! While there were uncertainties and doubts, this was also felt among the students. They appreciated that they were still being taught, and that this was a new experience for everyone and allowances would be graciously given if mistakes happened - this was such a freeing feeling. Why can't we be like that in everyday life - free from all judgements? Maybe this is one of the positives that Coronavirus might teach us. Having said that, it could be that I am the one who puts the pressure on myself to be perfect (more anxiety provoking here!) rather than realising that I am human and allow myself to make genuine mistakes every once a while.

The lectures went well. Students did manage to create a creative thinking space through discussions. In this specific context, I need to make sure I manage to recognise peoples' voices better if that's even possible (the video has to be switched off during lectures so the audio connection will be clear for everyone). I only see a letter popping up whenever someone speaks, so for two people with the same name I don't know who's talking. At least saying their names when addressing them would make them feel I am making effort to genuinely get to know them better. That said, maybe I'm over-thinking it and it's not a major issue; people who deliver mass lectures must have the same problem. For future tech and remote-based lectures, what I need to keep in mind is that as long as I still prepare well for the material to be delivered, continue focusing on a learner-centered approach and maintain students' engagement (Zhang et al., 2004) then I should let go of my worries and let nature take its course. That feels much different to my norm!

Summary Reflections

This diary has outlined reflections of four types of learning experiences relating to my development as a facilitator (teacher/trainer) of sport and exercise psychology. In reflecting on these four selected learning experiences, and others I have experienced during my training, one of the common threads is that the fear and anxiety of how I will be perceived and received has never gone away, and even though it has got easier, in reality I don't think it ever will. That said, social evaluation is common and to a degree normal, so maybe I would not want it to be completely gone or spend lots of wasted energy trying to make that happen. Anxiety is a way of how the brain prepares us for something, which we regard as important to our self-development. So, from this perspective, anxiety (or maybe better phrased, excitement) is needed. What is most important is how to channel that excitement into the service delivery (Tod et al., 2019). What I learnt

from doing these workshops, from the Talented Athlete Lifestyle Support CPD course, from attending others' workshops, and from just being present in lectures, is the importance of how something is delivered, and there is not always a positive correlation between the level of the deliverer and the quality and impact of the delivery. I have learnt it is good to be sure about a few key fundamentals. Firstly, WHAT message do I want to put across, and what knowledge do I want others to know? Up-to-date material on the topic being delivered is important here. Secondly, HOW can the session be delivered optimally for the learner group and context in which the learning is being done? The 'how' relies on good planning and preparation (Tandon, 2019) of what needs to be delivered, being aware of who the audience is, and rehearsal that keeps the audience engaged. Thirdly, WHY is Teaching and Training dissemination important to professional practice of Sport and Exercise Psychology? The 'why' relates to the evaluation of my impact on others learning. By asking the learners for their feedback after sessions, I endeavour to know three things. One, what does the learner know and value that they didn't before? Two, how effective have I been in transmitting that valued knowledge? Three, how can I do one and two better to improve my content, my delivery, and myself, for the benefit of the learner. How we evaluate the impact you are having on others' learning has become a more important question for me during the doctorate, and I've learnt to move beyond "did the session run smoothly and have some interesting learning points" towards much deeper pedagogical assessment of impact as what is for me an important representation of my professional growth.

More philosophically, delivery of material that is in connection to one's values and beliefs would seem to assist with the quality and authenticity of the delivery, because what one is teaching would be congruent with the person giving the delivery. What I have come to better recognise and appreciate is that only through an enhanced awareness of the lens through which you yourself view the world can you truly consider, design, plan, deliver, and evaluate coherent learning experiences for others. Of course there will be times where the material that needs to be taught or how it can be taught would involve something that might not be in line with my values, for example specific theoretical approaches or concepts that I don't support or methods of learning that don't provide the learner with opportunities for autonomy. In such cases, I can accept that as a reality, but also go further by making the topic an area for self-reflection. - Why something is misaligned with my own values and beliefs represents an opportunity for self-discovery that would help me to understand myself better. However, when one is passionate about something, such as seeing others flourish through one's own delivery, be it teaching, research or interventions in practice, our own values and beliefs should not be a hindrance. Instead, through a balance between explaining and questioning (Skinner, 2005), the group environment is used as a means for creation, evaluation, analysis and application of that which was understood and remembered (Forehand, 2005), which will always be something that maintains my intrinsic motivation to teach, and teach well (Li et al., 2015).

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Systematic Review

Abstract

Purpose:

To evaluate the methodological quality of the research conducted on mindfulness interventions among competitive athletes to date, while also, through the use of a systematic map, gaps in existing research literature were identified.

Background:

Building on the three systematic reviews already present on mindfulness interventions in sports, this review provides another viewpoint on the quality of mindfulness intervention studies to date.

Methods:

Randomised and Non-randomised studies involving any kind of mindfulness intervention, modified versions of mindfulness programmes, and those where an ACT approach was used, as long as, a mindfulness intervention in a sport competitive setting was present, were eligible for inclusion. The searches were completed through SPORTDiscus; Web of Science; PubMedCentral; PsychINFO, among others, between July-November 2017 where a total of twenty-three studies met the inclusion criteria (n = 19,048). Risk of bias was assessed using the Downs and Black checklist and the Cochrane Risk of Bias Tool with ratings ranging from poor to very good. Due to the heterogeneity, a narrative review (n = 23) on the quality of studies, alongside a systematic map on the studies that provided full details of results (n = 17) was carried out.

Conclusions:

The results have suggested that mindfulness-interventions may be of benefit. That said, similar methodological problems emerged (e.g. lack of data reporting, small sample sizes, few studies having an active control, lack of blinding, unclear randomisation, and lack of homogeneity), with the additional complexities in defining mindfulness highlighted. Making strong causal claims about the benefits these strategies offer for athletes can be difficult as there's still more room for improvement.

Introduction

In order for an athlete to acquire high levels of emotional management, effort has to be put into the development of relevant skills. Athletes' emotional management skills during competition and also during the build up to such competitions are important, give that, elevated performance anxiety and emotional mismanagement are common and linked to performance decrements and other deleterious consequences

(Hanin, 1995; Hardy, Jones, & Gould, 1996; Woodman & Hardy, 2001). Such decreases in performance may either lead an athlete to become more resilient or to succumb to such consequences and get even worse (Collins & MacNamara, 2012).

In the strive to identify psychological interventions that facilitate emotional management, mindfulness has received a significant amount of research attention across different life environments. These include schools, hospitals, business and military organisations, with activities such as diet/eating and surgery (e.g. Fernando et al., 2014; Horner et al., 2014; Jha et al., 2015; Schonert-Reichl et al., 2015; Congleton et al., 2015; Godfrey et al., 2015), and, as will be represented in this review, sport. Mindfulness represents the 3rd wave Cognitive Behaviour Therapy (CBT) based on a set of new behavioural and cognitive approaches emerging from contextual concepts, which focused more on the persons' relationship to thought and emotion than on their content. Main issues emphasised in 3rd wave methods are mindfulness, emotions, acceptance, the relationship, values, goals, and meta-cognition (Hayes & Hofmann, 2017). Research has identified the need for a shift from controlling one's thoughts as depicted in traditional Psychological Skills Training (PST) towards a more accepting and non-judgemental approach (Gardner & Moore, 2007). Research has found that while one is trying to change, manipulate or completely eliminate one's thoughts, substantial amount of effort is being lost from the task-at-hand (i.e. performance) which results in a dip in performance and, paradoxically, more focus on the distractors (Gardner and Moore, 2012).

While traditional PSTs focused solely on the athletes' competitive emotion and behaviour, mindfulness focuses on both the athletes' performance but also the athlete as a person and their overall psychological well-being (Gardner & Moore, 2007). Traditional PSTs tend to assume there is a particular 'ideal' performance state to be reached and developed by personal control over one's cognitions, emotional states and physiological sensations. Contrary to this, mindfulness-based interventions suggest that there is no single nomothetic ideal performance state and that in fact, individuals can perform optimally while experiencing a variety of cognitive, affective, and physiological states (Hanin, 1980) leading to an improvement in overall well-being through altering one's interpretation of, or relationship with, internal processes (Kaufman et al., 2009; Moore, 2009).

As Gardner and Moore (2012) explain, mindfulness' main requirements are: (a) the non-judging awareness and acceptance of one's internal state; whether it's good, bad, right or wrong, one first needs to be able to have awareness of it and then be able to accept that internal state. (b) Attentional focus to the task at hand, therefore avoiding falling into the trap of attending to our internal processes, which include judgement and would result in a reduction in effort that can be given solely to the task one is doing. (c) Consistency and effort to one's personal values-driven commitment to behavioural actions / choices that support one's

athletic endeavour. In this case, mindfulness, rather than trying to reduce distractions such as anxiety, encourages one to be fully aware of such distractions, accept them and change only the reaction towards such internal states. Learning such a new perspective can allow the athlete to become accustomed to the anxiety related to competition, see it with a new perspective (i.e. as a normal state to experience in such an environment), while working on the reactionary behaviours towards such a state using one's own personal values. Learning to master such a skill will allow the athletes more psychological flexibility through the newfound knowledge that "nothing is permanent and one's experience can change in the next moment" (Kabat-Zinn, 2003).

The different approaches available:

There are several different types of mindfulness and acceptance-based interventions available, including, Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990; 2003), Mindfulness-Based Cognitive Therapy (MBCT; Segal et al., 2002; Teasdale et al., 2003), and Acceptance-Commitment Therapy (ACT; Hayes et al., 1999). Based on these context specific interventions, versions more suitable for athletes and sporting contexts have been developed, including Mindfulness-Acceptance-Commitment (MAC; Gardner & Moore, 2007) and Mindfulness Sport Performance Enhancement (MSPE; Kaufman et al., 2009). While similar in their theoretical underpinning, they differ in practical application. The MAC approach combined Mindfulness with ACT, where brief meditation alongside the teaching of acceptance and personal values-driven behaviours is used. It is based on a flexible 7-12 weekly session programme and is mainly targeted at individual athletes, although it can also be carried out in small groups. On the other hand, the MSPE draws on the MBSR format, where there is a huge reliance on meditation practices with emphasis on somatic awareness and mindful movement. The MSPE programme normally spans 4 sessions of 2.5-3 hrs each and can be administered to large groups. Throughout the past decade, there have been substantial increases in mindfulness studies in sports. It seems that currently, mindfulness is attracting a lot of attention. With such increments in studies on mindfulness in sports, the need for credibility checking is of paramount importance. As Smith (1989) states, the development and ultimate credibility of sport psychology will be influenced by its degree of success in responding to standards of scientific and public accountability.

Three similar systematic reviews have taken place between 2012 till now; one by Gardner and Moore (2012), one by Sappington and Longshore (2015) and another one (which is still in press) by Noetel et al. (2017). Gardner and Moore (2012) was a narrative review of mindfulness intervention studies, and both Sappington and Longshore (2015) and Noetel et al. (2017) adopted a systematic approach for their reviews. In Sappington and Longshore (2015), the focus was on studies directly or indirectly related to athletic performance. For Noetel et al. (2017), summary tables for each key outcome and comparison of the body of evidence with the GRADE criteria (Schünemann et al., 2008) were provided. In the present systematic

review (considering that the data provided by existing literature is heterogenous) an additional systematic mapping approach was used to methodically overview the quantity and quality of evidence in relation to mindfulness interventions in sport, while also mapping out and categorizing existing literature in a visual format to commission further reviews, and/or primary research by identifying gaps in research literature (Miake-Lye et al., 2016). This was carried out by focusing on all outcomes provided by each study, while using the pre and post mean scores (more available than any other score, while also more reliable as it eliminated errors from computing statistics), for each outcome in both randomised and non-randomised studies included.

All these reviews highlight how mindfulness interventions in sport seem to have benefits for sport performance. However, they also pinpoint how there is still a need for further studies "of a more scientifically rigorous nature supporting their efficacy" (Sappington & Longshore, 2015) and of "higher quality [...] to make casual claims about the efficacy of mindfulness and acceptance approaches for athletes" (Noetel et al., 2017). In the most recent systematic review, most of the studies on mindfulness in sport were included. However, the addition of meditation-only and acceptance-commitment-therapy (ACT)-only studies were not the aims of this review. This is because (1) although meditation is part of Mindfulness, mindfulness goes beyond meditation (Kabat-Zinn, 2003) and (2) ACT on its own may sometimes neglect the meditation component of mindfulness (Harris, 2009). Therefore, due to the extensive increase in controlled trials between 2015 until the present day, and the difference in some of the inclusion/exclusion criteria and outcomes of interest, the current review provides another viewpoint on the quality of mindfulness intervention studies to date. It is of high importance that different reviews on similar areas are carried out, as an agreement between all reviews would solidify the claims made, while a disagreement would open up more room for questioning such studies claims, which may imply that different perspectives and interpretations based on one's subjective analysis might be at play.

In this review, studies using any kind of mindfulness intervention, modified versions of mindfulness programmes, and those where an ACT approach was used, as long as there was some kind of mindfulness intervention in it in a sport competitive setting, have been included.

Objectives:

The objective of the current systematic review is to evaluate the methodological quality of the research conducted on mindfulness interventions among competitive athletes to date, while also, using a systematic map, identify gaps in existing research literature. While three similar systematic reviews have been carried out (Gardner & Moore, 2012; Sappington & Longshore, 2015; Noetel et al., 2017 (in press)), in the present review only randomised and non-randomised controlled trials where mindfulness has been used in sport

will be reviewed. The main two reasons for this are (1) qualitative and descriptive studies are not suitable to test the effect of mindfulness and are not comparable to RCTs and (2) because a substantial amount of new controlled trials have been carried out between 2015 till today, alongside differences in some of the inclusion/exclusion criteria and outcomes of interest, which were either not included in previous systematic reviews or the intention behind them was different. Having said that, the research available so far is still scarce.

Method:

Eligibility Criteria:

The search results included all trials that met the following criteria: samples comprised of competitive athletes (any gender, age, level, and ethnicity); English articles (including those translated into English); based in a sport setting; use of any type of mindfulness intervention (ACT on its own was excluded since this review was mainly based on Mindfulness Interventions); inclusion of some type of contrast or control group and the application of solely controlled trials and mixed methods as long as a mindfulness intervention was present and had relevant quantitative data. Articles were excluded from the final search results if the following were present: only trait mindfulness was explored rather than an applied mindfulness intervention; the use of a mindfulness intervention in conjunction with another intervention in the same group (such that it was difficult to discern the clear impact of the mindfulness intervention); a solely qualitative approach; non-English articles; articles based in a different setting than sport; samples based on recreational athletes or non-athletes; and if the article was a systematic review. The search also included grey literature, which included related reviews, bibliographies and unpublished trials (dissertations and theses).

Information Sources and Search Strategy:

The search process carried out in the current review examined the following databases between July 2017 until November 2017: SPORTDiscus (with Full Text); Web of Science; PubMedCentral; PsychINFO, PsychARTICLES; OpenGrey; PsychEXTRA; Google Scholar; Taylor and Francis; Academic Search Complete; Zetoc; Medline; Science Direct and Scopus.

Various combinations of the following search terms were used in the database search process: mindfulness AND intervention* AND sport*; mindfulness AND intervention* AND sport; mindfulness AND intervention* AND sports; "mindfulness intervention" +sport; mindfulness intervention +sport +ACT ~MINDFULNESS-Acceptance-Commitment ~random; mindfulness intervention +sport ~random; mindfulness intervention AND sport* AND random; mindful* AND sport* AND random* AND intervention; "mindfulness intervention" AND sport AND control; mindfulness AND intervention* AND sport*; mindfulness AND "sport performance"; mindfulness AND sport AND performance; mindful* AND

"sport* performance"; meditation AND "sport* performance"; mindfulness AND sport*; "mindfulness intervention*" AND sport*; "mindfulness-based intervention*" AND sport*; "mindfulness intervention*" AND athlete*; and "mindfulness intervention*" AND sport* AND random*. The process of keyboard development was based on what previous systematic reviews searched, the inclusion and exclusion criteria, and additional useful keywords used in included studies.

Study Selection:

Search results were imported into Endnote (X7; Thomson Reuters, 2015) where duplicates were removed, titles and abstracts were screened, while eligible papers were included for full-text screening. Various sources (databases, grey literature mainly through research gate and correspondence with leading researchers for yet unpublished studies, checking recent published reviews on the same area etc.) were searched as part of the initial stage of empirical literature identification. In the case of unavailable full-text articles, a request via research gate or email from the author was carried out. Where the authors were not being responsive, a university inter-loan library request was carried out.

Data Collection Process:

After initial piloting of data-extraction, the first author extracted the data from each study based on a combination of data-extraction used in previous systematic reviews present, such as gender, number of subjects in each group, competitive level, type of sport, mean age and standard deviation of each group, and intervention type and description for each group. Additional details important to the current review, such as raw pre and post scores of dependent and independent variables (where available). These extracted data were sent to both supervisors for confirmation. Several authors have been contacted for additional information or where the risk of bias was unclear, however, most of them replied by sending their paper and others did not reply at all.

Data Items:

At first, several different type of data extractions took place, however, the finalised extraction result included participant characteristics (age, gender, sport, sporting experience etc.), type of intervention conducted (where, design, number of weeks, by who etc.), details about comparison group as recommended in Higgins & Deeks (2008) and outcomes of studies. Since a systematic mapping approach has been undertaken, all included study outcomes were included as long as a pre and post mean score was present and the results were based on a composite scale (e.g. dispositional mindfulness) rather than each subscale within measures (e.g. General Anxiety Disorder Scale). Where two measures of a construct were reported (e.g. two measures of dispositional mindfulness), the best quality measure which was more sport-related have been used.

The data extracted scores were extracted from : objective measures of performance, such as: any kind of scoring (e.g. qualifying, ranking, placement in competitions, performance scores); subjective measures of performance such as self and coach ratings; measures of pre and post mean scores of any outcome. Where stress was being measured, it was listed with the anxiety outcome, as stress and anxiety were used quite interchangeably (e.g. Moen et al., 2015). In addition, in the study by MacDonald and Minahan (2017) the sIgA score was used as an anxiety measure as it was a physiological measure for anxiety. Therefore, in the present review, in order to answer the question of whether present research on the use of mindfulness interventions in sports were reliable enough, only studies that meet this criteria were reviewed.

All the included studies (both randomised and non-randomised control trials) were evaluated for methodological quality via already established quality assessment tools.

Assessment of Methodological Quality:

The Downs and Black checklist (1998) and the Cochrane Risk of Bias Tool (Higgins et al., 2011) have been used for evaluating methodological quality of empirical research. Using these two tools together allowed for more sufficient depth in quality assessment.

The Downs and Black checklist (1998) had a total of 27 items. Some re-wording and change in scoring for the last item: 'did the study have sufficient power to detect a clinically important effect where the probability value for a difference being due to chance is less than 5%' had to be made to be more suitable for sport psychology intervention studies. Item 27 was changed to the following: 'did the authors demonstrate the sample size was adequate to detect the smallest worthwhile change in performance', with the score being "1" for yes, "0" for no and "0" for unable to determine. The scoring system was in this same format for all items except for this item 'principle confounders provided?' where the scores were "2" for yes, "1" for partially and "0" for no. The 'total score' was based on the addition of the items across the quality assessment for each study. The maximum possible score on this quality assessment was 28. The distribution of the scores was as follows: 10 or fewer: very poor quality, 11-13: poor quality, 14-16: fair quality, 17-20: good quality, 21-24: very good quality, 25-28: excellent.

The Cochrane Risk of Bias Tool involves 6 types of bias, each scores based on 'high', 'low' or 'unclear' risk. Since most of the studies showed unclear risk, only the Downs and Black Checklist were included in this review.

<u>Synthesis of results:</u>

Initially the aim was to focus on both the efficacy and quality of studies present in mindfulness in sports, however, due to the heterogeneity present among the included studies (interventions, scales used, comparison groups, and outcome measures), quantitative syntheses of findings via meta-analyses were not likely to be meaningful (Deeks et al., 2008). Instead, as recommended by the supervisory team, we only focused on the quality of studies by narratively reviewing, using quality assessment tools mentioned above and adopting a systematic map approach, to present the quality of the included studies. This allows for a broader search by including all the outcomes measured, and to focus on the changes between the before and after intervention measurement of those particular measured outcomes.

Results:

As part of the initial stage of empirical literature identification, 19,083 studies were found. . As shown in Figure 1 below, 18, 616 were rejected, while 456 were kept for screening of abstracts. These were further reduced to 74, based on non-experimental studies (lacking an intervention), not in a sporting environment or non-English manuscripts. A further 51 were removed from those 74, based on being qualitative studies (31.4%), athletes who were just recreational/not competitive (23.5%), a lack of an actual mindfulness intervention (e.g. just meditation) or Acceptance-Commitment-Therapy on its own without the mindfulness element or some other similar intervention but not mindfulness-based (15.7%), the lack of a control group (15.7%), full text not being available (5.9%) or where two or more interventions were carried out at once, which left no way of ensuring that results were due to a mindfulness intervention or any other manipulation (7.8%).

The remaining 23 studies included both Non-Randomised and Randomised controlled studies, with a mindfulness-intervention and a control group being deployed among competitive athletes. It is important to note that two studies (Bernier et al., 2009; Kettunen & Välimäki, 2014) used both a Mindfulness and Acceptance-Commitment-Therapy (ACT) intervention at the same time but were still included. The reason for this was that the Mindfulness-Acceptance-Commitment (MAC) intervention is already a combination of Mindfulness and ACT, therefore, only this kind of combination was allowed.

The assessment of the two subsets (Non-Randomised and Randomised Controlled Trials) of research will be provided and discussed below.
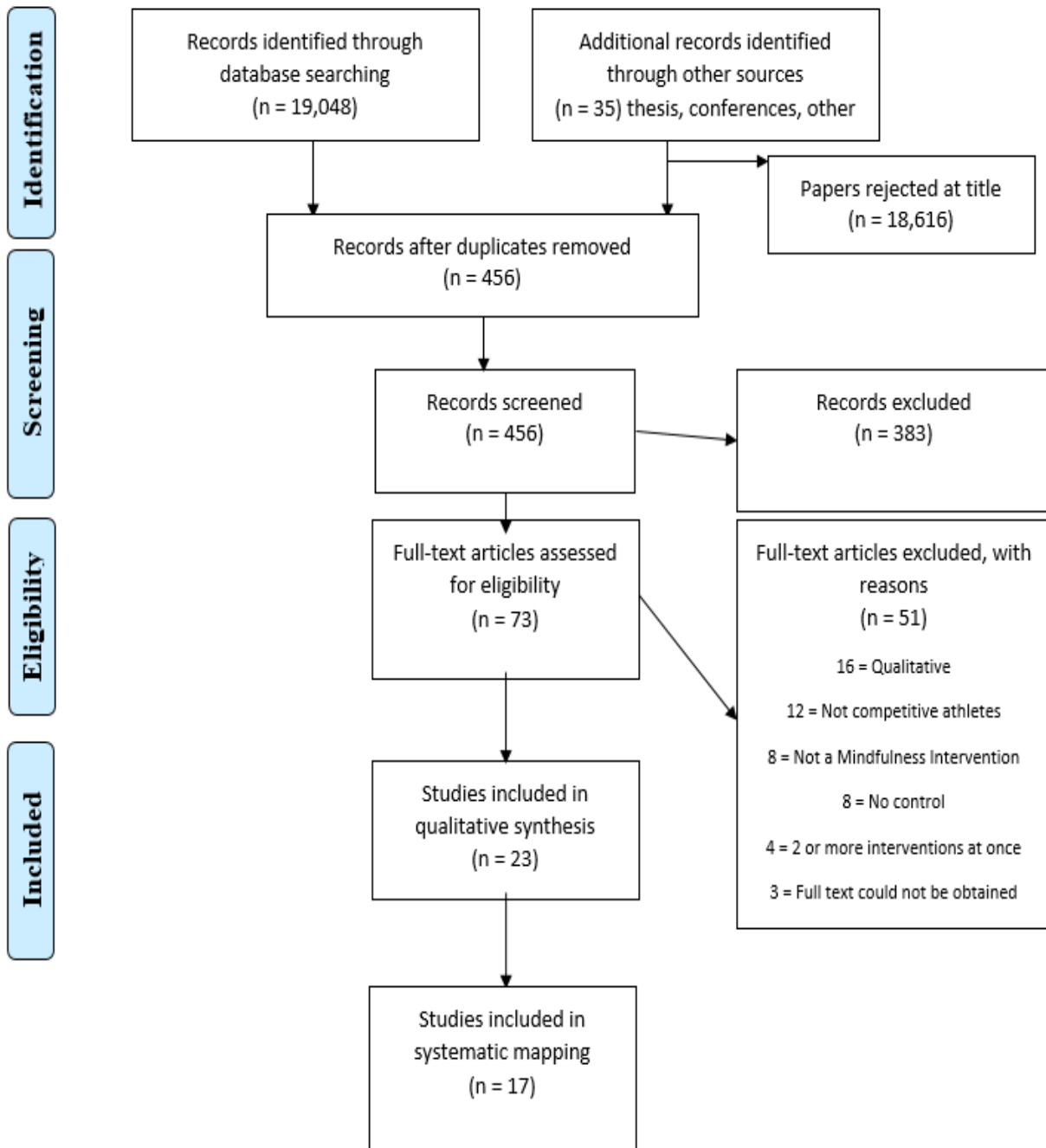
Figure 1: PRISMA Flow Diagram

Randomised:

As can be seen in Figure 2, Table 1 and 2 below, all of the non-randomised studies have small sample sizes M(SD) 26.5(15.819), with the sample sizes varying between 10 and 59. In addition, principle confounders were rarely addressed.

50% of the non-randomised studies reported some type of effect size (d, g, or percentages) but only 50% (Kettunen & Valimaki, 2014; Baltzell & Akhtar, 2014; Sant, 2015; Sant, 2016) provided mean scores for the outcomes measured through a composite scale. Apart from that, athletic performance mean scores were only provided for 12.5% of the non-randomised studies (Kettunen & Valimaki, 2014), however they were only showing coach and self-rating scores separately rather than testing the actual effect as a whole. 25% of the studies (Bernier et al., 2009; Hasker, 2010) reported their athletic performance scores based on qualitative reports while the other studies did not measure that outcome.

In some cases, the measurement scales used tested some aspect of a particular outcome but divide the outcome in several more sub-scales, making it difficult to use them for quantitative analysis (e.g. OMSAT in Bernier et al., 2009; GADS in Wolanin & Schwanhausser, 2010; MIS in Thienot, 2013; PANAS in Baltzell & Akthar, 2014).

Heterogeneity in interventions used was another issue with 37.5% using MAC (Hasker, 2010, Wolanin & Schwanhausser, 2010; Sant, 2016), 12.5% using MBCT/ACT (Bernier et al., 2009), 12.5% using ACT with Mindfulness (Kettunen & Valimaki, 2014), 12.5% using MBSR/MBCT (Sant, 2015), 12.5% using MMTS (Baltzell & Akhtar, 2014) and another using an altered version of a Mindfulness Program (Thienot, 2013).

As seen in Table 1 and 2 below, other issues with the included studies included, lack of proper reporting of adverse events or consequence of the intervention not mentioned (Bernier et al., 2009), data dredging or adherence to study protocol was not followed (Wolanin & Schwanhausser, 2010), non-compliance to intervention (e.g. Thienot, 2013; Sant, 2015), intention to threat not followed (not all those included in intervention were analysed) (e.g. Wolanin & Schwanhausser, 2010; Thienot, 2013; Kettunen & Valimaki, 2014) and no account of lost subjects to follow-ups (Thienot, 2013).

Similar to previous systematic reviews, the quality scores based on the Downs and Black (1998) tool range between 25% Fair, 37.5% Good and 37.5% Very Good. However, based on the Cochrane Risk of Bias Assessment tool most studies were in the unclear or high risk of bias category.
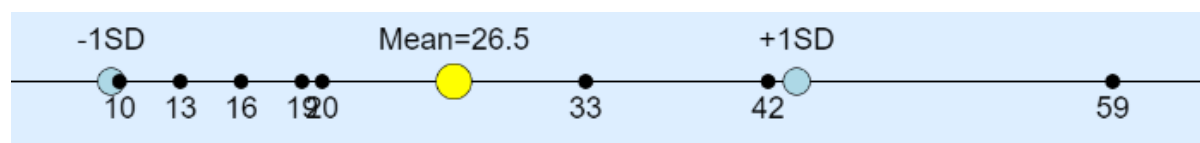
Figure 2: Sample sizes distribution by studies

Quality Assessment of Non-Randomised Control Trials

Quality Assessment Items	Bernier et al. (2009)	Hasker (2010)	Wolanin & Schwanhausser (2010)	Thienot (2013)	Kettunen & Välimäki (2014)	Baltzell & Akhtar (2014)	Sant (2015)	Sant (2016)
Hypothesis/aim/objective of the study clearly described?	1	1	1	1	1	1	1	1
Main outcomes to be measured clearly described in the Intro/Methods section?	1	1	1	1	1	1	1	1
Characteristics of subjects included in the study clearly described?	1	1	1	1	1	1	1	1
Interventions of interest clearly described?	1	1	0	1	1	1	1	1
Principle confounders provided? (2= yes, 1= partially, 0= no)	0	1	1	0	0	0	2	2
Main findings clearly described?	1	1	1	1	1	1	1	1
Means/SD/CI/Effect sizes reported?	0	1	1	1	1	1	1	1
Important adverse events, consequence of intervention, reported?	0	1	1	1	1	1	1	1
Characteristics of subjects lost to follow-up described?	1	1	1	0	1	1	1	1
Actual probability values for the main outcomes reported (not just $p<.05$)?	0	1	0	1	1	1	1	1
Subjects asked to participate representative of the entire population from which they were recruited (Random Selection)?	0	0	0	0	0	0	0	0
Were subjects who were prepared to participate representative of the entire population from which they were recruited? (distribution of the main confounding factors was the same in the study sample and the source population)	0	1	1	1	1	1	1	1
Were the staff/places/facilities where the subjects were studied, representative of the intervention the majority of subjects receive?	1	1	1	1	1	1	1	1
Attempt to blind study subjects to intervention?	0	0	0	0	0	0	0	0
Attempt to blind those measuring the main outcomes of the intervention?	0	0	0	0	0	0	0	0
If data dredging was present was it made clear? (adherence to study protocol?)	1	1	0	1	1	1	1	1
Was follow up the same for all study subjects (time-wise)?	1	1	1	1	1	1	1	1
Statistical tests used to assess main outcomes, appropriate?	1	1	1	1	1	1	1	1
Compliance with intervention reliable?	1	1	1	0	1	1	0	1
Main outcome measures used accurate (valid and reliable)?	1	1	1	1	1	1	1	1
Were subjects in different intervention groups/comparable control present?	1	1	1	1	1	1	1	1
Were the subjects recruited over the same period of time?	1	1	1	1	1	1	1	1
Were study subjects randomised to intervention groups? (Random Allocation)	0	0	0	0	0	0	0	0
Blinding of randomisation process until recruitment was complete and irrevocable?	0	0	0	0	0	0	0	0

Intention to threat?	1	1	0	0	0	1	1	1
Were losses of subjects to follow-up taken into account?	1	1	1	0	1	1	1	1
Did the authors demonstrate the sample size was adequate to detect the smallest worthwhile change in performance?	0	0	0	0	0	0	0	0
Total Quality Score	**16**	**21**	**17**	**16**	**19**	**20**	**21**	**22**
Quality Rating	**Fair**	**Very Good**	**Good**	**Fair**	**Good**	**Good**	**Very Good**	**Very Good**

Note:

Table 1: Quality Assessment of Non-Randomised Control Trials

Characteristics of Non-Randomised Controlled Trials

Study	Participant Characteristics w/M (SD)	Intervention + Control	Outcomes
Bernier et al. (2009)	7 (13)* (71.4% male 28.6% female) Elite Golfers; Intervention group Age M = 15.67 (0.74); Control group Age M age = 15.40(0.49).	Intervention (n = 7): 12-week Mindfulness education program, using Mindfulness Based Cognitive Therapy (MBCT) and Acceptance Commitment Therapy (ACT) (added to a pre-existing Psychological Skills Training (PST) program); group with researcher, 5 years in PST; ~20 min practice per week prescribed; mixture of group and home-based format sessions Control (n = 6): Received the pre-existing PST program (no mindfulness)	**Athletic Performance:** Compare effects of Mindfulness Program with that of a Pyschological Skills program Improved national ranking for all mindfulness and acceptance intervention group golfers Coach confirmed intervention usefulness and relevance. **Mindfulness:** Qualitative reposts via interviews showed strong understanding of mindfulness and acceptance skills, developed skills with reference to attentional awareness; a non-judgmental, task-relevant attentional focus; and behavioural flexibility, self-perceptions of enhanced performance, and high satisfaction with the program **Anxiety/Stress:** OMSAT-3* : golfers who followed the program had increased their scores related to activation more than the golfers in the control group, $F(1, 10) = 6.63$, $p < .03$, $d = 1.72$
Hasker (2010)	19 (57.9% male, 42.1% female) Division II NCAA college athletes: basketball, baseball, lacrosse, soccer, track and field, golf; Age M = 19.4	Intervention (2 groups – between 3-10 athletes each): 7-session MAC protocol (Gardner & Moore, 2007) with 2 clinical psychology doctorate students; 1 hr weekly; group and home-based format Control (2 groups – between 3-10 athletes each): 7-session US Olympic Committee Mental training (USOC MT) program; 1 hr weekly	**Athletic Performance:** Compare effects of Mindfulness-Acceptance-Commitment (MAC) program with those of Psychological Skills Training (PST) Program There were no significant differences between the MAC group and the MT groups for both the coach's ratings, $F(1, 17) = .004$ and self-ratings, $F(1, 17) = .241$ ($p > .05$). The mean difference between the MT/PST group participants' self-rating score was -2.78 with a 95% confidence interval between -4.652 and -.902. The effect size of $d = .49$ indicates a medium effect. A significant result was obtained ($t = -3.418$, df = 8, $p < .0005$). No significant results were found for the MAC group examining change over time (within group). In addition, no significant differences MT group showed greater improvement in self-ratings over time **Mindfulness:** MAC group showed increased mindfulness skills, increased experiential acceptance

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			FFMQ: The main effect for mindfulness qualities was significant, $F(4, 68) = 6.603$, $p = .000$, partial $n2 = .280$. The mindfulness qualities and group interaction was not significant, $F(4, 68) = .276$, $p = .892$, partial $n2 = .016$.
			AAQ: The main effect for change scores was significant $F(1, 17) = 69.48$, $p = .000$, partial $n2 = .803$. The change score by group interaction was not significant $F(1, 17) = 2.61$, $p = .124$, partial $n2 = .133$.
Wolanin & Schwanhausser (2010)	20 female Division I NCAA Volleyball & Field Hockey players from mid-sized university in NE USA; Ages: 'freshmen-seniors'	Intervention (n = 13) 7-week Mindfulness-Acceptance-Commitment (MAC) protocol with 2 clinical psychology doctoral students; once 30-60 mins weekly; group and home-based format Control (n = 7): No Intervention	**Athletic Performance:** To investigate whether MAC intervention enhances athletic performance across the Multilevel Classification System for Sport Psychology (MCS-SP) classification Greater increases in coach ratings of performance for MAC group (37%) than control group (14%) On ratings of performance, 67% of the PD group improved, while 0% of the Pdy group and 14% of the control group improved. Presence or absence of subclinical psychological issues might moderate impact of MAC intervention (MAC might work best for athletes who are not dealing with psychological issues beyond performance development - Pdy) **Anxiety/Stress:** Metacognitions questionnaire; generalised anxiety disorder scale Those whose performance was increased had lower scores in: beliefs about uncontrollability and danger and cognitive competence, efforts to cope with thoughts and emotions, avoidance to prevent worry and believability of thoughts.
Thienot (2013)	33 Elite (national and/or international) swimmers from 3 Australian swimming clubs; Age M = 18.90 (2.90)	Intervention (n = 15) – 4-week Mindfulness program by 2 mindfulness experts with 5 years experience; 1 session/week group format and minimum 3/week home-based practice Control (n = 17): 4-week cooking program	**Athletic Performance:** To explore whether mindfulness training might influence sport performance in comparison to control group Swimming task (effectiveness of MT on objective swimming performance): p = .52 ; n2 = .04 **Mindfulness:** MIS: The results did not show that mindfulness training impacted swimming performance in comparison to control group (p= .28; n2 = .13)
Kettunen & Välimäki (2014)	59 female Elite Floorball players from 2 teams in National League of Finland;	Intervention (n = 26) (4 groups of 5-7 participants each): 6-week combination of Mindfulness and Acceptance-	**Athletic Performance:**

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Ages: Intervention M = 23.8, SD = 5.4
Control M = 19.7 (4.8)

Commitment-Therapy (ACT) with 2
psychology maters students; 1hr
weekly; group + home-based exercises

Control (n = 25): No intervention

Test if ACT-based intervention enhances performance in sports as compared to a control group not receiving any intervention.

Competitive Performance (coach and athlete self-reports);

Majority of the athletes were satisfied with the program, would recommend it to other athletes and also would utilise the learnt skills (mainly: new method to handle anxiety/stress) in the future

In the intervention team the correlation between athletes´ self-evaluation of performance and coaches' evaluation of performance was relatively high (pre: r=0.50, p=0.012, n=24; post: r=0.50, p=0.012, n=24) both in pre- and post-measurements. However there was no significant correlation in follow-up measurements (r=0.22, p=0.296, n=24).

Self-Perceived Athletic Performance: Self-Perf. Intervention Pre 3.76 (0.44) Post 3.78 (0.45) Control Pre 3.64 (0.42) Post 3.69 (0.43)

Coach's Perceived Athletics Performance: Perf. Coach Intervention Pre 3.56 (0.52) Post 3.54 (0.50) Control Pre 3.78 (0.35) Post 3.67 (0.42)

Mindfulness:

FFMQ: Intervention M pre: 131.92 (13.49); M post 135.08 (16.86)
FFMQ: Control M pre: 126.30 (11.80); M post 127.09 (13.68)

Anxiety/Stress:

Perceived Stress Scale Intervention Pre 14.71 (6.22) Post 13.04 (5.05) Control Pre 18.30 (6.18) Post 18.26 (5.55)

Acceptance and Action:

AAQ: Intervention M pre 15.75 (5.77); M post 14.75 (5.10)
AAQ: Control M pre 20.22 (6.73); M post 18.48 (7.51)

General Well-Being:

MHC-SF Intervention Pre 49.92 (11.80) Post 51.21 (11.58) Control Pre 43.74 (14.53) Post 45.70 (12.29)

Self-Confidence:

S-Conf. Intervention Pre 69.46 (22.29) Post 75.33 (18.00) 75.63 Control Pre 66.13 (14.26) Post 66.72 (15.57)

			Group Environment:
			GEQ Intervention Pre 129.75 (15.13) Post 128.33 (15.80) Control Pre 126.87 (11.93) Post 123.61 (13.83)
Baltzell & Akthar (2014)	42 female Division I Varsity white soccer and rowing athletes; Ages; 'college age'	Intervention (n = 19): Mindfulness Meditation Training for Sport (MMTS) 12 sessions over 6 weeks with an expert insight meditation teacher; 30 mins per session; 5-10 min/day home-based exercises Control (n = 8): No intervention	To test whether the intervention group would experience an increase in mindfulness and report less negative affect compared to control. **Mindfulness:** MAAS: Pre-Test Intervention group$M$ (SD) 3.684, (.670) MAAS: Post-Test Intervention group $M(SD)$ 4.043 (.620) MAAS: Pre-test Control Group $M(SD)$ 4.060 (.638) MAAS: Post-Test Control Group $M(SD)$ 3.707 (.898) **Positive Affect/Negative Affect – PANAS Scale** PANAS: Pre-test Intervention group M(SD) 34.620(9.744) PANAS: Post-test Intervention group M(SD) 32.210(7.473) PANAS:Pre-test Control group M(SD) 35.8333(6.793) PANAS: Post-test Control group M(SD) 33.560(6.051) These scores suggest a wide range of natural fluctuations on PANAS scores from Time 1 to Time 2. PANAS: Pre-test Intervention group M(SD) 20.580(5.975 PANAS:Pre-test Control group M(SD) 18.500(3.823 PANAS: Post-test Intervention group M(SD) 20.740(6.244) PANAS: Post-test Control group 25.170(3.823)
Sant (2015)	16 female U18 Scottish National Basketball Team; Ages M = 16.5; 16-17	Intervention (n = 8): combination of Mindfulness Based Stress Reduction (MBSR) and Mindfulness Based Cognitive Therapy (MBCT) book with CD by Williams & Penman 2011 – brief 4 week version with first author; 1 hr weekly; minimum 3 days/week home-based practice prescribed Control (n = 8): No intervention	**Athletic Performance:** To test whether a brief mindfulness intervention (MAAS-A) can enhance resilience (CD-RISC-10) in sport individuals Qualitative reposts via social validation interviews indicated that participants experienced increased awareness, focus, acceptance, positivity, calmness, relaxation, concentration and decreased frustration and stress. Most of the participants also recommended it to other athletes. **Minfulness:** Significant results obtained showing support for the effectiveness of mindfulness training in enhancing resilience in elite young athletes. MAAS-A Pre Control Group M(SD) 53.25 (9.16) MAAS-A Pre Experimental Group M(SD) 44.50 (7.80) MAAS-A Post Control Group M(SD) 49.63 (6.74)

MAAS-A Post Experimental Group M(SD) 54.13 (10.82)
MAAS-A P-value time*group .004

Resilience:

CD-RISC Pre intervention Control Group M(SD) 27.38(3.96)
CD-RISC Pre Experimental Group M(SD) 24.88(3.87)
CD-RISC Post Control Group M(SD) 26.50(3.70)
CD-RISC Post Experimental Group M(SD) 29.25(2.96)
CD-RISC P-value time*group .011

Sant (2016)	10 (30% male, 70% female) Injured Competitive athletes out of their sport for a minimum of 8 weeks: football, crossfit, athletics, badminton, basketball; Ages: M(SD) 25(5); 20-30	Intervention (n = 5): 8-week Mindfulness-Acceptance-Commitment (MAC) with first author; once weekly sessions; with in-between home-based exercises Control (n = 5): No intervention	**Mindfulness:** To test whether mindfulness (MAAS) can improve sport injury related anxiety (SIAS) during rehabilitation MAAS Pre intervention Control Group M(SD) 61.60 (9.40) MAAS Pre intervention Experimental Group M(SD) 46.60 (10.09) MAAS Post Intervention Control Group M(SD) 58.20 (5.54) MAAS Post Intervention Experimental Group M(SD) 68.40 (5.03) MAAS P-value time*group .003 **Anxiety/Stress:** SIAS Pre intervention Control Group M(SD) 80.20 (18.34) SIAS Pre intervention Experimental Group M(SD) 105.40 (8.62) SIAS Post Intervention Control Group M(SD) 84.80 (17.88) SIAS Post Intervention Experimental Group M(SD) 66.60 (19.63) SIAS P-value time*group .007 Significant results obtained showing support for the effectiveness of mindfulness training in reducing athletes' sport injury anxiety during rehabilitation. Qualitative reposts via social validation interviews indicated that participants experienced increased awareness through focus, in-the-moment presence, concentration and attention; increased acceptance through more resilience, meaning/purpose and patience; while also were able to take more action through healthy behaviour changes, adhering more to rehabilitation and retaining athletic identity. All of the participants recommended the program to other athletes.

Table 2:   Characteristics of Non-Randomised Control Trials

<u>Randomised:</u>

As can be seen in Tables 3 & 4 below, similar to the non-randomised studies, blinding did not take place in the majority of randomised studies except for 7.14% of the studies (see Stankovic, 2015), who attempted to blind the intervention process from the subjects. The sample size of randomised studies, as seen in Figure 3, was not demonstrated to be of adequate power (M(SD) 49.71(35.614) ranging between 13 and 147) in the majority of studies except for 21.43% (see John et al., 2011;2012; Stankovic, 2015).

Although these studies state that they are randomised controlled trials, random selection is mostly unclear for 92.86% of the studies. Gross et al., (2016), whose random selection definitely did not take place, while random allocation was also not clear in 71.43% of the studies except for 28.6% (see John et al., 2011; 2012; Ivarsson et al., 2015; Scott-Hamilton et al., 2016). A problem with heterogeneity of interventions used can also be found in these RCTs. 42.86% used an altered version of a mindfulness meditation training (John et al., 2011;2012; Quinones, 2014; Moen et al.,. 2015; Stankovic, 2015; Samaneh et al., 2016), 14.29% give no description whatsoever (Moghadam et al., 2013; Ojaghi et al., 2013), 14.29% use MAC (Ivarsson et al., 2015; Gross et al., 2016), 7.14% use MSPE (Pinaeu, 2015), 7.14% use MiCBT (Scott-Hamilton et al., 2016), 7.14% use a CD (Aherne et al., 2011) and 7.14% use a Smartphone App (MacDonald & Minahan, 2017).

92.86% of studies reported measured outcomes mean scores, with only 7.14% (Ivarsson et al., 2015) providing post-intervention percentages and an effect size. Apart from outcomes measured reporting, there was also an increase in principle confounders (external factors, other than dependent variables that may have an influence on the studies' result) mentioned in the randomised controlled trials.

21.43% of the studies (Moghadam et al., 2013; Ojaghi et al., 2013; Samaneh et al., 2016) were unclear about lost subject to follow-ups (those subjects that were not included in the post-intervention measurements, resulting in them not being analysed). These 3 studies were also unclear as to whether an intention to treat approach has been used. 57.14% of the remaining studies (John et al., 2011;2012; Quinones, 2013; Moen et al., 2015; Pineau, 2015; Stankovic, 2015; Gross et al., 2016; Scott-Hamilton et al., 2016), even though they did take lost subjects to follow-ups into account did not use an intention to treat approach, while it was unclear for 7.14% of the studies (Ivarsson et al., 2015).

14.29% of the studies (Moghadam et al., 2013; Ojaghi et al., 2013) lacked a description of interventions used, while 7.14% of the studies (Samaneh et al., 2016) lacked a description of the characteristics of subjects.

In 7.14% of the studies (Aherne et al., 2011) there weren't any actual probability values (i.e. the exact number) reported but the p-value was stated.

Even though it is highly important who delivers a mindfulness intervention (Crane et al., 2010), 28.57% (Moghadam et al., 2013; Ojaghi et al., 2013; Quinones, 2014; Samaneh et al., 2016) of the studies did not state who took care of the delivery.

In 7.14% of the studies (Quinones, 2014), due to the lack of compliance to the intervention, adherence to the study protocol did not take place.

Overall, using the Downs and Black tool (1998) there was an improvement in quality compared to non-randomised studies, where 42.86% had very good rating scores (28.57% good; 7.14% fair; 21.43% poor).The Cochrane Bias Assessment tool showed some additional low risk ratings with the majority of the studies resulting in unclear risk. Due to this, a systematic map of all outcomes provided by each study, using the pre and post mean scores for each outcome in both randomised and non-randomised studies was carried out. This was done to map out and categorize existing literature in a visual format, from which to commission further reviews and/or primary research by identifying gaps in research literature.
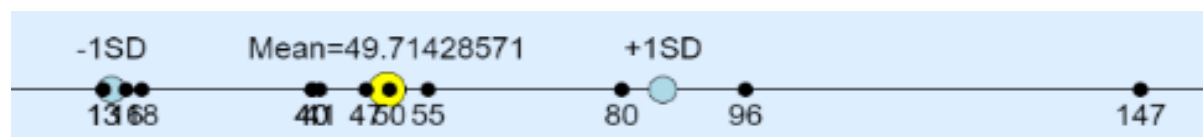

Figure 3: distribution of sample sizes among all studies

Quality Assessment of Randomised Control Trials

Quality Assessment Items	Aherne et al. (2011)	John et al. (2011)	John et al. (2012)	Moghadam et al. (2013)	Ojaghi et al. (2013)	Quinones (2014)	Ivarsson et al. (2015)	Moen et al. (2015)	Pineau (2015)	Stankovic (2015)	Gross et al. (2016)	Samaneh et al. (2016)	Scott-Hamilton et al. (2016)	MacDonald & Minahan (2017)
Hypothesis/aim/objective of the study clearly described?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Main outcomes to be measured clearly described in the Intro/Methods section?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Characteristics of subjects included in the study clearly described?	1	1	1	1	1	1	1	1	1	1	1	0	1	1
Interventions of interest clearly described?	1	1	1	0	0	1	1	1	1	1	1	1	1	1
Principle confounders provided? (2= yes, 1= partially, 0= no)	1	2	2	0	0	1	2	1	2	2	1	0	1	2
Main findings clearly described?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Means/SD/Inter-quartile range/CI/Effect sizes reported?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Important adverse events, consequence of intervention, reported?	1	1	1	0	0	1	1	1	1	1	1	0	1	1
Characteristics of subjects lost to follow-up described?	1	1	0	0	0	0	0	0	1	1	1	0	1	1
Actual probability values for the main outcomes reported (not just p<.05)?	0	1	1	1	1	1	1	1	1	1	1	1	1	1
Subjects asked to participate, representative of the entire population from which they were recruited (Random Selection)?	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subjects prepared to participate, representative of the entire population from which they were recruited? (shared same confounding?)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Were the staff/places/facilities where the subjects were studied, representative of the intervention the majority of subjects receive?	1	1	1	0	0	0	1	1	1	1	1	0	1	1
Attempt to blind study subjects to intervention?	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Attempt to blind those measuring the main outcomes of the intervention?	0	0	0	0	0	0	0	0	0	0	0	0	0	0
If data dredging was present was it made clear? (adherence to study protocol?)	1	1	1	1	1	0	1	1	1	1	1	1	1	1
Was follow up the same for all study subjects (time-wise)?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Statistical tests used appropriate?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Compliance with intervention reliable?	1	1	1	0	0	0	0	0	1	1	1	0	1	1
Main outcome measures used accurate (valid and reliable)?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Were subjects in different intervention groups/comparable control present?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Were the subjects recruited over the same period of time?	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Were subjects randomised to intervention groups (Random Allocation)?	0	1	1	0	0	0	1	0	0	0	0	0	1	0
Blinding of randomisation process until recruitment was complete and irrevocable?	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Intention to threat?	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Were losses of subjects to follow-up taken into account?	1	1	1	0	0	1	1	1	1	1	1	0	1	1

Did the authors demonstrate the sample size was adequate to detect the smallest worthwhile change in performance? (power)	0	1	1	0	0	0	0	0	0	1	0	0	0	0
Total Quality Score	**20**	**23**	**24**	**13**	**13**	**16**	**20**	**18**	**21**	**24**	**20**	**13**	**21**	**22**
Quality Rating	**Good**	**Very Good**	**Very Good**	**Poor**	**Poor**	**Fair**	**Good**	**Good**	**Very Good**	**Very Good**	**Good**	**Poor**	**Very Good**	**Very Good**

Note:

Table 3:   Quality Assessment of Randomised Control Trials

Characteristics of Randomised Trials:

Study	Participants	Intervention + Control	Outcomes
Aherne et al. (2011)	13 National and/or International college athletes from University 'High Performance Centre'; Age 19-25; M = 21 (1.68)	Intervention (n = 6): 6-week Mindfulness CD training based on "guided meditation practices" by Williams, Teasdale, Segal & **Kabat-Zinn, 2007**); home-based exercises between 10-30min each Control (n = 7): No intervention	

Outcomes

Athletic Performance:

Follow-up t tests indicated no significant difference ($p > .05$) between the experimental and control groups' FSS-2 global scores at the baseline training session, but a large difference ($p < .05$, $d = 1.66$) between them at follow-up training session. Furthermore, the increase in FSS-2 global scores from Time 1 to Time 2 was large ($p < .01$, $d = 1.56$) for the experimental group, but nonsignificant ($p > .05$) for the control group.

Mindfulness:

Dispositional Cognitive and Affective Mindfulness (CAMS-R)

CAMS-R Pre intervention Control Group M(SD) 33.57 (1.62)
CAMS-R Pre intervention Experimental Group M(SD) 32.33 (4.27)
CAMS-R Post Intervention Control Group M(SD) 32.57 (4.89)
CAMS-R Post Intervention Experimental Group M(SD) 37.67 (5.09)
CAMS-R P-value time*group < .05

Significant group x time interaction, $F(1,11) = 7.95$, $p < .05$, partial $\eta2 = .41$.

No significant difference ($p > .05$) between the CAMS-R scores of the experimental and control groups at baseline, but a large difference ($p < .05$, $d = 1.02$) at follow-up

The increase in mindfulness scores from Time 1 to Time 2 was large ($p < .01$, $d = 1.13$) for the experimental group, but nonsignificant ($p > .05$) for the control group.

Flow:

FFS-2 Pre intervention Control Group M(SD) 132.57 (10.47)
FFS-2 Pre intervention Experimental Group M(SD) 127.17 (15.39)
FFS-2 Post Intervention Control Group M(SD) 131.57 (8.00)
FFS-2 Post Intervention Experimental Group M(SD) 151.00 (15.18)
FFS-2 P-value time*group < .05
FSS-2 global scores as the dependent variable
There was also a significant group x time interaction, $F(1,11) = 11.49$, $p < .05$, partial $\eta2 = .51$.

Study	Participants	Intervention + Control	Outcomes
John et al. (2011)	96 Male Elite Shooters from National Shooting Team; Age M = 29.5 (4.3)	Intervention (n = 48) (several groups with 8 participants each): 4-week + 1 week follow up if Mindfulness Meditation Therapy (MMT) with a certified meditation instructor; several groups with 8 participants each; 20mins daily, 6 days a week and 1 day off; group format Control (n = 48): No Intervention	

Athletic Performance:

Performance Score (shooting accuracy or shooting score)

Comparison of mean values of outcome variables at 3 stages in male shooters of study

PS-0Day MMT Group Mean (SD) 528 13; Control Group Mean (SD) 524 2
PS-29th MMT Group Mean (SD) Day 542 13; Control Group Mean (SD) 518 16

Significant increase in shooting performance for MMT group

Anxiety/Stress:

SC-0Day MMT Group Mean (SD) 1.33 0.06; Control Group Mean (SD) 1.33 0.06
SC-29th MMT Group Mean (SD) Day 0.66 0.07; Control Group Mean (SD) 1.95 0.08
SC-36th MMT Group Mean (SD) Day 0.93 0.11; Control Group Mean (SD) 1.6 0.11

Performance anxiety measured through salivary cortisol (physiological indicator of stress/anxiety)

In MMT group, the cortisol level in saliva decreased in postintervention and follow up, i.e. 50% (.66) and as follow up carry over decrease of 20% (.93). Whereas control group showed an increase of 47% (1.95) and 26% (1.60) pre-competition and post competition respectively. In performance score experimental group showed an increase of 2.6% (542) from base line (528), whereas control group showed decrease of 0.9% (518) from base line (524).

Significant decrease in salivary cortisol levels for Mindfulness Meditation Therapy (MMT) group at post-test and follow-up measurements (i.e. indicator of decreased performance)

Significant increase in salivary cortisol levels for control group

| John et al. (2012) | 147 Male Elite Shooters from Indian shooting team; Age M = 29.5 (4.3) | Intervention Music Therapy (MT) (n = 50 ± 3): 20 minute sessions of listening to classical music of their choice with a certified meditation instructor; every day for 6 days a week

Intervention Mindfulness Meditation Therapy (MMT) (n = 50 ± 3): 20 minute daily sessions of Shavasana, Pranayam and mindfulness by body scan for 4 weeks; group format

Control (n = 50 ± 3): No Intervention | **Athletic Performance:**
Performance Score (shooting accuracy or shooting score)
Comparison of PS at 2 stages in study groups:
PS-0 Day MT Group Mean (SD) 528 (29); MMT Group Mean (SD) 528 (25) ; Control Group Mean (SD) 522 (31)
PS-29th Day MT Group Mean (SD) 544 (30); MMT Group Mean (SD) 541 (25) ; Control Group Mean (SD) 518 (28)

One-way ANOVA comparison of PS at 2 stages:
PS 0 – Between Groups F= .40; p= .756
PS 29- Between Groups F = 13.69; p= .000

Increase in pre and post competition performance scores of all two interventions (p<0.0001) (Music Therapy and Mindfulness Meditation Therapy) whereas in the control group there was a decrease in performance scores.

Highest percentage value of changes took place in the Music Therapy group 3% followed by the Mindfulness Meditation group 2.6%. |
| Moghadam et al. (2013) | 40 Premier League or First Division Badminton players of the Isfahan province; Age 'Adult' | Intervention (n = 20): mindfulness training - No description of intervention and personnel
Control (n = 20): No description | **Athletic Performance:**
Performance Scores (scores from matches)

Sports Performance Experiment M(SD) Pre intervention – 42.15(7.40)
Sports Performance Control M(SD) Pre intervention – 41.65(6.23)
Sports Performance Experiment M(SD) Post intervention – 47(6.27)
Sports Performance Control M(SD) Post intervention – 43.70(7.35)

Increases in performance scores among both groups however higher increase were reported among experimental group (4.85) than control (2.05)

Mindfulness:
MAAS Experiment M(SD) Pre intervention – 5.39(7.64)
MAAS Control M(SD) Pre intervention – 51.40(9.63)
MAAS Experiment M(SD) Post intervention – 56.35(7.10)
MAAS Control M(SD) Post intervention – 51.55(9.20)

Significant increases in mindfulness average scores (50.96 increase) among experimental group while only a slight increase in control group (0.15 increase) – P < 0.01 |

Anxiety/Stress:
CSAI Experiment M(SD) Pre intervention – 33.44(9.89)
CSAI Control M(SD) Pre intervention – 32.70(8.82)
CSAI Experiment M(SD) Post intervention – 27.60(5.56)
CSAI Control M(SD) Post intervention – 33.30(9.69)

Significant decreases in anxiety average scores (5.84 decrease) among the experimental group while slight increase in control (0.6 increase) – $P < 0.01$

Ojaghi et al. (2013)	40 Premier League or First Division table tennis players in Iran's pro or super league; Age Intervention M = 45.24(7.7) Control M = 59.25(20.6)	Intervention (n = 20): mindfulness training – no description of intervention and personnel Control (n = 20): No description	**Athletic Performance:** Athletic performance through performance scores (table tennis match scores) Athletic Performance Experiment M(SD) Pre intervention – 42.15(7.40) Athletic Performance Control M(SD) Pre intervention – 41.65(6.23) Athletic Performance Experiment M(SD) Post intervention – 47(6.27) Athletic Performance Control M(SD) Post intervention – 43.70(7.35) $P < 0.01$ **Mindfulness:** MAAS Experiment M(SD) Pre intervention – 50.40(7.64) MAAS Control M(SD) Pre intervention – 51.40(9.62) MAAS Experiment M(SD) Post intervention – 56.35(7.10) MAAS Control M(SD) Post intervention – 51.55(9.20) $P < 0.01$ **Anxiety/Stress:** CSAI Experiment M(SD) Pre intervention – 33.45(9.89) CSAI Control M(SD) Pre intervention – 32.70(8.82) CSAI Experiment M(SD) Post intervention – 27.60(5.65) CSAI Control M(SD) Post intervention – 33.30(9.69) $P < 0.01$
Quinones (2014)	13 Female Competitive soccer players; Age M = 21.5; 19-24	Intervention (n = 8): 4-week Mindfulness Meditation; No description of personnel; 10 mins audio guided meditation; 3-4 times/week at first and down to minimum 1time/week; home-based Control (n =5): 4-week Benson's Relaxation Response (Benson 1976); 10 mins practice daily	**Athletic Performance:** Open-ended questions: Qualitative reposts show how athletes still had some benefits such as "different focus ability" and "enjoyment of daily life demands" No significant increases in dispositional mindfulness scores between intervention group and time point and also between intervention group and relaxation group No significant interaction in mindfulness level in general between intervention group and time point and also between intervention group and relaxation group No significant interaction in dispositional flow between intervention group and time point and also between intervention group and relaxation group No significant interaction in suppression of unwanted thoughts between intervention group and time point and also between intervention group and relaxation group

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Mindfulness:

Dispositional Mindfulness (MIS) + Mindfulness level in general (MAAS) - ONLY MIS SCORES TAKEN AS IT'S MORE RELATED TO SPORT!

MIS Experiment M(SD) Pre intervention – 3.9(.52)
MIS Control M(SD) Pre intervention – 4.1(.53)
MIS Experiment M(SD) Post intervention – 4.1(.39)
MIS Control M(SD) Post intervention – 4.0(.66)

Flow:
DFS Experiment M(SD) Pre intervention – 3.3(.53)
DFS Control M(SD) Pre intervention – 3.7(.21)
DFS Experiment M(SD) Post intervention – 3.5(.53)
DFS Control M(SD) Post intervention – 3.8(.27)

Thought Suppression:
WBSI Experiment M(SD) Pre intervention – 57.5(6.63)
WBSI Control M(SD) Pre intervention –50.8(7.50)
WBSI Experiment M(SD) Post intervention – 55.8(11.05)
WBSI Control M(SD) Post intervention – 48.20(10.71)

| Ivarsson et al. (2015) | 41 (75.6% male, 24.4% female) Junior elite soccer players from one Swedish soccer high school; Age M = 16.97 (0.79), 16-19 | Intervention (n = 21; 3 groups of 7 participants each): 7-week MAC program (Gardner & Moore 2007) with first author; 45mins once weekly; minimum of 3 days a week listening to audio recorded mindfulness exercises throughout the week; group and home-based format Control (n = 20; 3 groups of 6-7 participants each):7-session of sport presentations on team psychology based on soccer; 45 mins once weekly |

Athletic Performance:
Injury recording through a specific schedule report

67% of the experimental group remained injury free while only 40% of the control group had no injuries by the end of the 6-month intervention.

Mindfulness group had almost half the number of injuries of the control group - intervention proved to be effective on injury occurrence.
The result from the Mann-Whitney U test showed no statistically significant difference in injury occurrence during the study period between the intervention and the control group U (39) = 149.50, z = -1.77, p = .077, but there was a medium effect size, adjusted Cohen´s d = - 0.59 (approx. 80% CI for d = -0.37 – - 0.74). Moreover, the participants in the treatment group experienced fewer injuries (total = 8) than the participants in the control group (total = 15).

Mindfulness:
Mindfulness level – through open ended questions

Qualitative reposts show that 76% of the players started to think more about their abilities to select what behaviours they should perform in order to achieve their goals, 24% learned how to relax, while 81% had increased their abilities to focus during longer period of times than they did before the program.

| Moen et al. (2015) | 50 (49% male, 51% female) Norwegian junior elite athletes from cross country skiing, biathlon, shooting and track and field; Age M = 18.5, 16-20 | Intervention (n = 23): 12-week mindfulness program with experienced mindfulness coach; 4 continuous periods of 3 weeks; sitting meditation-focus on breathing + body scanning **between 10-30 mins (influenced by Kabat-Zinn 1982, 1990,** |

Athletic Performance:
Perceived Satisfaction with progress in sport and school (ASQ)
Performance in Sport (ASQ) Pre intervention Experiment group M(SD) 20.93(4.55)
Performance in Sport Pre intervention Control group M(SD) 19.54(4.81)
Performance in Sport Post intervention Experiment group M(SD) 18.00(6.30)
Performance in Sport Post intervention Control group M(SD)16.63(4.97)

For sport performance there was a main effect of time (P<.000) whereas both groups decreased in perceived performance

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1994); group + home based (individually)

Control (n =27): No Intervention

Mindfulness:
MAAS Pre intervention Experiment group M(SD) 60.07(10.07)
MAAS Pre intervention Control group M(SD) 67.32(8.42)
MAAS Post intervention Experiment group M(SD) 60.87(12.06)
MAAS Post intervention Control group M(SD) 66.30(11.75)

Significant increases in Mindfulness levels scores among the experiment group while decreased in control group (P<0.002) after the intervention.

Mindfulness seems a promising tool to help elite youth athletes avoid experiencing burnout

Anxiety/Stress:
PSS-14 Perceived Stress Pre intervention Experiment group M(SD) 38.11(7.21)
PSS-14 Perceived Stress Pre intervention Control group M(SD) 38.26(7.54)
PSS-14 Perceived Stress Post intervention Experiment group M(SD) 37.48(7.70)
PSS-14 Perceived Stress Post intervention Control group M(SD) 37.78(8.48)

Athlete Burnout:
Athlete Burnout (ABQ) Pre intervention Experiment group M(SD) 35.30(9.73)
Athlete Burnout Pre intervention Control group M(SD) 31.80(10.41)
Athlete Burnout Post intervention Experiment group M(SD) 34.70(8.42)
Athlete Burnout Post intervention Control group M(SD) 37.93(12.08)

ABQ showed a main effect of time (P<.000) and the interaction between group and time (P<.000) with the control group increasing in ABQ significantly more than experimental group.

Athletic Performance:
Background Questionnaire, program evaluation measure, running practice log, follow-up questionnaire

Most common positive responses had to do with mindfulness skills (e.g., focusing, accepting negative thoughts), relaxation, and specific components of the workshop.

Most common negative responses had to do timing of or time commitment required for the workshop.

Majority (61.11%) indicated that they did not feel that the mindfulness training impacted their performance, although 38.89% responded in the affirmative.

Not taking self-compassion scale score , eat-26, fss2, csai2r, perf
Also not taking the mspe-sc scores – just focusing on the MSPE one

Mindfulness:
FFMQ Pre intervention MSPE Group M 117.59
FFMQ Pre intervention MSPE-SC Group M 124.11
FFMQ Post intervention MSPE Group M 122.27
FFMQ Post intervention MSPE-SC Group M 119.78
FFMQ Follow-up MSPE M 119.09
FFMQ Follow-up MSPE-SC M 119.78
FFMQ Pre Control M 129 F(2,40) = 0.21
FFMQ Post Control M 127.95 F(2,40) = 0.21

Pineau (2015)

55 (47.3% male, 52.7% female) Long-distance runners from two Division I collegiate cross-country teams in mid-atlantic region of the USA; Age M = 19.35

Intervention (n = 31; 2 groups): n= 16 in 6-week (+follow up 5-6month after) MSPE (Kaufman et al. 2012) workshop, n = 15 MSPE-SC (Neff, 2003; Gilbert, 2000; Gilbert & Irons, 2004, 2005; Gilderbt & Procter, 2006) with author or licensed clinical psychologist; 90 min contact; group + homebased format

Control (n =24): No intervention

FFMQ Follow-up Control M 127.48

MSPE and MSPE-SC had little impact on the athletes who participated in the workshop – no significant changes in trait or state mindfulness or self-compassion were found.

Anxiety/Stress:
The only sport-related variable that changed within the intervention groups was among the athletes who received MSPE where they reported more dissociative thoughts during running following the workshop.

SAS Pre intervention MSPE Group M 51.92
SAS Pre intervention MSPE-SC Group M 44.67
SAS Post intervention MSPE Group M 49.25
SAS Post intervention MSPE-SC Group M 46.33
SAS Follow-up MSPE M 46.33
SAS Follow-up MSPE-SC M 43.67
SAS Pre Control M 42.90 $F_{(2.40)} = 0.14$
SAS Post Control M 41.95 $F_{(2.40)} = 0.14$
SAS Follow-up Control M 42.00
SAS Follow-up Control M 135.79

Flow:
DFS-2 Pre intervention MSPE Group M 127.27
DFS-2 Pre intervention MSPE-SC Group M 119.56
DFS-2 Post intervention MSPE Group M 125.18
DFS-2 Post intervention MSPE-SC Group M 118.56
DFS-2 Follow-up MSPE M 124.97
DFS-2 Follow-up MSPE-SC M 118.78
DFS-2 Pre Control M 126.14
DFS-2 Post Control M 131.81

Thoughts during running:
TDRS Pre intervention MSPE Group M 25.42
TDRS Pre intervention MSPE-SC Group M 26.22
TDRS Post intervention MSPE Group M 24.83
TDRS Post intervention MSPE-SC Group M 24.33
TDRS Follow-up MSPE M 24.42 TDRS Follow-up MSPE-SC M 25.89
TDRS Pre Control M 23.05 TDRS Post Control M 22.24
TDRS Follow-up Control M 21.95

Self-Confidence:
CSCI Pre intervention MSPE Group M 38.64
CSCI Pre intervention MSPE-SC Group M 36.00 CSCI Post intervention MSPE Group M 39.09
CSCI Post intervention MSPE-SC Group M 37.67CSCI Follow-up MSPE M 38.18 CSCI Follow-up MSPE-SC M 37.00 CSCI Pre Control M 37.24CSCI Post Control M 38.24
CSCI Follow-up Control M 38.14

Athletic Performance:
Performance scores through both matches won scores and games won within each set.

Stankovic (2015)	80 female Amateur competitive tennis players from Boston area women's tennis leagues; Age M = 50; 40-60	Intervention (n = 42): listen to mindfulness meditation training (MMT) CD four times a week and log the times; 10 mins daily	

		over 8 week period; home-based (individually) format Control (n = 38): listen to tennis skills and strategy CD; 10 mins daily over 8 week period	Matches and games won vs lost – two groups achieved nearly opposite results – intervention group won (211 matches, 449 games) more and lost (120 matches, 188 games) considerably less than the control group (99 matches, 242 games won; 205 matches, 428 games lost). ***IMPORTANT TO NOTE THIS AS WELL!! SINCE THE SCORES ARE NOT IN MEAN FORMATS HENCE COULDN'T BE USED FOR MAP PURPOSES!!*** **Mindfulness:** MAAS Pre Intervention Experiment Group week 1 M(SD) 57.97(12.57) MAAS Pre Intervention Control Group week 1 M(SD) 62.89(11.43) MAAS Post Intervention Experiment Group week 8 M(SD) 65.21 (11.32) MAAS Post Intervention Control Group week 8 M(SD) 63.53(12.39) P-Value between w1-w8 = 0.007 Significant increases in mindfulness level among experimental group (p<.05) while no increases among control group (MAAS)
Gross et al. (2016)	18 female National Collegiate Athletic Association Division III basketball student athletes; Age 'freshmen-seniors'	Intervention (n = 9): 7-week MAC program lead by first author; 0nce weekly at 60 mins per session; Group + home-based format Control (n = 9): 7-week PST program; 0nce weekly at 60 mins per session	**Athletic Performance:** MAC effectiveness for behavioural difficulties, emotional distress, psychological symptoms, and athlete performance when compare to PST Sport performance level (SPQ) SPQ Pre intervention MAC group M(SD) 6.91(1.51) SPQ Pre intervention PST group M(SD) 8.00(2.00) SPQ Post intervention MAC group M(SD) 7.50(1.08) SPQ Post intervention PST group M(SD) 8.10(0.99) Interaction: F= 0.49; Effect Size η^2_p 0.03 MAC participants experienced significant increases in sport performance from pre-intervention to post-intervention **Mindfulness:** MAAS Pre intervention MAC group M(SD) 3.84(0.65) MAAS Pre intervention PST group M(SD) 4.42(0.61) MAAS Post intervention MAC group M(SD) 3.60(0.97) MAAS Post intervention PST group M(SD) 4.30(0.76) MAAS Follow-up MAC group M(SD) 3.88(0.68) MAAS Follow-up PST group M(SD) 4.39(0.85) **Interaction: F= 0.11; Effect Size η^2_p 0.01** Statistically significant between-group differences on MAAS scores, with significantly higher scores in the PST group at pre-intervention and post-intervention. Wthin group differences were not found for MAAS Statistically significant for AAQ-II scores for MAC part from pre-intervention to session three and post-intervention to one month follow up. **Acceptance and Action:** AAQ-II

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Pre MAC 14.13 (9.45)
Pre PST 15.83 (6.56);
Session 3 MAC 25.38 (11.78)
Session 3 PST 22.33 (9.18);
Post MAC 14.38 (9.91)
Post PST 15.00 (5.93)
Follow-up MAC 11.75 (8.01)
Follow-up PST 13.83 (8.42)

Anxiety/Stress:
MAC intervention had greater influence than PST on decreases in difficulties with emotion regulation over time

Generalised Anxiety Pre 0.84 (0.65) control/pst 0.90 (0.56) Post 1.10 (0.54) control/pst 0.90 (0.62) Follow-up 0.57 (0.46) 0.72 (0.54) IMPROVED AT FOLLOW UP!!

Difficulties with Emotion Regulation:
DERS Pre intervention MAC group M(SD) 79.44(19.11)
DERS Pre intervention PST group M(SD) 70.56(10.20)
DERS Post intervention MAC group M(SD) 84.78(18.64)
DERS Post intervention PST group M(SD) 71.67(17.01)

Samaneh et al. (2016)	40 Football players from Ardebil City	Intervention (n = 20): 7-week mindfulness training; breathing exercises, body scan, movement meditation etc.; once weekly for 1 hr; no description of personnel; group + home-based format Control (n = 20): No intervention	**Mindfulness:** Mindfulness effect on self-efficacy and cognitive emotion regulation Mindfulness level through short-form mindfulness scale Pre Intervention M(SD) 30.2(1.39) Pre Control M(SD) 25.7(2.52) Post Intervention M(SD) 42.2(3.06) Post Control M(SD) 33.75(2.4) **Anxiety/Stress:** Anxiety level through anxious thought scale Significant difference among averages of all studied variable in test and control groups (p<0.001) is found – significant increase of variables scores in test group Mindfulness training is effective on cognitive emotion regulation on football players Pre Intervention M(SD) 53.15(7.89) Pre Control M(SD) 48(7.77) Post Intervention M(SD) 50.95(7.47) Post Control M(SD) 54.33(7.1) **Difficulties with Emotion Regulation:** Cognitive emotion regulation Pre-test Test M(SD) 65.7(10.15) Pre Control M(SD) 84(9.63) Post-test Test M(SD) 67.84(11.47)

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| Scott-Hamilton et al. (2016) | 47 (89.4% male, 10.6% female) Competitive cyclists from road cycling and mountain bike clubs; Age Intervention M = 38.96 (12.4), Control M = 40.65 (10.88) | Intervention (n = 27): 8-week mindfulness workshops home-meditation based on Mindfulness-integrated Cognitive Behaviour Therapy program (MiCBT) (Cayoun, 2011) with first author + mindful spin-bike training sessions; group + home-based format

Control (n = 20): no intervention | Post Control M(SD) 71.30(13.6)
Mindfulness:
FFMQ Pre intervention Experiment group M(SD) 117.81(10.27)
FFMQ Pre intervention Control group M(SD) 126.40(14.83)
FMMQ Post intervention Experiment group M(SD) 128.37(12.53)
FMMQ Post intervention Control group M(SD) 127.35(17.23)

Increase in mindfulness from baseline to post-test in the intervention group cyclists had a moderate to large effect size: $t(26)$ = -3.96, $p<.001$, 95% CI [-15.68, -5.43], d= .75

Mindfulness based intervention tailored to specific athletic pursuits can be effective in decreasing anxiety concentration

Anxiety/Stress:
SAS-2 Pre intervention Experiment group M(SD) 31.37(7.90)
SAS-2 Pre intervention Control group M(SD) 29.00(6.97)
SAS-2 Post intervention Experiment group M(SD) 27.11(6.41)
SAS-2 Post intervention Control group M(SD) 27.50(8.39)

Decrease in anxiety among the intervention group cyclists was significant from pre- to posttest $t(26)$ = 3.12, p = .004, 95% CI [1.49, 7.02], with a medium effect size, d = .61

Cyclists in mindfulness training condition showed greater statistically significant increases in mindfulness levels and decrease in anxiety levels (significance not at post-test but from pre-to-post test).
Decrease in anxiety among the intervention group cyclists was significant from pre- to posttest $t(26)$ = 3.12, p = .004, 95% CI [1.49, 7.02], with a medium effect size, d = .61

Cyclists in mindfulness training condition showed greater statistically significant increases in mindfulness levels and decrease in anxiety levels (significance not at post-test but from pre-to-post test).

Flow:
Global Flow Pre intervention Experiment group M(SD) 3.48(.42)
Global Flow Pre intervention Control group M(SD) 3.66(.39)
Global Flow Post intervention Experiment group M(SD) 3.72(.40)
Global Flow Post intervention Control group M(SD) 3.64(.41)

Pessimism:
Sport Attribution Style Scale
SASS Pre intervention Experiment group M(SD) 110.11(10.76)
SASS Pre intervention Control group M(SD) 115.05(12.47)
SASS Post intervention Experiment group M(SD) 106.03(15.21)
SASS Post intervention Control group M(SD)117.25(13.96) |
| MacDonald & Minahan (2017) | 16 (68.75% males, 31.25% females) wheelchair basketball elite players from the state wheel-chair basketball squad; Age Intervention M = 27.0 (5.8), | Intervention (n = 8): 8-week smartphone application mindfulness meditations and exercises during competitions; first 2 weeks one programme per day/5days a week, then 45-min | **Anxiety/Stress:**
Cortisol and IgA concentrations were determined from salivary samples.

sCort Baseline Experiment Group M(SD)
sCort Baseline Control Group M(SD) 6.85(7.34)
sCort 2-wk Experiment Group M(SD) 5.95(3.51) |

Control M = 24.8 (5.1)

meditation + 5min exercises
5times/week; group+home-based
format

Control (n = 8): no intervention

sCort 2-wk Control Group M(SD) 20.03(12.57)
sCort 4-wk Experiment Group M(SD) 9.46 (8.28)
sCort 4-wk Control Group M(SD) 18.28(11.83)
sCort 6-wk Experiment Group M(SD) 7.06(1.94)
sCort 6-wk Control Group M(SD) 19.64(10.59)
sCort 8-wk Experiment Group M(SD) 6.46(1.70)
sCort 8-wk Control Group M(SD) 5.80(3.38)
sCort post 2-wk Experiment Group M(SD) 2.83(1.01)
sCort post 2-wk Control Group M(SD) 5.51(3.05)

A significant interaction between group and time: sCort Time*Group $F=3.297$, $p= 0.040$, ES = 0.191

sIgA Baseline Experiment Group M(SD) 68.52(46.71)
sIgA Baseline Control Group M(SD) 49.34(51.89)
sIgA 2-wk Experiment Group M(SD) 72.35(41.63)
sIgA 2-wk Control Group M(SD) 152.188(119.84)
sIgA 4-wk Experiment Group M(SD) 144.29(90.58)
sIgA 4-wk Control Group M(SD)153.96(204.12)
sIgA 6-wk Experiment Group M(SD) 216.22(168.96)
sIgA 6-wk Control Group M(SD) 205.26(188.38)
sIgA 8-wk Experiment Group M(SD) 98.38(54.62)
sIgA 8-wk Control Group M(SD) 73.12(95.31)
sIgA post 2-wk Experiment Group M(SD) 39.21(31.73)
sIgA post 2-wk Control Group M(SD) 69.34(90.77)
slgA Time*Group $F = 1.035$, $p= 0.372$

Table 4: Characteristics of Randomised Control Trials

Figure 4 below represents all the outcomes measured in the included studies (listed on the right hand side of the graph in different colours). The bubbles shown on the graph represent each study. The colours of each bubble represents the different outcomes, while the size of the bubble is based according to the pre and post intervention raw scores of the outcomes. The x-axis represent the pre scores, while the y-axis represent the post scores.
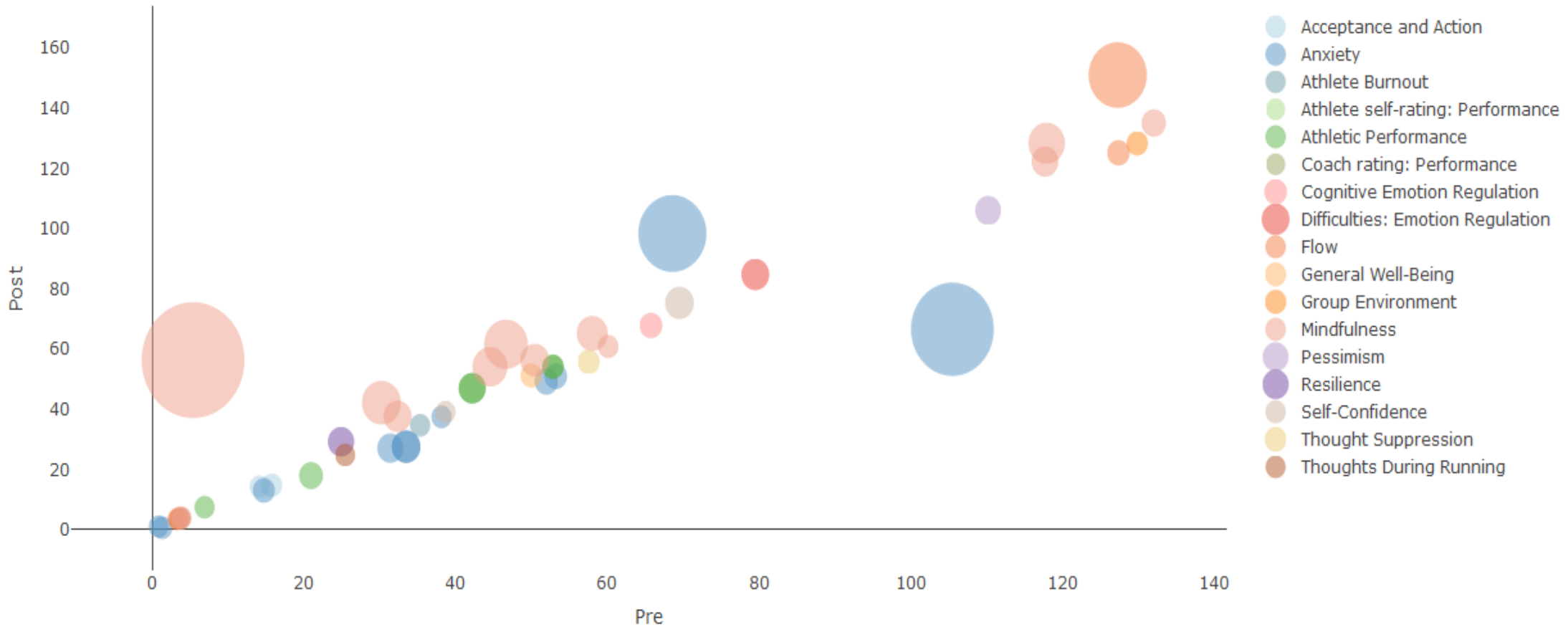

Figure 4: Changes in different outcomes comparing pre and post intervention results through raw scores (means)

Outcome	Study	Pre	Post	Difference	Effect
Mindfulness	Aherne et al. (2011)-M	32.33	37.67	5.34	Improved
Mindfulness	Ojaghi et al. (2013)-M	50.4	56.35	5.95	Improved
Mindfulness	Moen et al. (2015)-M	60.07	60.87	0.8	Improved
Mindfulness	Samaneh et al. (2016)-M	30.2	42.2	12	Improved
Mindfulness	Moghadam et al. (2013)-M	5.39	56.35	50.96	Improved
Mindfulness	Scott-Hamilton et al. (2016)-M	117.81	128.37	10.56	Improved
Mindfulness	Stankovic (2015)-M	57.97	65.21	7.24	Improved
Mindfulness	Gross et al. (2016)-M	3.84	3.6	0.24	Worsened
Mindfulness	Pineau (2015)-M	117.59	122.27	4.68	Improved
Mindfulness	Kettunen & Valimaki (2014)-M	131.92	135.08	3.16	Improved
Mindfulness	Baltzell & Akhtar (2014)-M	3.684	4.043	0.359	Improved
Mindfulness	Sant (2015)-M	44.5	54.13	9.63	Improved
Mindfulness	Sant (2016)-M	46.6	61.6	15	Improved
Mindfulness	Quinones (2014) -M	3.9	4.1	0.2	Improved
Anxiety	Moghadam et al. (2013)-An	33.44	27.6	5.84	Improved
Anxiety	Samaneh et al. (2016)-An	53.15	50.95	2.2	Improved
Anxiety	Scott-Hamilton et al. (2016)-An	31.37	27.11	4.26	Improved
Anxiety	Ojaghi et al. (2013)-An	33.45	27.6	5.85	Improved
Anxiety	Moen et al. (2015)-An	38.11	37.48	0.63	Improved
Anxiety	John et al. (2011)-An	1.33	0.66	0.67	Improved
Anxiety	Pineau (2015)-An	51.92	49.25	2.67	Improved
Anxiety	MacDonald & Minahan (2017)-An	68.52	98.38	29.86	Worsened
Anxiety	Sant (2016)-An	105.4	66.6	38.8	Improved
Anxiety	Kettunen & Valimaki (2014)-An	14.71	13.04	1.67	Improved
Anxiety	Gross et al. (2016)-An	0.84	1.1	0.26	Worsened
Difficulties: Emotion Regulation	Gross et al. (2016)-DER	79.44	84.78	5.34	Worsened
Cognitive Emotion Regulation	Samaneh et al. (2016)-CER	65.7	67.84	2.14	Improved
Athletic Performance	Gross et al. (2016)-AP	6.91	7.5	0.59	Improved
Athletic Performance	Moghadam et al. (2013)-AP	42.15	47	4.85	Improved
Athletic Performance	Ojaghi et al. (2013)-AP	42.15	47	4.85	Improved

Athletic Performance	Moen et al. (2015)-AP	20.93	18	2.93	Worsened
Athletic Performance	John et al. (2011)-AP	528	542	14	Improved
Athletic Performance	John et al. (2012)-AP	528	541	13	Improved
Athlete self-rating: Performance	Kettunen & Valimaki (2014)-AAP	3.76	3.78	0.02	Improved
Coach rating: Performance	Kettunen & Valimaki (2014)-CAP	3.56	3.54	0.02	Worsened
Flow	Aherne et al. (2011)-F	127.17	151	23.83	Improved
Flow	Quinones (2014)-F	3.3	3.5	0.2	Improved
Flow	Pineau (2015)-F	127.27	125.18	2.09	Worsened
Flow	Scott-Hamilton et al. (2016)-F	3.48	3.72	0.24	Improved
Acceptance and Action	Kettunen & Valimaki (2014)-AA	15.75	14.75	1	Worsened
Acceptance and Action	Gross et al. (2016)-AA	14.13	14.38	0.25	Improved
Pessimism	Scott-Hamilton et al. (2016)-P	110.11	106.03	4.08	Improved
Thought Suppression	Quinones (2014)-TS	57.5	55.8	1.7	Improved
Thoughts During Running	Pineau (2015)-TR	25.42	24.83	0.59	Improved
General Well-Being	Kettunen & Valimaki (2014)-GWB	49.92	51.21	1.29	Improved
Athlete Burnout	Moen et al. (2015)-AB	35.3	34.7	0.6	Improved
Resilience	Sant (2015)-R	24.88	29.25	4.37	Improved
Self-Confidence	Kettunen & Valimaki (2014)-SC	69.46	75.33	5.87	Improved
Self-Confidence	Pineau (2015)-SC	38.64	39.09	0.45	Improved
Group Environment	Kettunen & Valimaki (2014)-GE	129.75	128.33	1.42	Worsened

Table 5: Changes in different outcomes comparing pre and post intervention raw scores (means) included in the bubble plot above (Figure 4). Green indicates ≤10 improvement; Yellow indicates between 5-9.99 improvement; No colour indicates 0.1-4.9 improvements while Red indicates a decline

It is interesting to see that 22.73% of the studies (Gross et al., 2016; MacDonald & Minahan, 2017; Moen et al., 2015; Kettunen & Valimaki, 2014; Pinaeu, 2015) that reported a worsening in mean scores of the outcome variable had either good or very good quality assessment scores. This shows that quality on its own does not determine what kind of result an intervention may have. As mentioned above, in all of these studies blinding did not take place, random selection and allocation were either unclear or did not occur, sample size power was demonstrated to be either low or unclear. In both Moen et al., (2015) and Gross et al., (2016), an intention to treat approach was not applied; however it was applied in MacDonald & Minahan (2017). Being the lowest scored in the quality assessment, Moen et al., (2015) also reported a lack of compliance by the subjects during the intervention. This could have led to the reduction in athletic performance. Having said that, there were slight improvements in both mindfulness and anxiety. In fact, a significance effect from the mindfulness intervention on athlete burnout was reported while there were no significant effects on perceived performance. In MacDonald & Minahan (2017), sIgA secretion had worsened from pre and post mean scores but significantly decreased in follow up. Did this mean that the intervention had a delayed effect or was the lack of competition that made the sIgA secretion reduce during follow up? Similarly, in Gross et al., (2016) even though only the Acceptance and Action mean scores have slightly improved, it was reported that anxiety did decrease but only at follow-up. This questions whether the anxiety and sport performance improvements were due to the mindfulness intervention or some other variable. On the other hand, it could be argued that the mindfulness scale used was only measuring the mindfulness component with the observed effects coming from the ACT part of the MAC programme.

The biggest increase was in one of the poor rated studies (Moghadam et al., 2013) where an increase of 50.96 mean raw score in mindfulness was reported. Considering that this study had very similar scores to Ojaghi et al. (2013), (I contacted the authors to check whether these studies where connected but no reply was received) this increase could have been a typing error in the scores reported. Instead of a pre score of 5.39 to 56.35 mean raw score, compared to Ojaghi et al. (2013) 50.40 to 56.35 raw score, the actual score should have been 50.39 to 56.35 which results in a 5.96 mean raw score increase. Although these two papers, alongside Samaneh et al. (2016), were poorly rated, it is important to note that these 3 studies were quite difficult to follow due to the bad publishing language translation.

The second highest mindfulness increase score and highest anxiety improvement was for one of the non-randomised and unpublished studies (Sant, 2016); with a 15 mean raw score increase in mindfulness and 38.8 mean raw score decrease in anxiety scores. Being a non-randomised study can be quite tricky as one can't really be sure that the intervention effect was the reason for such an improvement. Having said that, this study did state that confounding variables were taken care of as much as possible.

Interestingly enough, the majority of improvements (7+ mean raw score) in mindfulness scores were reported by studies with a 'very good' quality rating, such as a 10.56 increase in Scott-Hamilton et al. (2016), a 9.63 mean raw score increase in Sant (2015), and a 7.24 mean raw score increase in Stankovic (2015). However there was one study (Samaneh et al., 2016) which was poorly rated, but had a 12 mean raw score increase in mindfulness scores.

An Athletic Performance improvement of 14 and 13 mean raw scores was reported in 9.09% of the studies (John et al., 2011; 2012). Both these studies had two of the highest quality ratings and much bigger sample sizes compared to other studies.

Another big improvement in outcome score was seen in 4.55% of the studies (Aherne et al., 2011) with an increase of 23.83 mean raw score in Flow. It is interesting to note that although such an improvement was recorded, the improvement in mindfulness scores was quite low (5.34 mean raw score). This could indicate that the increase in Flow may not necessarily have been due to the mindfulness intervention but maybe through other confounding variables.

The other improvements recorded ranged between 0.1 to 9.9 mean raw scores, which are quite low. It is important to keep in mind the small sample sizes present in the majority of the included studies. Small sample sizes can make researchers most susceptible to type II errors (Rubin, 2013). As a result, the decision to use raw mean scores instead of p-values was made in order to determine the quality of the effect of mindfulness interventions in the current research.

Results from qualitative and non-mean score outcomes:

Similar qualitative results were reported among the majority of the studies. These included: enhancement of skill development in attentional awareness and task-relevant attentional focus (Bernier et al., 2009; Ivarsson et al., 2015; Sant, 2015; Sant, 2016), behavioural flexibility (Bernier et al., 2009; Sant, 2016), increased experiential acceptance (Hasker, 2010; Sant, 2015; Sant 2016) enhanced performance overall (Bernier et al., 2009; Wolanin & Schwanhausser, 2010; John et al., 2012; Sant, 2015; Stankovic, 2016); increased positivity/calmness/relaxation and reduction in frustration and stress (Ivarsson et al., 2015; Sant, 2015; Sant, 2016), increased commitment for healthier behaviour changes through added meaning and purposes (Sant. 2016), increased in-the-moment presence (Sant, 2015) and reduction in injuries (Ivarsson et al., 2015). Some addressed the intervention benefits in less in-depth manner, such as, increased mindfulness skills (Hasker, 2010; Pinaeu, 2015). Majority of studies mentioned how the subjects and coaches found the intervention useful and relevant, however, in some studies, negative comments based on how time-consuming the intervention was, were addressed. In Wolanin & Schwanhausser (2010), it was

noted how the MAC programme might be more suitable for athletes who are not dealing with psychological issues beyond performance development however, there was an overall improvement in positive ways of coping with negative thoughts and emotions. In addition, the study by Thienot (2013) revealed how mindfulness training may not have affected the swimming performance in comparison to the control group.

Discussion:

The purpose of the study was to evaluate the methodological quality of the research conducted on mindfulness interventions among competitive athletes, while also, using a systematic map, identifying gaps in existing research.

In line with previous systematic reviews (Gardner & Moore, 2012; Sappington & Longshore, 2016; Noetel et al., 2017), results from these limited number of studies conducted on mindfulness-based interventions with competitive athletes, have suggested that they may be of benefit. That said, similar methodological problems emerged, such as lack of data reporting and small sample sizes. Few studies having an active control, lack of blinding, unclear randomisation and lack of homogeneity.

Raw mean scores presented in the included studies (see Figure 4 and Table 5), imply that mindfulness interventions may not have that big of an effect. The majority of bubble sizes (difference between pre/post intervention) are quite small, while also most studies are placed within the diagonal line, indicating minor changes. It is true that in research minor changes can mean a lot, especially when sample sizes are so small, therefore, the differences in raw scores are not going to be vast. The problem with small sample sizes may stem from a number of limitations, which have already been pointed out by previous (Sappington & Longshore, 2016; Noetel et al., 2017) and current systematic reviews. These limitations include a lack of clarity when it comes to mindfulness interventions in sports, lack of specific scales available which may reduce the rigour of such interventions, a lack of well-designed research on mindfulness in sports, and the time consuming nature of mindfulness interventions (especially for athletes). This problem with lack of available time among athletes is what maybe leads researchers to administer an altered type of mindfulness intervention leading to heterogeneity when it comes to analysing studies together.

An additional altered method of mindfulness intervention used more recently are Smartphone Apps. While it is healthy to transform such interventions in line with present progress, however, one needs to keep in mind that these apps should not be used instead of, but in conjunction to, the presence of a facilitator/psychologist involvement (Fish et al., 2016). This is because the increased lack of contact between a sport/performance psychologist and an athlete may possibly result in a less effective intervention. Losing the human interaction in the therapeutic environment may have an effect on the efficacy of an

intervention. A possible example of this could be seen in between the two studies carried out by the same author, but using different methods Sant (2015) and Sant (2016). In both these studies, the first author was the one delivering the intervention, however, in the former, a guided book was used among the athletes, while in the latter, the MAC manual was used but with increased contact between the intervention delivery person (author) and the athletes. It could also be argued that the change of interventions was what made the difference. Having said that, Firth et al. (2017) have found how smartphone-only interventions resulted in larger effects than interventions with human/computerised aspects along the smartphone component. However, the difference that was found was not statistically significant. In line with Fish et al. (2016) conclusions, if such new platforms and tools will start be more readily available, further research on "refinement and thorough evaluation of already established technology-based mindfulness programmes and exploration of novel approaches to mindfulness training that combine the latest technological advances with the knowledge and skills of experienced meditation teachers" should be explored.   Even though all this heterogeneity is present, the current review did identify increases in mindfulness scores in very good quality studies. This may indicate: 1) more credibility in whether mindfulness can have an effect on other variables as it shows that the increase in mindfulness level might have influenced the increase in the dependent/measured variable; 2) that mindfulness is a malleable trait/state, which can be enhanced through an intervention. From a heterogeneity perspective, studies reporting higher mindfulness increases used different types of interventions (or intervention used was not mentioned – Moghadam et al., 2013; Ojaghi et al., 2013) or different scales to measure the mindfulness variable. This can, on one hand, mean that any type of mindfulness intervention allows mindfulness levels in individuals to increase, while on the other hand, it can mean that different measures may not be measuring the same thing. In fact, Zhuang et al. (2017) published an article testing two of the most widely used mindfulness scales and found that the MAAS was more associated with self-awareness, while the FFMQ facets were more selectively involved in emotion regulation, attention control and self-awareness.

The complexity in defining Mindfulness:

Considering that mindfulness can be both a measurable state and an abstract experience, it can be quite difficult to have a scale that captures the exact holistic effect that mindfulness creates. This creates a lot of confusion when it comes to defining mindfulness. Forner (2017) gives one of the most real explanations why this confusion with defining and measuring mindfulness still exists:

> "Mindfulness is both a measurable state and an abstract experience. The education and understanding of what mindfulness is and how to achieve mindfulness is not as simple as following instruction, but it does come from following simple instructions. Mindfulness can be very hard and very easy to achieve. Mindfulness is both a felt experience and theory of

practice. Mindfulness is a tangible experience and an intangible feeling as well as an intangible experience with tangible feelings. It is both abstract and concrete implicit and explicit, objective and subjective. The difficulty in understanding what mindfulness really is in part exists because we are trying to understand the human condition and the human species, and these can be two distinct things. When we embark on understanding, teaching and explaining mindfulness, we are trying to capture a human anatomical function and an abstract concept. Understanding mindfulness is no easy feat; we are both complex and simple creatures. Mindfulness is not just a theoretical notion; it is a philosophical debate and a real felt embodied experience"

This may be the reason why not all studies report pre and post measures of mindfulness as an outcome, even though they are trying to find a causal relationship between mindfulness and another dependent variable (e.g. John et al., 2011; 2012; MacDonald & Minahan, 2017)? Could this confusion in the most primitive and raw stage of a word (defining the word Mindfulness) be the cause of the present methodological quality in mindfulness-sport research? While this may play a role in it but it could also be a case that the studies may be poorly written, leading to the lack of methodological quality that is present in current studies.

Even when blinding is analysed, only one study attempted to blind the subjects. Having said that, mindfulness interventions can be almost impossible to adopt a blinding technique as the personnel need to be aware of what they are delivering and to whom, while the subjects will know who is receiving an intervention, leading to subject-expectancy effects (Rosenthal, 1994). This can be overcome by having two types of interventions being used in the study (active control) for the intervention group and the control and having other people instead of the researcher/author to deliver the interventions (which some of the non-randomised do but still don't apply any blinding). However, as mentioned in Noetel et al. (2017), sometimes double-blind designs do not necessary result in higher internal validity and those who present higher internal validity report lower effect sizes, also suggesting possible expectancy effects.

So, how can we increase future studies internal and external validity? Again, as suggested in Noetel et al. (2017) having a protocol registration can improve the quality of studies by showing more transparency of whether studies are abiding with what they initially intend to do. The next question would then be, how can we confirm that what is being measured and delivered is homogenous among all studies if so many different interventions, definitions and measures exist for the same purpose? Having an intervention that can easily be adapted to the specific type of situation an athlete is in can be useful for practitioners. However, having such diversity will not allow future studies to reduce the heterogeneity so that in-depth meta-analysis can

take place. This does not necessarily suggest that mindfulness interventions do not produce any beneficial effects (cognitive neuroscientific results show areas of the brain that are being activated and improved by it (e.g. Brefczynski-Lewis et al., 2007, Hasenkamp et al., 2012; Moore et al., 2012; Malinowski, 2013). Rather, it suggests that having a deeper understanding of the mechanisms and cognitive neuroscience behind it, can allow us to improve (rather than come up with new) existing measures and interventions so that researchers have higher probability of meeting the validity standards set in other areas such as medicine and Clinical Psychology.

General Limitations and Future Directions:

The limitations among all studies is focused on the lack of homogeneity. Numerous intervention alternatives and scales are used, some of which may not even be tested in a sport environment, heterogeneity in measures, such as, physiological testing vs psychological scales, scarcity in data and principle confounders reported, lack of clarity with study qualities, especially when it comes to the Cochrane bias assessment tool, and also problems with language translations. Some additional limitations that can have quite a dualistic effect (both good and bad) are discussed below.

Lack of blinding: Even though blinding successfully took place in one of the studies included, it can be quite difficult to blind the subjects and even more so the personnel. The subjects may easily cross-information between groups without the personnel knowing, unless a group from a different place with similar characteristics is used as a comparison. On the other hand, the personnel needs to know which group is in which in order to deliver the correct intervention. While this can be overcome, there would be additional costs to hire someone to deliver the intervention.

Randomisation: Randomisation can be quite tricky because of the long nature of the mindfulness interventions. Therefore, a researcher may need to search for subjects, which are willing to commit to a long intervention, which in itself reduce the probability that subjects are going to be randomly selected. That said, random allocation can be quite easier to administer and must be attended to using the specific procedures that would eliminate all unclear bias when it comes to assessing the quality of studies.

Sample Sizes: Mindfulness intervention sample sizes need to be larger in order to generalise the study results. Although there have been some improvements in certain studies, the majority of the studies are still lacking. It can be difficult to find a large number of people who are willing to commit to a long mindfulness intervention, while also mindfulness interventions can have less effect when there is a substantial amount of subjects in a group. What can be done (as already have been seen in some studies) is to have small groups

whom together form a big intervention group. That way the connection between the group and the intervention-delivery personnel would still be present, while still having a suitable sample size.

Additional digital interventions (apps): Apps can be a good way to ensure athletes keep on track with their meditation practices, while also making their meditation more specific to their particular need. Such apps should not replace the sport psychologist but rather assist the athlete to have a more readily available tool while also sharing such experiences with the sport psychologist to help improve the athlete's overall experience. It is important that these apps are scientifically tested, with the hope of having a universal one that can allow homogeneity in future studies.

Limitations in Current Review:

It is important to note that although care was taken while 1) including studies (studies with both positive and negative outcomes towards mindfulness were included), 2) extracting data (using the raw scores to try eliminate type 2 error problems, gathering as much detail as possible to try to find some kind of data homogeneity), 3) presenting results (using every raw score available which shows a pre and post result), the results presented here are subjective and not quantitative. The reason for this was because the data presented in the included studies was heterogeneous. Therefore, a meta-analysis could not take place.

Conclusion:

Taking everything into consideration, studies in mindfulness in sports still seem to be promising but as one can realise, there are still a lot of limitations present. This doesn't mean that the present studies are not reliable at all. It just shows that there's still more room for improvement in order to be able to fully rely on mindfulness' effect on sport/athletes (e.g. protocol registration, blinding, and reporting via standardised checklists). Although there have been huge improvements in recent mindfulness in sport research, however, being aware of the limitations and future directions mentioned above would make future studies a necessary addition to the knowledge we have so far, while also, be able to rely more on the methodological quality of future research.

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Empirical Paper 1

The role of self-reflection on self-determined physical activity motivation and behaviour.

Introduction

Research identifies the benefits of physical activity and exercise for psychological and physical well-being, health outcomes and prevention of several chronic diseases (King et al., 2019). However, a significant number of people do not engage in physical exercise at the necessary level defined by the major public health institutions (e.g., Garber et al., 2011). Physical activity (PA) promotion occurs in several different life settings (e.g. schools, hospital and workplaces), yet external influences, albeit helpful, are not enough unless one is better taught how to regulate oneself towards becoming autonomously self-regulated (Texeira et al., 2012). Autonomous self-regulation requires one to be highly aware and in control of what behaviours are chosen, and therefore, what (or if) meta-cognitive processes, e.g. psychological mindedness, self-reflection (SR) and self-insight (SI) (Grant, 2001) are needed when it comes to changing a behaviour that may not be in-line with reaching one's goals. Therefore, the self-regulatory process required (see figure 1 below) when one needs to achieve a goal, such as engaging in more self-determined PA, is highly connected to SR and SI (Grant et al., 2002) through a process of setting goals, taking action and monitoring and evaluation processes.
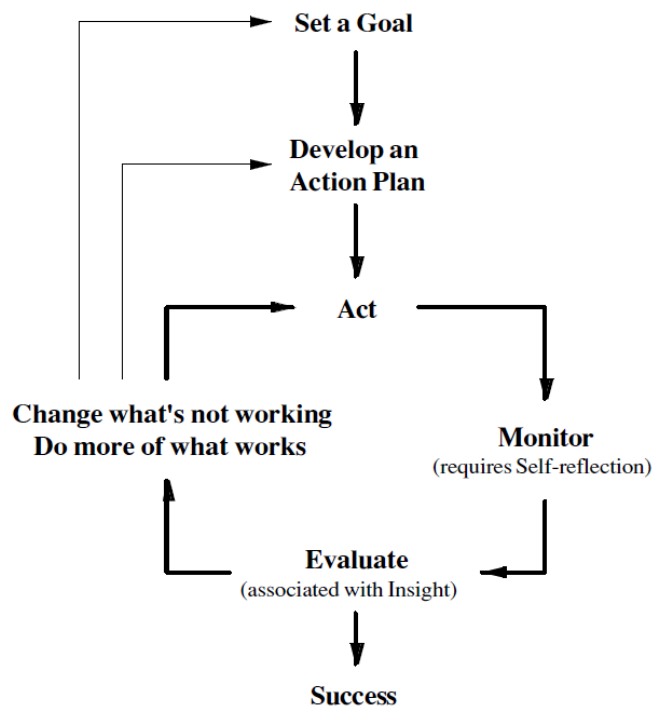

Figure 1: The self-regulatory process (Grant et al., 2002)

Self-Reflection (SR)

Self-reflection can be quite a broad concept, which involves two types of processing: self-referential processing, i.e. all information that refers to oneself is processed and encompasses subconscious as well as conscious processing, and self-reflecting processing, i.e. a conscious process in which a decision is made regarding oneself (Van Der Meer et al., 2010). This shows that SR is not always a conscious process and, due to that, may be quite difficult to measure. However, when it comes to changing one's behaviours, self-reflecting processing may be the most relevant type of processing, as the individual has to be conscious in order to be aware of one's traits, abilities and reactions, while also contesting and amending one's reactions towards cognitions, emotions and behaviours that are dysfunctional (such as habits). This conscious processing takes place through self-introspection and self-insight through an increase in one's self-awareness.

Self-Awareness in Self-Reflection

As defined by Morin (2011) and Wiekens & Stapel (2010), awareness of self-experienced emotions, cognitions, and behaviours involve devoting attention toward, cogitating on, and understanding, one's own thoughts and feelings. It has been recognised as an important metacognitive process for stimulating adaptive, self-directed change (Carver & Scheier, 1998), for monitoring progress toward desired changes, and using feedback to sustain or enhance progress toward improved performance and achieving goals (Grant, 2001).

Due to inconsistencies in arriving to a universal definition of self-consciousness, the distinction between the linked processes of SR and SI has been made. SR focuses on specific inspection and evalutaion of one's cognitions, emotions and behaviours, while SI pertains to the lucidity of one's emotional, cognitive, and behavioural understanding (Grant et al., 2002). In addition to this, SI has been linked to positive psychological characteristics, such as mindfulness, eudaimonic and hedonic psychological well being, life satisfaction and self-esteem (Harrington & Loffredo, 2010; Lyke, 2009; Stein & Grant, 2014), and negatively correlated with anxiety and depression symptomology, negative affect and rumination (Harrington & Loffredo, 2010; Silvia & Philips, 2011). On the other hand, SR seems to have equivocal findings. Some studies suggest that SR increases personal growth and lowers depression in response to stressors (Harrington & Loffredo, 2010; Mori & Tanno, 2013). Conversely, Conway & Giannopoulus (1993), Reeves et al. (1995) and Silvia & Phillips (2011) found how SR increases anxiety, depression and lowers self-esteem.

One reason for this could be due to the difficulty that one has to turn inwards and face one's own 'fears' (taking a deeper look at one's own dysfunctional reactions to events, thoughts, emotions etc.). Another

reason could be that SR, due to the inclusion of dysfunctional rumination, can sometimes lead to an outcome of anxiety (Stein & Grant, 2014). As a result, self-relection sometimes can be seen as a polar opposite of, or maladaptive counterpart to, SI (Grant et al., 2002), yet SR may be needed in order for self-insight to take place (Stein & Grant, 2014). SI takes place when one experiences a 'eureka' moment so it's automatically going to be associated with more positive indicators of well-being and fewer negative indicators of ill-being (Harrington & Loffredo, 2010), Thus, SI is needed to sustain or improve psychologlcal functioning (Cowden & Meyer-Weitz, 2016). SR is the effortful process to reach that place (Brand & Ekkekakis, 2018; Buckley et al., 2014; Hixon & Swann, 1993).

When it comes to sport and exercise psychology, self-awareness has been seen as a prerequisite for cognitive and emotional control (Weinberg & Gould, 2015) leading to positive responses and adaptive outcomes (Cowden & Meyer-Weitz, 2016) in PA environments. Several other studies already implied that cognitive and emotion control, which make part of the self-regulatory process, are enhanced by SR (e.g. Neil et al., 2013; Cowden & Meyer-Weitz, 2016; Faull & Cropley, 2009; Cowden, 2016, Hanton et al., 2009), however, as suggested, more research is needed in this area. Therefore, examining the role of SR on self-determined PA, and the three basic psychological needs of autonomy, competence and relatedness, may be helpful to enhance knowledge on how to better deal with all the demands of changing one's dysfunctional behavioural patterns towards PA, while also successfully maintaining that change.

Self-Reflection in Positive Behaviour Change

Based on the systematic review by Zubala et al. (2018), education that promotes SR in combination with opportunities for real-life application of the concepts learned, enhances the likelihood of behaviour and practice improvement. Several studies suggest the use of SR and SI for a number of outcomes. These include; cognitive flexibility and self-regulation (Grant et al., 2002), personal development and goal attainment (Grant, 2003), anxiety reduction, enhancement of cognitive hardiness and personal insight (Grant, 2008), personal improvement and performance enhancement (Tan et al., 2016), mitigation of stress and promotion of resilience (Cowden & Meyer-Weitz, 2016), effective coaching (Kiosoglous & Vidic, 2017), enhanced personal meaning in actions taken (Dishon et al., 2018), as well as positive influence on adolescent PA behaviour change (Pitkethly et al., 2018) and long-term changes in exercise behaviour (Brand & Ekkekakis, 2018).

Self-Reflection and Physical Activity

As shown in Ntoumanis et al. (2018), about a third or fourth of the adult global population do not meet the weekly PA recommendations (minimum of 150min of moderate-intensity activity or 75min of vigorous-intensity activity, or a combination; World Health Organisation, 2010). Despite the increased risk of chronic

diseases and mental health problems associated with physical inactivity, and the benefits associated with PA, levels of PA among the general population remain beneath the minimum standards recommended by the medical profession and health promoters.

Those who contemplate PA often engage in introspection on 'why' (i.e. aspirations) they want to exercise, 'how and when' (i.e. planning), 'what' they like about it, 'with whom' (i.e. evaluation of PA goals and discrepancies) etc. This introspection is part of the self-reflective process, where internal thought associated with mind wandering can encourage or hinder goal directed behaviour (Smallwood and Andrews-Hanna, 2013), and recollection of personal preferences, beliefs, feelings and abilities (Ochsner et al., 2004; Amodio and Frith, 2006; van Overwalle, 2009; Andrews-Hanna, 2012). Several studies have found an association between mind wandering and adaptive self-regulatory skills, such as planning, problem solving and delay of gratification (Schacter et al., 2007; Suddendorf and Corballis, 2007; Suddendorf et al., 2009) and with patience (Smallwood et al., 2013), which can all lead to self-regulation success in PA contexts. However, during this same mind wandering process, in situations of goal neglect, people may opt to act on impulsivity by automatically engaging in well-established habits instead of following one's goals (McVay & Kane 2009; 2010).

Therefore, SR, mind wandering and recollection of personal preferences, beliefs, feelings and abilities can all be operating at the same time. This connection can be associated with, and give insight into, how SR can be an aid or hindrance towards PA engagement. For instance, SR in physically active individuals may be linked to thoughts about planning or overcoming PA barriers that aid self-regulatory efforts, whereas in people who avoid PA, SR may lead them to neglect their PA goals (Buckley et al, 2014).

Self-Determination Theory (SDT)

One of the most widely used theories and models for PA promotion and exercise motivation and behaviour, is Self-Determination Theory (Deci & Ryan, 1985). In a PA behaviour change context, SDT facilitates understanding of the processes through which a person obtains the motivation for both initiating new PA-related behaviours and maintaining them over time.

SDT (see figure 2) states that in order for a person to learn how to self-regulate and sustain behaviours leading to feelings of vitality and well-being (Ryan & Deci, 2002), three basic psychological needs (BPNs) are essential: Autonomy (feeling of being in control of one's own behaviours by, for example, engaging in PA as a personal choice), Competence (which varies depending on how one performs at challenging physical tasks or through feedback from a fitness professional) and Relatedness (feeling understood and cared for by fellow members/instructors of a fitness class). Deci and Ryan (2000) describe these needs as

the "psychological nutriments" essential for ongoing psychological growth, integrity and well-being. Autonomy and competence are critical to the processes of both internalisation and integration through which self-regulation and maintenance of such behaviours can take place, while relatedness is highly important to the internalisation process, where people are more likely to adopt values and behaviours promoted by those to whom they feel connected and in whom they trust (Ryan et al., 2008). Having these three needs supported and satisfied will provide the basis for the psychological energy that has been both predicted, and empirically confirmed, to result in motivation for the initiation and long-term maintenance of PA behaviours (Ryan et al., 2008; Silva et al., 2014)
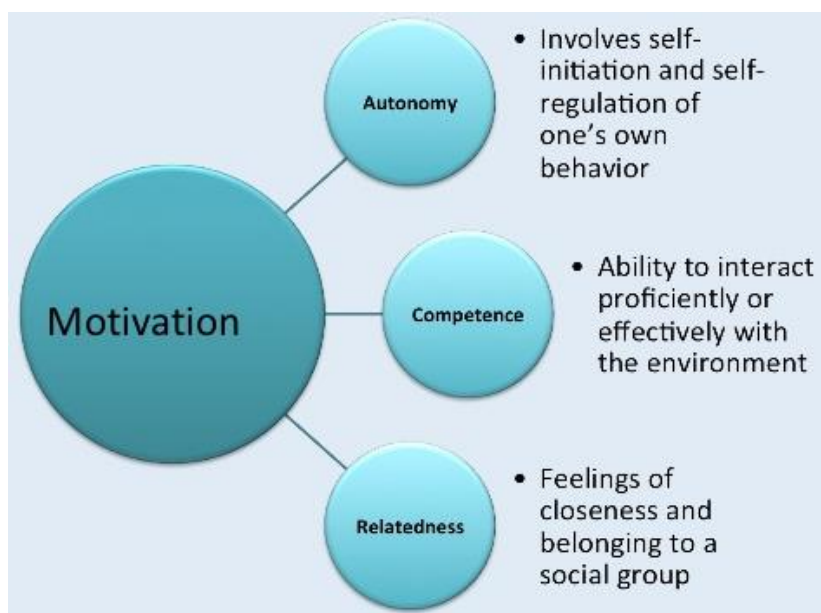
Figure 2: SDT Three basic psychological needs (Ryan & Deci, 2002)

In SDT, the regulatory processes underlying a behaviour are represented through different types of motivations, and it is the outcomes from engaging in such behaviours that will become one's goal directed motives (Texeira et al., 2012). The more intrinsic a goal is, the more likely it is to satisfy one's basic psychological needs. It is important to note that one is not fully intrinsically motivated, extrinsically motivated or a-motivated (i.e. lack of motivation to engage in a particular activity), but rather different motivations and goals can co-exist (Texeira et al., 2012) within the same person. Additionally, the same activity can have different motives and goals at different points in one's life. Extrinsic motives are not necessarily problematic as long as these motives co-exist with self-determined regulations. For example, a person may be motivated to go to a fitness club for aesthetic reasons (i.e. an extrinsic motive) because he/she likes the public recognition that comes with it (i.e. controlled motivation), and at the same time, he/she may personally value a fit appearance (i.e. autonomous motivation). Therefore, the content of, and

the meaning behind pursuing aspirations need to be taken into account before labelling the goal or motive (Texeira et al., 2012).

Self-Determination as a potential mediator

In the context of this study, the proposition being made is that the positive relationship between self-reflection (SR) (independent variable) and physical activity (PA) behaviour (dependent variable) is mediated by need satisfaction and regulation style (see figure 3). More specifically, SR has been found to bring awareness of one's psychological needs and regulatory style at given moments in time to the fore. This kind of critical self-reasoning or in-depth internalisation and integration of one's values, beliefs and goals (Ryan et al., 2008) in relation to PA might not be arrived at as effectively without SR (Ochsner et al., 2004; Amodio and Frith, 2006; van Overwalle, 2009; Andrews-Hanna, 2012). Thus, the SR that facilitates awareness of one's motivation for exercise and PA participation informs the adoption and maintenance of positive exercise and PA behaviour though a heightened sense of autonomy, competence and relatedness that reflects needs satisfactions and regulations that are more autonomously driven.
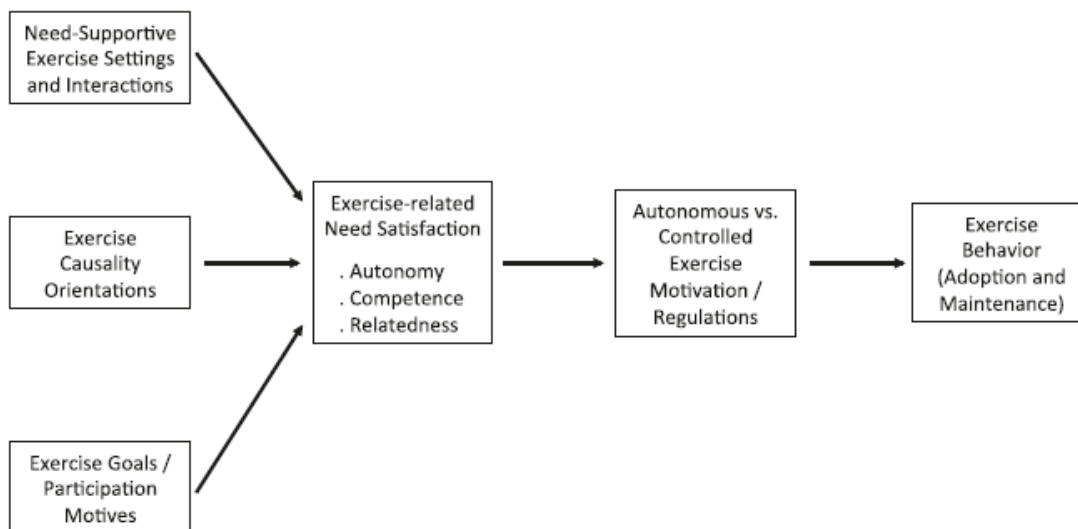
Figure 3: General SDT process model for exercise behaviour (Texeira et al 2012)

Current Study

In relation to self-determined PA motivation and behaviour, previous studies have demonstrated the importance of autonomous extrinsic motives, including integrated regulation, in PA domains (Wilson et al., 2006), the importance of autonomous (identified and intrinsic) regulations in fostering physical activity (Teixeira et al., 2012), and how autonomous motivation predicts positive PA and/or psychological outcomes (Fortier et al., 2012). Basic psychological needs satisfaction has been associated with higher

levels of positive affect for PA (Texeira et al., 2018), and identified how person-centred and autonomy supportive approaches seem important in order to maintain PA behaviour over time (Samdal et al., 2017).

While recent research (see Zubala et al., 2018) suggests a positive link between SR, SI and the cognitive processes involved in PA motivation and behaviour, there is currently a lack of research examining the mediating effect of SDT constructs on the link between SR and PA. The current research aims to undertake a quantitative examination of whether the process of SR and insight results in, or at least helps to support PA motivation and behaviour, and whether self-determined motivation (in the form of autonomous motivation and the psychological needs of autonomy, competence and relatedness) play any role in such a relationship.

Therefore, the research questions for the current study are:

1. Does Self-Reflection (SR) predict self-determined Physical Activity (PA)?
2. Does Self-Determination Theory elements (Autonomous Motivation (AM) or Basic Psychological Needs (BPN's) mediate between SR and PA?
3. Does SR predict AM?
4. Does SR predict BPN's?
5. Does AM predict PA?
6. Does BPN's predict PA?

Note that this Empirical Study 1 (quantitative), forms part one of a 'multi study' for the Professional Doctorate and is followed by Empirical Study 2 (qualitative), which constitutes part 2.

Method

Participants

Participants consisted of 153 healthy (as classified by the completion of the International PA Questionnaire Short - IPAQ-S) young and middle-aged adults between the age of 18-69 (see Table 1 in the Results section below). The reason for including "healthy" as an inclusion criteria was to eliminate confounding variables, such as not being able to participate in PA due to an injury.

Measures

In addition to simple demographics (age and gender), four questionnaires detailed below (see appendix) were used to gather the data. The questionnaires were combined into one package for ease of completion

using an online survey link. The option for participants to provide their 'name' and 'email' on the last page of the questionnaires was to allow us interested participants to volunteer for empirical study 2 and be contacted for semi-structured interviews.

Physical Activity Level: The International PA Questionnaire Short (IPAQ-S) comprised a set of 4 questionnaires. The short version included 4 generic items. The purpose of the questionnaires was to provide common instruments used to obtain internationally comparable data on health–related PA. It was followed by extensive reliability and validity testing undertaken across 12 countries (14 sites) during 2000. The final results suggested that these measures have acceptable measurement properties for use in many settings and in different languages, and were suitable for national population-based prevalence studies of participation in PA.

Self-Reflection: The 20-item SR and Insight Scale (SRIS; Grant et al., 2002) was used to assess SR. It is based on a 6-point Likert-type scale (1 = *strongly disagree* to 6 = *strongly agree*) to rate responses to the two subscales of SR (SRIS-SR, comprising engagement in SR and need for SR; 12 items) and insight (SRIS-IN, thought, emotional, and behavioral insight; eight items). Nine of the items were reverse scored before summation to obtain subscale scores. Convergent and construct validity support for the SRIS has been evidenced (Grant et al., 2002; Lyke, 2009), and significant test–retest reliability and strong Cronbach's alphas have been reported for the SRIS-SR (.91) and SRIS-IN (.87) subscales (Grant et al., 2002).

Motivation towards Physical Activity: The Behaviour Regulation for Exercise Questionnaire (BREQ-2) was completed by 194 former GP exercise referral scheme participants and subjected to confirmatory factor analyses (Markland &Tobin, 2004). The model had an excellent fit to the data (Satorra-Bentler Scaled Chi Sq = 136.49, df = 125, p = .23; CFI = .95; RMSEA = .02, 90% CI = .00 - .04; SRMR = .05). The path diagram below shows the standardised parameter estimates. Cronbach's alpha reliabilities for all subscales were all above .72. For BREQ-3, Wilson et al. (2006) added an integration subscale to the instrument, which works well. The BREQ-3 also included a new additional 'introjection' item.

Psychological Needs: The Basic Psychological Needs Satisfaction scale (BPNS) was adapted from a measure of need satisfaction at work (Ilardi et al., 1993). Respondents indicated on a scale from 1 (not true at all) to 7 (definitely true) the extent to which the psychological needs of autonomy (7 items, α = .69), relatedness (6 items, α = .86), and competence (8 items, α = .71) were generally satisfied in their life. Examples of items were, "I feel like I can decide for myself how to live my life" (autonomy), "I really like the people I interact with" (relatedness), and "I often do not feel very capable" (competence, reversed).

Procedure

After receiving approval from both the supervisor and UREC, data was obtained from the four self-administered questionnaires, which was accessed through an online link provided by 'Online Surveys' Participant recruitment took place through university email circulation, and online promotion of the research through social media platforms. Participants were given a participant information sheet about the aim of the study and inclusion criteria (18-69 years old) to participate. Individuals provided an implied consent for participating in the questionnaire with the additional optional name and email in the case they were interested in participating in study 2.

Data Analysis

The data from the questionnaires were inputted into the Statistical Package for the Social Sciences (SPSS) version 23 to conduct multiple / linear regression and correlational analysis on the six comparisons listed above (Field, 2013)

Results:

Table 1: *Descriptive statistics of participants*

Variable		No of Participants	Percentage
Total		153	100%
Age	20-29	60	39.2%
	30-39	62	40.5%
	40-49	19	12.4%
	50-59	6	3.9%
	60-69	6	3.9%
Gender	Males	70	45.8%
	Females	83	54.2%
Country:	Malta	69	45.1%
	UK	29	19%
	Other	10	6.5%
	Unknown	45	29.4%

Research Questions 1 and 2

1. Does Self-Reflection (SR) predict self-determined Physical Activity (PA)?

2. Does Self-Determination Theory elements (Autonomous Motivation or Basic Psychological Needs) mediate between SR and PA?

A multiple regression was carried out between SR's subscales and PA. The results of the regression indicated that the model explained 0.1% of the variance and that the model was not a significant predictor of PA, $F(3,149) = .060$, $p = .980$.

Figure 4: *Regression between SR's subscales and PA*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.035[a]	.001	-.019	2822.7173

a. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1445315.142	3	481771.714	.060	.980[b]
	Residual	1187192184	149	7967732.781		
	Total	1188637500	152			

a. Dependent Variable: IPAQ_Physical_Activity

b. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

There were no significant correlations (highest 0.029 between need and PA), with all p-values >.05. Therefore, the null hypothesis (H_0) indicating that the outcome variable, PA, was not predicted by the predictor variable, SR, has been accepted. Due to the lack of correlation found between the predictor and outcome variable in research question 1, it was not possible to carry out an analysis of research question 2 (Field, 2013).

Figure 5: *Correlations between SR's subscales and PA*

Correlations

		IPAQ_Physical_Activity	SRIS_Engaging	SRIS_Need	SRIS_Insight
Pearson Correlation	IPAQ_Physical_Activity	1.000	.024	.029	-.016
	SRIS_Engaging	.024	1.000	.775	.077
	SRIS_Need	.029	.775	1.000	.085
	SRIS_Insight	-.016	.077	.085	1.000
Sig. (1-tailed)	IPAQ_Physical_Activity	.	.382	.361	.420
	SRIS_Engaging	.382	.	.000	.172
	SRIS_Need	.361	.000	.	.147
	SRIS_Insight	.420	.172	.147	.
N	IPAQ_Physical_Activity	153	153	153	153
	SRIS_Engaging	153	153	153	153
	SRIS_Need	153	153	153	153
	SRIS_Insight	153	153	153	153

Research Questions 3, 4, 5 and 6

3.   Does SR predict AM?

A multiple regression was carried out between SR's subscales and AM. The results of the regression indicated that the model explained only 6% of the variance, but the p-value of the regression was significant, $F (3,149) = 2.977$, $P = .034$.

Figure 6: *Regression between SR's subscales and AM*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.238[a]	.057	.038	6.43478

a. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	369.814	3	123.271	2.977	.034[b]
	Residual	6169.554	149	41.406		
	Total	6539.368	152			

a. Dependent Variable: BREQ3_Autonomous_Motivation
b. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

Correlational analysis resulted in one significant correlation between SR Insight and AM, with a correlation of .177 (18%) and a p-value <.05. Although a negative correlation (-.127) was found between Engaging and AM, the p-value was >.05. Therefore, although the outcome variable, AM, only resulted in a low percentage of variance, by all the predictor variables as a regression, however, as shown through the individual correlations, the outcome variable, AM, was significantly predicted by the variable, SR insight.

Figure 7: *Correlations between SR's subscales and AM*

Correlations

		BREQ3_Auto nomous_Moti vation	SRIS_Engagi ng	SRIS_Need	SRIS_Insight
Pearson Correlation	BREQ3_Autonomous_Mo tivation	1.000	-.127	-.049	.177
	SRIS_Engaging	-.127	1.000	.775	.077
	SRIS_Need	-.049	.775	1.000	.085
	SRIS_Insight	.177	.077	.085	1.000
Sig. (1-tailed)	BREQ3_Autonomous_Mo tivation	.	.058	.276	.014
	SRIS_Engaging	.058	.	.000	.172
	SRIS_Need	.276	.000	.	.147
	SRIS_Insight	.014	.172	.147	.
N	BREQ3_Autonomous_Mo tivation	153	153	153	153
	SRIS_Engaging	153	153	153	153
	SRIS_Need	153	153	153	153
	SRIS_Insight	153	153	153	153

4. Does SR predict BPNs?

A multiple regression was carried out between SR's subscales and *Autonomy*. The results of the regression indicated that the model explained 30% of the variance (low), with a significant p-value for the regression, $F (3,149) = 17.357$, $P = .000$.

Figure 8: *Regression between SR's subscales and Autonomy*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.509[a]	.259	.244	.7842

a. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.023	3	10.674	17.357	.000[b]
	Residual	91.633	149	.615		
	Total	123.655	152			

a. Dependent Variable: BPNS_AutonomyMean

b. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

A significant correlation between SR engagement and autonomy (.017) and need and autonomy (.040) was not found, both with p-values >.05. However, SR insight was correlated with autonomy with an R-value of .508 (51%), and a significant p-value <.01 (.000), resulting in a large correlation. Therefore, we can say that the null hypothesis (H$_0$) indicating that the outcome variable, autonomy, was not predicted by the predictor variables, engaging and need, has been accepted. However, the alternative hypothesis (H$_1$) indicating that the outcome variable, autonomy, was predicted by the predictor variable, insight, has been accepted.

Figure 9: *Correlations between SR's subscales and Autonomy*

Correlations

		BPNS_Autonomy Mean	SRIS_Engaging	SRIS_Need	SRIS_Insight
Pearson Correlation	BPNS_AutonomyMean	1.000	.017	.040	.508
	SRIS_Engaging	.017	1.000	.775	.077
	SRIS_Need	.040	.775	1.000	.085
	SRIS_Insight	.508	.077	.085	1.000
Sig. (1-tailed)	BPNS_AutonomyMean	.	.420	.310	.000
	SRIS_Engaging	.420	.	.000	.172
	SRIS_Need	.310	.000	.	.147
	SRIS_Insight	.000	.172	.147	.
N	BPNS_AutonomyMean	153	153	153	153
	SRIS_Engaging	153	153	153	153
	SRIS_Need	153	153	153	153
	SRIS_Insight	153	153	153	153

A multiple regression was carried out between SR's subscales and *Competence*. The results of the regression indicated that the model explained only 24% of the variance, however, with a significant p-value for the regression, $F (3,149) = 17.259$, $P = .000$.

Figure 10: *Regression between SR's subscales and Competence*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.508[a]	.258	.243	.9172

a. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.558	3	14.519	17.259	.000[b]
	Residual	125.351	149	.841		
	Total	168.909	152			

a. Dependent Variable: BPNS_CompetenceMean

b. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

A significant correlation between SR engagement and competence (.014) and need and competence (.035) with p-values >.05 was not found, both with p-values >.05. However, SR insight was correlated with competence, with an R-value of .507 (51%), and a significant p-value <.01 (.000), resulting in a large correlation. Therefore, we can say that the null hypothesis (H_0) indicating that the outcome variable, competence, was not predicted by the predictor variables, engaging and need, has been accepted. However, the alternative hypothesis (H_1) indicating that the outcome variable, competence, was predicted by the predictor variable, insight, has been accepted.

Figure 11: *Correlations between SR's subscales and Competence*

Correlations

		BPNS_Comp etenceMean	SRIS_Engagi ng	SRIS_Need	SRIS_Insight
Pearson Correlation	BPNS_CompetenceMean	1.000	.014	.035	.507
	SRIS_Engaging	.014	1.000	.775	.077
	SRIS_Need	.035	.775	1.000	.085
	SRIS_Insight	.507	.077	.085	1.000
Sig. (1-tailed)	BPNS_CompetenceMean	.	.433	.332	.000
	SRIS_Engaging	.433	.	.000	.172
	SRIS_Need	.332	.000	.	.147
	SRIS_Insight	.000	.172	.147	.
N	BPNS_CompetenceMean	153	153	153	153
	SRIS_Engaging	153	153	153	153
	SRIS_Need	153	153	153	153
	SRIS_Insight	153	153	153	153

A multiple regression was carried out between SR's subscales and *Relatedness*. The results of the regression indicated that the model explained only 25% of the variance, however, with a significant p-value for the regression, $F(3,149) = 16.893$, $P = .000$.

Figure 12: *Regression between SR's subscales and Relatedness*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.504ᵃ	.254	.239	.6881

a. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.997	3	7.999	16.893	.000ᵇ
	Residual	70.554	149	.474		
	Total	94.551	152			

a. Dependent Variable: BPNS_RelatednessMean

b. Predictors: (Constant), SRIS_Insight, SRIS_Engaging, SRIS_Need

A significant correlation between SR engagement and relatedness (.016) and need and relatedness (.042) was not found, both with p-values >.05. However, SR insight was correlated with relatedness with an R-value of .503 (50%), and a significant p-value <.01 (.000) resulting in a large correlation. Therefore, we can say that the null hypothesis (H₀) indicating that the outcome variable, relatedness, was not predicted by the predictor variables, engaging and need, has been accepted. However, the alternative hypothesis (H₁) indicating that the outcome variable, relatedness, was predicted by the predictor variable, SR Insight, has been accepted.

Figure 13: *Correlations between SR's subscales and Relatedness*

Correlations

		BPNS_Relate dnessMean	SRIS_Engagi ng	SRIS_Need	SRIS_Insight
Pearson Correlation	BPNS_RelatednessMean	1.000	.016	.042	.503
	SRIS_Engaging	.016	1.000	.775	.077
	SRIS_Need	.042	.775	1.000	.085
	SRIS_Insight	.503	.077	.085	1.000
Sig. (1-tailed)	BPNS_RelatednessMean	.	.421	.303	.000
	SRIS_Engaging	.421	.	.000	.172
	SRIS_Need	.303	.000	.	.147
	SRIS_Insight	.000	.172	.147	.
N	BPNS_RelatednessMean	153	153	153	153
	SRIS_Engaging	153	153	153	153
	SRIS_Need	153	153	153	153
	SRIS_Insight	153	153	153	153

5. Does AM predict PA?

A linear regression was carried out between AM and PA. The results of the regression indicated that the model explained only 5% of the variance, however, with a significant p-value for the regression, $F_{(3,149)} = 7.420$, $P = .007$.

Figure 14: *Regression between AM and PA*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.216[a]	.047	.041	2739.1752

a. Predictors: (Constant), BREQ3_Autonomous_Motivation

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	55672318.02	1	55672318.02	7.420	.007[b]
	Residual	1132965182	151	7503080.672		
	Total	1188637500	152			

a. Dependent Variable: IPAQ_Physical_Activity
b. Predictors: (Constant), BREQ3_Autonomous_Motivation

A correlation of .216 (22%), with a significant p-value <.01 (.004) was found between AM and PA. Therefore, the alternative hypothesis (H$_1$) indicating that the outcome variable, PA, was predicted by the predictor variable, AM, has been accepted.

Figure 15: *Correlations between AM and PA*

Correlations

		IPAQ_Physical_Activity	BREQ3_Autonomous_Motivation
Pearson Correlation	IPAQ_Physical_Activity	1.000	.216
	BREQ3_Autonomous_Motivation	.216	1.000
Sig. (1-tailed)	IPAQ_Physical_Activity	.	.004
	BREQ3_Autonomous_Motivation	.004	.
N	IPAQ_Physical_Activity	153	153
	BREQ3_Autonomous_Motivation	153	153

6. Do BPNs predict PA?

A multiple regression was carried out between BPNs and PA. The results of the regression indicated that the model explained only 5% of the variance, however, with a significant p-value for the regression, $F(3,149) = 2.837$, $P = .040$.

Figure 16: *Regression between BPNs and PA*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.232[a]	.054	.035	2747.0651

a. Predictors: (Constant), BPNS_RelatednessMean, BPNS_CompetenceMean, BPNS_AutonomyMean

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64228876.01	3	21409625.34	2.837	.040[b]
	Residual	1124408624	149	7546366.601		
	Total	1188637500	152			

a. Dependent Variable: IPAQ_Physical_Activity

b. Predictors: (Constant), BPNS_RelatednessMean, BPNS_CompetenceMean, BPNS_AutonomyMean

No correlations were found between the predictors, BPNs, and outcome variable, PA (highest .033 between relatedness and PA), with p-values all >.05. Therefore, the null hypothesis (H_0) indicating that the outcome variable, PA, was not predicted by the predictor variable, BPNs, has been accepted.

Figure 17: *Correlations between BPNs and PA*

Correlations

		IPAQ_Physical_Activity	BPNS_AutonomyMean	BPNS_CompetenceMean	BPNS_RelatednessMean
Pearson Correlation	IPAQ_Physical_Activity	1.000	.026	.024	.033
	BPNS_AutonomyMean	.026	1.000	.999	.999
	BPNS_CompetenceMean	.024	.999	1.000	.999
	BPNS_RelatednessMean	.033	.999	.999	1.000
Sig. (1-tailed)	IPAQ_Physical_Activity	.	.374	.384	.341
	BPNS_AutonomyMean	.374	.	.000	.000
	BPNS_CompetenceMean	.384	.000	.	.000
	BPNS_RelatednessMean	.341	.000	.000	.
N	IPAQ_Physical_Activity	153	153	153	153
	BPNS_AutonomyMean	153	153	153	153
	BPNS_CompetenceMean	153	153	153	153
	BPNS_RelatednessMean	153	153	153	153

Discussion

The main aim of this study was to examine the relationship between Self-Reflection (SR) and self-determined Physical Activity (PA). As such, the discussion focuses on the research questions that pertain to this aim. The results of the linear regression analysis found that SR did not predict engagement in PA. However, the singular component of SR insight significantly predict all three Basic Psychological Needs (BPNs) of self-determination and Autonomous Motivation (AM).

The study did not find evidence to support the hypothesis that SR directly predicts PA-related behaviour. Contrary to Texeira et al. (2018), but similar to Levy and Cardinal (2004), no significant direct predictions between BPNs and PA were found. However, there was evidence that the Basic Psychological Needs found to facilitate understanding of the processes through which a person obtains the self-determined motivation for both initiating and maintaining PA-related behaviours and maintaining them over time were predicted by SR. This would support the suggestion that SR facilitates the autonomy, competence and relatedness and autonomous motivation needed for self-determination. Having these three needs satisfied will provide the basis for the psychological energy that has been both predicted, and empirically confirmed, to result in motivation for the initiation and long-term maintenance of PA behaviours (Ryan et al., 2008; Silva et al., 2014). Satisfaction of BPNs is assumed to lead to more autonomous forms of regulation, which in turn, will lead to stronger intentions to be physical active, facilitate the adoption of a particular behaviour and promote PA- engagement (Rouse et al., 2011; Supervía et al., 2018; Vansteenkiste, et al., 2010).

Pitkethly et al. (2018), which to the author's knowledge is the only study examining the relationship between SR and PA, found reflection to be a significant predictor to PA. Although the findings of the current study go against these findings, in the study by Pitkethly et al. (2018), SR was tested using Zimmerman's self-regulated learning model, whereas in the current study, a different and specific SR scale (SRIS; Grant et al., 2002) was used to measure SR need, engagement and insight. This may be an explanation for the differences in the research findings, but the measurement of SR in research (both quantitatively and qualitatively) is worthy of further consideration.

Self-Reflection involves several behaviours that make up a part of a process, so is arguably not a single behaviour that can be measured as a whole. This is reflected in the SR and Insight Scale (Grant et al., 2002) used in this study, and the significant and non-significant predictive capability of each component of SR, with insight being the best and only predictor of Basic Psychological Needs and Autonomous Motivation. Silvia and Phillips (2011) also found that SR and insight are distinct from each other and from other self-conscious traits, and proposed that a different kind of metacognitive awareness is used for these two

processes. Several studies show proof of how insight, but not SR, is a predictor of health related behaviours (Silvia & Phillips, 2011; Harrington & Loffredo, 2010; Lyke, 2009), which positively match the findings in the current study.

SR focuses on specific inspection and evaluation of one's cognitions, emotions and behaviours, while self-Insight pertains to the lucidity of one's emotional, cognitive, and behavioural understanding (Grant et al., 2002). During SR, the individual is trying to become aware of their thoughts, emotions and behaviours. It is by engaging in SI, through that process of SR, that the individual is in a position to better understand those cognitions, emotions and behaviours (Kyung Lee et al., 2015), and be at a point to take further action on them. Such action would include making the cognitions, emotions and behaviours more in line with one's basic psychological needs, leading to higher autonomous motivation to tolerate short-term discomfort (Fujita & Han, 2009). The results in this study show that only SI predicts greater autonomy, competence, relatedness and autonomous motivation. This enhanced self-determination facilitates an ability to focus on the long-term consequences of the behavioural choices made, such as making the effort to engage in PA in order to enjoy its benefits in line with one's values and identity (Akerlof & Kranton, 2010). This means that one can never arrive at SI without the effortful process of SR, however, the changes required will not start to be manifested until SI is undertaken.

Limitations and Future Directions

While the study obtained a good sample size, it was cross sectional, with participants being from different countries (UK and Malta) and age groups (ages varied between 20 and 66). While analysing the data as a function of these variables was not an aim of the study, they may contribute an explanation for the findings. For example, Kappen et al. (2017) observed that different age groups tend to be motivated to do PA through different means. The study had some further methodological limitations, particularly in the measurement of the salient variables, which need to be critically evaluated in terms of their capacity to limit the study findings. The SR and BPNs scales used were not PA specific, and the IPAQ-2 questionnaire used to measure PA itself, although widely used and well established, proved to be quite confusing and unclear for many of the participants. In particular, the subjectivity of PA seemed to be an issue, as there was evidence of it being interpreted differently by different people. As suggested by Elsden et al. (2016), a mismatch can be found between information recorded by health censors and the kind of information that is meaningful to individuals. For instance, running can be recorded through counting steps, or intensity of exercise through heart rate monitoring. However, the story of each individual regarding the PA experience can be vastly different in how it is described. Through 'data appropriation' (Elsden et al., 2016), individuals tend to make sense of the objectively measured data with the subjective past remembered to reach a more complete

reconstruction of their lived experience. Additionally, since PA was self-reported in this study, social desirability, respondent cognition and recall of PA (Samdal et al., 2017) could play a role in the results provided by participants. Some of the data recorded for PA sometimes looked quite 'strange' to the author. For example, many participants provided a 0 score for walking, even though walking was implying any type of walk (chores, cleaning, travelling etc.), not just in the form of exercise.

Measuring and understanding a process, rather than a specific behaviour, can be quite a complex task, which requires careful critical analysis. Due to this, empirical studies using SR for an improvement or maintenance of a behaviour are quite scarce (Tan et al., 2016); therefore, studies presently rely mainly on predictions, correlations and theoretical claims. This means that unless we thinly slice further such abstract processes, we cannot really be sure that what is being measured is capturing the entire process well. For example, as suggested by Baumer (2015), reflection is a complex process that requires three dimensions: breakdown, inquiry and transformation. If this had to be connected to how SR was measured in the current study, breakdown would be mostly connected with 'need', inquiry with 'engaging' and transformation with 'insight'. Due to this, when measuring SR, it's important to emphasise the ways in which people engage in reflection, i.e. both personal and social levels, leading to a better understanding of how SR can be connected to healthier choices and promote holistic well-being through reflecting on one's past, constructing collective identities, and understanding future healthier behaviours (Saskono & Parker, 2017).

In summary, it is argued that SR is important to understanding the self-determined and regulatory process of PA adoption, maintenance and adherence. However, due to its abstract nature, and associated difficulty with its quantitative measurement, alongside similar measurement critiques levelled at PA related measurement tools, SR might be better critically examined and measured through more personal and context specific qualitative methods, that will better enable the self-regulatory process out by Grant et al (2002) to be captured. This forms the focus of Empirical Study 2. There has been little qualitative research undertaken to explore self-reflection process in the context of self-determined physical activity, yet it would seem important that such research is undertaken to capture and better understand the role of self-reflection, in particular insight, and how it informs PA behaviour choices.

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Appendix: Questionnaires

The role of self-reflection on self-determined physical activity behaviour change

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Page 1: Page 1

You are being invited to take part in a doctoral research study. Before you decide it is important that you understand why the research is being carried out and what it involves. Please take time to read the following information. This **study is made up of 2 different parts**. **Part A** includes the following 4 **short** questionnaires (below) and **part B** (for those who provide their details, consent their participation and get randomly chosen) will consist of a one-off semi-structured interview. Ask us if there is anything that is not clear or if you would like more information. You can take time to decide if you want to take part or not. By taking part in this study, you'd be adding your unique feedback towards a doctoral level study while adding to established knowledge gaps in the field of self-reflection among self-determined physical activity behaviour change.

Eligibility:

You may be able to take part in the study if you are **healthy (no current major injuries that restrict you from ANY form of physical activity)** and between the age of **18-69 years old**.

Purpose of the study?

When one is trying to change a difficult dysfunctional behaviour, the need for self-reflection and insight on the 3 basic psychological needs (autonomy, relatedness, competence - Self-Determination Theory): how are they affected now, how will they be affected if change happens, what will one be willing to accept/compensate/swap/change/not change, among others; is crucial in order to have that continuous autonomous motivation.

Therefore, the purpose of our study is to investigate whether self-reflection has any impact on self-determined physical activity levels behaviour change.

Thank you for your time.

Best Regards,

Bernice Sant

Trainee Sport and Exercise Psychologist

MSc MSc MBPsS

1. Age:

2. Gender:

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The role of self-reflection on self-determined physical activity behaviour change

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Page 2: International Physical Activity Questionnaire - Short Form (IPAQ-Short Form)

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the last 7 days. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Think about all the vigorous activities that you did in the last 7 days. Vigorous physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. Think only about those physical activities that you did for at least 10 minutes at a time.

- ○ 1 day per week
- ○ 2 days per week
- ○ 3 days per week
- ○ 4 days per week
- ○ 5 days per week
- ○ 6 days per week
- ○ 7 days per week

a. If no vigorous physical activities took place in the last 7 days just choose the answer below (and skip to question 6):

- ○ No vigorous activities

b. How much **hours and minutes** did you usually spend doing **vigorous physical activities** on **one** of those days?

[   ]

i. If you don't know or are not sure you can choose the answer below:

- ○ Don't know/Not sure

6. Think about all the moderate activities that you did in the last 7 days. Moderate activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. Think only about those physical activities that you did for at least 10 minutes at a time.

During the **last 7 days,** on how many days did you do **moderate physical activities** like carrying light loads, bicycling at a regular pace, or doubles tennis? **Do not include walking.**

- ○ 1 day per week
- ○ 2 days per week
- ○ 3 days per week
- ○ 4 days per week
- ○ 5 days per week
- ○ 6 days per week
- ○ 7 days per week

a. If no moderate physical activities took place in the last 7 days just choose the answer below (and skip to question 7):

- ○ No moderate physical activities

b. How much **hours and minutes** did you usually spend doing **moderate physical activities** on **one of those days**?

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i.   If you don't know or are not sure you can choose the answer below:

○ Don't know/Not sure

7. Think about the time you spent walking in the last 7 days. This includes at work and at home, walking to travel from place to place, and any other walking that you have done solely for recreation, sport, exercise, or leisure.

During the **last 7 days**, on how many days did you **walk for at least 10 minutes at a time?**

○ 1 day per week
○ 2 days per week
○ 3 days per week
○ 4 days per week
○ 5 days per week
○ 6 days per week
○ 7 days per week

a.   If no walking took place in the last 7 days just choose the answer below (and skip to question 8):

b.   How much **hours and minutes** did you usually spend **walking** on **one of those days?**

[   ]

i.   If you don't know or are not sure you can choose the answer below:

○ Don't know/Not sure

8. The last question is about the time you spent sitting on weekdays during the last 7 days. Include time spent at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television.

During the **last 7 days**, how much **hours and minutes** did you spend **sitting on a week day**?

[   ]

a.   If you don't know or are not sure you can choose the answer below:

○ Don't know/Not sure

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The role of self-reflection on self-determined physical activity behaviour change

40% complete

Page 3: Behavioural Regulation in Exercise Questionnaire 3 (BREQ-3)

This part of the survey uses a table of questions, view as separate questions instead?

▶ *Why do you engage in exercise?* We are interested in the reasons underlying peoples' decisions to engage or not engage in physical exercise. Using the scale below, please indicate to what extent each of the following items is true for you. Please note that there are no right or wrong answers and no trick questions. We simply want to know how you personally feel about exercise. Your responses will be held in confidence and only used for our research purposes.

Please don't select more than 1 answer(s) per row.

	0 (Not true for me)	1	2 (Sometimes true for me)	3	4 (Very true for me)
It's important to me to exercise regularly.	☐	☐	☐	☐	☐
I don't see why I should have to exercise.	☐	☐	☐	☐	☐
I exercise because it's fun.	☐	☐	☐	☐	☐
I feel guilty when I don't exercise.	☐	☐	☐	☐	☐
I exercise because it is consistent with my life goals.	☐	☐	☐	☐	☐
I exercise because other people say I should.	☐	☐	☐	☐	☐
I value the benefits of exercise.	☐	☐	☐	☐	☐
I can't see why I should bother exercising.	☐	☐	☐	☐	☐
I enjoy my exercise sessions.	☐	☐	☐	☐	☐
I feel ashamed when I miss an exercise session.	☐	☐	☐	☐	☐
I consider exercise part of my identity.	☐	☐	☐	☐	☐
I take part in exercise because my friends/family/partner say I should.	☐	☐	☐	☐	☐
I think it is important to make the effort to exercise regularly.	☐	☐	☐	☐	☐
I don't see the point in exercising.	☐	☐	☐	☐	☐
I find exercise a pleasurable activity.	☐	☐	☐	☐	☐
I feel like a failure when I haven't exercised in a while.	☐	☐	☐	☐	☐
I consider exercise a fundamental part of who I am.	☐	☐	☐	☐	☐
I exercise because others will not be pleased with me if I don't.	☐	☐	☐	☐	☐
I get restless if I don't exercise regularly.	☐	☐	☐	☐	☐
I think exercising is a waste of time.	☐	☐	☐	☐	☐
I get pleasure and satisfaction from participating in exercise	☐	☐	☐	☐	☐
I would feel bad about myself if I was not making time to exercise.	☐	☐	☐	☐	☐
I consider exercise consistent with my values.	☐	☐	☐	☐	☐
I feel under pressure from my friends/family to exercise.	☐	☐	☐	☐	☐

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The role of self-reflection on self-determined physical activity behaviour change

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Page 4: The Self-Reflection and Insight Scale (SRIS)

This part of the survey uses a table of questions, view as separate questions instead?

10. For each item, using the scale below, indicate how much you agree or disagree with what the item says. Try to be accurate, but work quite quickly. Do not spend too much time on any question.

Please don't select more than 1 answer(s) per row.

	1 (Strongly Disagree)	2 (Disagree)	3 (Disagree Slightly)	4 (Agree Slightly)	5 (Agree)	6 (Strongly Agree)
I don't often think about my thoughts.	☐	☐	☐	☐	☐	☐
I am not really interested in analysing my behaviour.	☐	☐	☐	☐	☐	☐
I am usually aware of my thoughts.	☐	☐	☐	☐	☐	☐
I am often confused about the way that I really feel about things.	☐	☐	☐	☐	☐	☐
It is important for me to evaluate the things I do.	☐	☐	☐	☐	☐	☐
I usually have a very clear idea about why I have behaved in a certain way.	☐	☐	☐	☐	☐	☐
I am very interested in examining what I think about.	☐	☐	☐	☐	☐	☐
I rarely spend time in self reflection.	☐	☐	☐	☐	☐	☐
I'm often aware that I am having a feeling, but I often don't quite know what it is.	☐	☐	☐	☐	☐	☐
I frequently examine my feelings.	☐	☐	☐	☐	☐	☐
My behaviour often puzzles me.	☐	☐	☐	☐	☐	☐
It is important to me to try to understand what my feelings mean.	☐	☐	☐	☐	☐	☐
I don't really think about why I behave the way I do.	☐	☐	☐	☐	☐	☐
Thinking about my thoughts makes me more confused.	☐	☐	☐	☐	☐	☐
I have a definite need to understand the way my mind works.	☐	☐	☐	☐	☐	☐
I frequently take time to reflect on my thoughts.	☐	☐	☐	☐	☐	☐
Often I find it difficult to make sense of the way I feel about things.	☐	☐	☐	☐	☐	☐
It is important to me to be able to understand how my thoughts arise.	☐	☐	☐	☐	☐	☐
I often think about the way I feel about things.	☐	☐	☐	☐	☐	☐
I usually know why I feel the way I do.	☐	☐	☐	☐	☐	☐

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The role of self-reflection on self-determined physical activity behaviour change

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Page 5: Basic Psychological Need Satisfaction in general (BPNS)

Feelings I Have

This part of the survey uses a table of questions, view as separate questions instead?

11. Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you. Use the following scale to respond:

Please don't select more than 1 answer(s) per row.

	1 (Not at all True)	2	3	4 (Somewhat True)	5	6	7 (Very True)
1. I feel like I am free to decide for myself how to live my life.	☐	☐	☐	☐	☐	☐	☐
2. I really like the people I interact with.	☐	☐	☐	☐	☐	☐	☐
3. Often, I do not feel very competent.	☐	☐	☐	☐	☐	☐	☐
4. I feel pressured in my life.	☐	☐	☐	☐	☐	☐	☐
5. People I know tell me I am good at what I do.	☐	☐	☐	☐	☐	☐	☐
6. I get along with people I come into contact with.	☐	☐	☐	☐	☐	☐	☐
7. I pretty much keep to myself and don't have a lot of social contacts.	☐	☐	☐	☐	☐	☐	☐
8. I generally feel free to express my ideas and opinions.	☐	☐	☐	☐	☐	☐	☐
9. I consider the people I regularly interact with to be my friends.	☐	☐	☐	☐	☐	☐	☐
10. I have been able to learn interesting new skills recently.	☐	☐	☐	☐	☐	☐	☐
11. In my daily life, I frequently have to do what I am told.	☐	☐	☐	☐	☐	☐	☐
12. People in my life care about me.	☐	☐	☐	☐	☐	☐	☐
13. Most days I feel a sense of accomplishment from what I do.	☐	☐	☐	☐	☐	☐	☐

14. People I interact with on a daily basis tend to take my feelings into consideration.	☐	☐	☐	☐	☐	☐	☐
15. In my life I do not get much of a chance to show how capable I am.	☐	☐	☐	☐	☐	☐	☐
16. There are not many people that I am close to.	☐	☐	☐	☐	☐	☐	☐
17. I feel like I can pretty much be myself in my daily situations.	☐	☐	☐	☐	☐	☐	☐
18. The people I interact with regularly do not seem to like me much.	☐	☐	☐	☐	☐	☐	☐
19. I often do not feel very capable.	☐	☐	☐	☐	☐	☐	☐
20. There is not much opportunity for me to decide for myself how to do things in my daily life.	☐	☐	☐	☐	☐	☐	☐
21. People are generally pretty friendly towards me.	☐	☐	☐	☐	☐	☐	☐

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The role of self-reflection on self-determined physical activity behaviour change

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Page 6: Final page

This is the end of the questionnaire. Thank you for participating in part A of the study. If you'd like to be contacted for part B of the study (one off semi-structured interview), kindly, leave your contact details below:

10. Name:

11. Email:

Empirical Study 2

The lived experience of participants' self-reflective practice in relation to physical activity motivation and behaviour

Overview and Rationale

Empirical Study 1 provided a quantitative examination of the relationship between Self-Reflection (SR) and self-determined aspects of Physical Activity (PA), finding that while SR did not predict engagement in PA, it (SR insight) significantly predict the Basic Psychological Needs of self-determination theory (Autonomy, Competence and Relatedness) and Autonomous Motivation. Empirical Study 2 was designed as a follow-on 'multi study' component of the Professional Doctorate research conducted.

The methodological limitations identified in study 1 (particularly in the critique of the measurement tools used to assess the salient variables), and the conceptual position that the SR process should be examined through more personal and context specific qualitative methods to better capture the self-regulatory process (see Figure 1) formed the basis of Study 2.
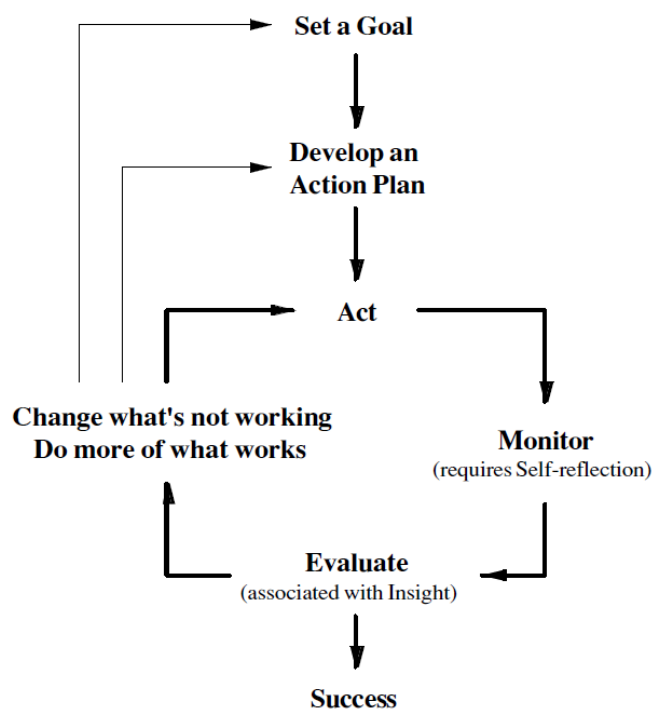
Figure 1: The self-regulatory process (Grant et al., 2002)

Based on these limitations, research that seeks to better understand the role of self-reflection, in particular insight, and how it informs Physical Activity related behaviour appears warranted, and would provide an original contribution to the existing knowledge base. Thus, the purpose of this study is to understand the complex process of SR through the lived experience of participants' self-reflective practice, and how this affects PA motivation and behaviour. Understanding such processes can provide additional useful knowledge towards promoting more sustainable PA approaches. As a result, the research question for the current study is 'what role does SR play in PA motivation and behaviour?'

The study drew on the same literature base as study 1, so is not duplicated here (see introduction to study 1). The research question for the study 2 was investigated through the experience of those participants who volunteered having completed the previous questionnaire study (study 1). The Semi-structured interviews were deductively informed by the findings of study 1, specifically how SR insight (as a by-product of SR) predicted both SDT constructs related to Psychological Needs and Autonomous Motivation) but not PA. The interview questions also left broader scope to induce meaningful information from participants in relation to the research question, to avoid being a sole and overly deductive approach in relation to the observed significant predictions between SR and SDT constructs.

Methods:

Project Design

This study was based on a qualitative approach where semi-structured interviews were used to provide a richer and more meaningful understanding of how participants make sense of their self-reflective practice in relation to PA motivation and behaviour. An Interpretative Phenomenological Analysis (IPA) approach was applied to gain a detailed examination of the participants' lived experience with SR on PA motivation and behaviour, the meaning they attribute towards that experience and how they make sense of that experience (Smith, 2011).

Participants

For this study, recruitment of participants was based on those who were willing to volunteer and provided contact details from study 1, and who scored high in SR insight on the SRI scale i.e., within a 40-48 range (48 being the highest score possible). In total nine (n = 9) participants, age range 25-64 years, males (n = 2) and females (n = 7), from UK (n = 2) and Malta (n = 7), who had Insight scores in the SRIS of 40 and over, were recruited. Coincidentally, based on the International Physical Activity Questionnaire (IPAQ), all participants recruited had moderate to high PA levels.

Interviews

A semi-structured interview (see appendix) was developed to understand the participants' lived experience of self-reflective practice in relation to PA motivation and behaviour (Smith, 2011). Through this, the role that SR might play on PA motivation and behaviour increase was explored. The interview was divided into four main sections. The first section was designed to understand the concept of SR in general and understand participant's perception, by asking questions such as, 'In your opinion, how do you define self-reflection?' and 'Can you tell me some examples on how self-reflection can be practiced?'. The second section focused on PA to understand participant's perception of PA and their view on how physically active they are. Questions included, for example, 'What's your view on physical activity?' and 'How active do you consider yourself?' The third section aimed to describe the participants' view on whether SR and PA are related to each other by asking 'Do you think there is a relationship between self-reflection and physical activity motivation and behaviour?' The fourth section identified the impact of SR on PA, through questions like, 'Now I'd like to ask you to think of a time that you've found challenging in your PA' and 'Now a time you've felt positive in your PA'. As instructed in IPA (Smith, 2011), these questions were only used as guidance for the interview, where a process of reflecting and probing was adopted (e.g. 'can you please explain further?' or 'how did that make you feel?').

In order to ensure trustworthiness, several steps in line with established IPA protocols (Smith, 2011) were taken. First, an interview schedule with non-directive, open-ended questions was prepared prior to the interviews. Second, a pilot study with two participants of similar characteristics of the recruited participants took place. Third, member checks were carried out with each participant by providing a brief summary towards the end of the interview to ensure that the participants' views were fully understood and to provide the participant with the opportunity to clarify or add any further information. This was also repeated in the transcription process to affirm that it depicted exactly what the participants were describing within the opportunity to tell their own story in their own words and to have a central role in the course of the interview. Fourth, acknowledgement of the researcher's previous experiences and knowledge on SR and PA motivation and behaviour was, as much as possible, kept at a distance throughout the research process by allowing the work's findings to be the result of the experiences and ideas of the informants, rather than the characteristics and preferences of the researcher (Shenton, 2004).

Procedure

A pilot study with two participants was used to develop and test the adequacy of, and assess the feasibility of, the final interviews (Van Teijlingen & Hundley, 2002). As the pilot study was easily understood and allowed the participants' to delve deeper on the questions provided (sometimes with some help from probing questions), there were no amendments that took place. Data obtained from the semi-structured

interviews was in accordance to the British Psychological Society (BPS) (2018) guidelines for the collection of qualitative data. Following participant recruitment and informed consent procedures, interviews of between 45-60 minutes conducted by the main researcher took place at either a quiet location of the participants' choice or through video calls. There was no recompense for participation.

Data Analysis

Since the study aim was to capture a detailed examination of how participants made sense of their personal lived experience with SR and PA, Interpretative Phenomenological Analysis (IPA), as suggested by Smith (2011) was deemed as the ideal analysis approach to use. IPA involved the process of researcher engagement and interpretation to be able to make sense of the participants' understanding of their experience (Smith, 2011).

The in-depth semi-structured interviews were recorded and transcribed verbatim. The analysis was conducted by the first author. For increased credibility, consistency, confirmability and transferability (Pietkiewicz & Smith, 2014), the transcripts were analysed manually for recurrent themes using IPA (Smith & Osborn, 2003). Within individual transcripts, several themes were identified. Themes were identified based on the frequency of appearance in scripts. It is important to note that, while capturing the meaning of the phenomenon (to the participant) was central, this selection process required the interpretative engagement of the researcher with the text (Smith, 1996). Awareness of researcher bias in transcription was managed through the use of triangulation by developing themes through discussion with the rest of the research team, with refinements and restructuring taking place when necessary. Additionally, attention to Smith's (2011) suggestions about what is considered 'good' IPA research were followed. This included 1) subscribing to the theoretical principles of IPA, 2) sufficient transparency for the reader, 3) analysis that is coherent, plausible and interesting, 4) sufficient sampling allowing density of evidence for each theme, 5) minimum of at least three extracts from participants for each theme, 6) well-focused topic, and 7) strong data and interpretation

Results

The extracts presented herein where selected because they presented the essence of recurrent themes or because they provided the most powerful expressions of any given recurrent theme. As shown in table 1, the three key recurrent, inter-related emergent themes from analysis of the interview data were: 'SR and PA Interconnection', 'SR as a self-development and learning tool' and 'The outcomes of SR on PA motivation and behaviour'. The themes were further divided into sub-themes including, 'SR as an awareness and monitoring tool', 'SR as Critical Analysis', 'SR as reality check for PA' and 'WHAT', 'WHY', 'HOW'.

SR and PA Interconnection	SR as a self-regulating and self-development tool	The outcomes of SR on PA motivation and behaviour
1. SR as an awareness and monitoring tool	1. SR as Critical Analysis 2. SR as a reality check for PA	1. WHAT 2. WHY 3. HOW

Table 1: The three super-ordinate themes with their sub-themes that emerged from the interviews

SR and PA Interconnection

SR as an awareness and monitoring tool

The first theme that emerged out of the interviews was that of SR and PA interconnection. This was expressed among all the participants, where they made it very clear how SR is not the prime mover towards enagement in PA, but rather works in parallel with PA. In the participants interviewed, SR was seen as an awareness and monitoring tool that takes place on a constant basis. This provided the participants with useful questioning and insights towards them as individuals and towards their PA motivation and behaviour, which in turn provided more reason to further practice SR. This created a recurring cycle between SR and PA, leading the participants to know what they want to do, why they need to do it, and how they do it. As a result, they became able to understand how they function, what makes them motivated, and how they can eventually regulate themselves better when challenging situations in relation to PA motivation and behaviour arise.

P2: "Yes, because [SR and PA] go hand in hand. [..] SR can help any PA. SR is taking a step back and reviewing results. How can I perform or do better? How did I perform in relation to my competitor? Questions that can be broken down further into deeper, more specific questions, and really diving into performance and a way in which someone can improve in their PA. For me knowing more about something is always a bonus. Reflection and now seeing myself in a different way only gives me power and new information, which in turn motivates me and gives me belief."

P5: "I see [SR and PA] as interlinked […] I continuously self-reflect on my PA. I tend to observe my body a lot…so when I wake up, the texture of my skin, my stomach - is it bloated? My energy levels...and that for me is also, is totally related to PA…because the body reacts to what we do.

So whether I, I'm engaging in PA to all my expectations or not I'm going to react on that…with PA also of course affects my mood, so if I don't give my body what it needs in terms of PA, SR might not be that positive (smiling). Will still SR but it will come with a layer of criticism as well (laughing) […] I think [SR and PA] help each other out. I think the, the more I like to be self-reflecting the more I'm motivated. The more PA I do the sharper I am."

P9: *"I have reflected and thought about the things that motivate me […] For me that's a type of SR that leads me to go for PA and that also motivates me […] you can't have one without having the other [refering to SR and PA]"*

SR as a self-regulating and self-development tool

SR as Critical analysis

As P7 mentioned in his interview, SR is not a task carried out once, leading to endless moments of insights, but rather a process that can take place in several different life departments in order to make better life choices, such as, "relating with others", "food choices", "practicing exercise", "dealing with problems", "making everyday decisions", among others. Participants openly shared their experiences of how, using critical analysis, they were better able to self-regulate their PA behaviours. This allowed the participants to learn more about themselves, see what works and what does not, and learn from it for long-term self-development.

P6: *"looking at the way you performed or you've done something or the way that someone's, something's gone, it's the way you look at it and you think 'yeah that worked really well' and you take away from it 'yeah I might do that again' or you go 'that didn't go so well, why? How could I have done it better'?*

P7: *"[on relationships with others] Think on what I said and didn't say? How was I understood? Could I have been misunderstood? Was my point clear? [on more personal stuff] I had to do stuff, did I do them? Was I being lazy? Did I do what I meant to do well or in a rushed manner?"*

P9: *"[on relationships with others] Is the advice I'm going to deliver good, will it be helpful? [on food choices] Is what I'm going to eat good? How many sweets have I taken this week? I just ate a piece of chocolate, why am I going to go for another pack of crisps?" [on challenges in relation to PA]. By time, through SR, I learnt how we all start from crawling then walking*

and then running, so I learned that if your body might not do what you want it to do at first, try again tomorrow and try again the day after, until you feel comfortable to add a bit more intensity".

SR as a Reality check for PA

Through such a critically analytic process, participants expressed how it helped them to become aware of both the benefits of PA, and when PA was lacking. Therefore, more attention was needed to get back on track. This reality checking was expressed among all participants, where they saw it as a way to correct PA behaviours that were not in line with what they felt was a satisfactory PA level. As a result, they saw SR as a useful technique to make them aware of, and take action on, those PA dysfunctional behaviours.

> **P3**: *"SR helps me in reminding me of the repercussions that come out of lack of exercise, and lack of PA, especially when you start to get older, especially health-wise".*

> **P7**: *"Through SR I realised that as soon as my PA levels are not consistent in my life, I always end up going back to an increase in alcohol and cigarette intake […]. Whenever this happens I become aware of the health effect that this is causing […] so I use SR as a continuous process to remind me of the benefits of PA so that I get back to PA being a routine in my daily life".*

> **P8**: *"I think when you SR you start seeing, you know, "if I did that I would feel better" or "if I do this I would look better" or "I would lose weight" or "my eating habits will fall in place […] even after PA, I do go through my session like my posture 'how can I improve it?', my techniques…"*

It was also reported how sometimes this reality check is mediated through new technology gadgets such as fitness trackers:

> **P6**: *"I think my Fitbit definitely help me see what I'm doing every day. Especially, when I looked at it one day on Christmas day and it said…I'd move like 1 km all day (laughing). A 1000 steps all day because I just sat down eating all day, so…emm…yeah…I, I try and make sure that I'm moving all the time in work I'm constantly up down up down but I kind of monitor it"*

The Outcomes of SR on PA motivation and behaviour

Most participants expressed how SR is a constant process that happens every second of every day. Several life environments and everyday behaviours were mentioned as typical examples where SR was used as an insightful tool in their lives to understand their existential positioning in relation to PA. Participants expressed how through SR they have become aware of the value of PA, the reason for engagement in PA and the necessary steps taken to make space in their hectic daily schedules and fit PA in. This was depicted through three major life questions: What is it that I need to do? Why do I need to do this? How do I do it?

What

At different points in their lives, all participants, even though other items often took a higher priority in the 'what' department (e.g. family), stated how, through SR, they felt that PA was one of the things that filled the "what is it that I need to do?"

> *P3: "PA is extremely needed, relaxing and highly important in the daily life."*

> *P5: "PA for me is a basic need, is a basic need just as much as with nutrition, food and sleep".*

> *P6: "it's [PA] possible for everybody to be physically active everyday if they're able bodied and able to in whichever way. Whether it's walking to work, walking to the bus, doing whatever it is, and you need to kind of build it up into your day as much as possible."*

Why

Although the reason and intention behind what the participants felt they needed differed in priority, all participants agreed that they have self-reflected a lot into 'the why' of doing 'the what'. In other words, all participants expressed very clearly the reasons behind engaging in PA, the rewards and benefits that come out of practicing PA, which in turn gave them enough reason to maintain that PA.

> *P3: "satisfaction and feeling content that you're there (doing PA), that you managed to do it, that you challenged yourself, and that you don't let yourself give in, [that's why] I keep doing it..."*

> *P4: "PA is linked to a healthy lifestyle, to a better lifestyle. Something that makes me feel good doing it. It's part of putting yourself and your needs as a priority. PA must be a priority as it is linked to good health"*

P8: *"It's [PA] very important in your daily life, it helps me increase certain chemicals, which make me feel better, feel good, feel happy, gain more energy and self-confidence as well."*

How

In sharing their experiences on 'the how' of practicing PA, participants seemed to be in agreement about the importance of how SR helped them become aware of what preparation/routine was needed (or avoided), whether that involved cognitive, abstract preparation or more physical, tangible, preparation or both, towards maintaining their PA.

P2: *"Well depending on the physical activity, I have different ways of "getting in the zone". If for a sporting match like football, I listen to house music while on my way to the grounds before I have to warm up. House music always gets me aggravated and before sports, it's perfect! So just keeping to myself on the coach, or while walking and just reflecting, usually playing in my head scenarios that could play out today in the match and how I may play. Obstacles I may come up against and how I would get around them. These things play in my head, sort of an imagination game. This form of reflection can help a lot because if faced with a scenario in the match that I had thought of I may have a better chance of overcoming because of imagining the performance in this time. [...] Another scenario of preparing for physical activity is when I go to the gym. Music is still a large part of this, but there is no real imagination used. I again play aggressive house music and usually walk with a purpose to the gym. The music and the determination get me into "the mood" and pumped for the gym."*

P7: *"through experience (or SR) I started choosing the best time where I feel strongest throughout the day. Normally this is somewhere around 1pm. When I aim to do something after work. For example, I'm working till 5pm and then I go for PA, from the performance I can tell that I'm not feeling it [...] I always aim to eat well in the morning, left enough time after my meal so as not to feel sick, and then choose the best moment that I'm feeling strongest [...]. Thought-wise, I prepare from the day before, for example, if I know I have a workout tomorrow, I try to get that in my head, try to be conscious about it by avoiding drinking beer and enter into a mind-set that tomorrow I need to do a good workout and be and feel strong. I try to work my day around my PA."*

P8: *"I plan every single day because I'm quite…I have quite a busy schedule (smiling) so I have to fit it in. I'm not a morning person for training. I get up early to do house chores but the time I schedule for training is approximately from 5-7pm. It's my quiet and my 'me' time so I*

plan the type of exercises that I'm going to do…that is if I manage everything on time, so I have to rush just to have those 2 hours to myself (smiling). Rituals and behaviours, well I have to get dressed in a particular gear so I feel I'm going to the gym instead of just staying upstairs (because we have a small gym upstairs). Rituals is to prepare my protein shake, my water bottle, the mat, and yes (smiling), I clean all the tools and equipment and then I begin."

Sometimes, the lack of a plan, and avoidance of SR, is part of the plan itself:

P9: "to tell you the truth, I try not to think about anything because when I start to think I start to come up with excuses".

However, this planning and routine tends to be a pre-activity process, as all participants who practiced more intense or competitive PA agreed that during PA they tend to try to be as task-focused as possible. Therefore, the context and reason of the participants' PA resulted in the decision whether they reflect during their PA or avoid reflecting:

P4: "at that moment in time [practicing PA] you don't think of anything, you just keep going"

P5: – "the rest of the world is a little bit outside so that I can zone in"

P8: – "you have to be mindfully there all the time"

It was interesting that when the participants discussed the process of how and when SR occurred, they mentioned how SR insight for changes that might need to take place based on changes in one's life situation can only happen when a break from that routine occurs. This was sometimes through engagement in SR or sometimes through the help of a third person (e.g. a coach).

P2: "SR is a tool that can be used to gain an insight into your performance and an individual, how you fit in with the team or every area surrounded your performance. I was surprised to see what stopping for a moment to think about a performance or topic can do for my own game"

P4: "SR generally takes place when I'm doing something completely different to my usual routine. For example, changing from work to home and starting cooking, which I love to do. It's something which can be done while I'm alone, in a quiet space, doing it the way I want but at the same time is not part of my work routine"

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P5: *"becoming the observer of one's situations. […] I do tend to run my SR by my teachers, otherwise I would feel like I'm ruminating…I think those moments, those moments of shifts always happen with a coach".*

Discussion

The aim of the study was to explore the possible impact of SR and insight in relation to PA motivation and behaviour. This aim was influenced from previous research (e.g. Neil et al., 2013; Cowden & Meyer-Weitz, 2016; Faull & Cropley, 2009; Cowden, 2016, Hanton et al., 2009), expressing the need to gain a more in-depth understanding of the role of SR on PA motivation and behaviour.

To summarise the findings, SR can be said to have both a positive and negative effect, in that it can either encourage or hinder goal-directed PA behaviours. This supports existing literature (Kocielnik et al, 2018; Brand & Ekkekakis, 2018; Buckley et al, 2014; Smallwood and Andrews-Hanna, 2013; McVay & Kane 2009; 2010; Grant et al., 2002), where SR aids self- regulation skills towards correcting or maintaining certain behaviours. SR can also be viewed as an effortful process (Brand & Ekkekakis, 2018), leading one to act impulsively by engaging in well-established habits or get stuck ruminating on the behaviour that needs engaging in (Kocielnik et al, 2018) and avoid the intended behaviour instead of approaching it. This was reflected in the present study, where participants who practiced PA in a less committed way expressed how avoidance of SR right before PA activity was useful.

There was consensus about how the process of SR allowed participants to have increased awareness of their underlying needs (Kyung Lee et al., 2015), a better understanding of their motivations ('what' and 'why') and a focus on higher-level goals (Kyung Lee et al 2015; Carver & Scheier, 2000; Trope & Liberman, 2010). An ability to overcome decision biases through a process of critical analysis and careful planning (Phan, 2010; Schacter et al., 2007; Suddendorf and Corballis, 2007; Suddendorf et al., 2009), and opportunities to better focus on their needed actions through reality checking (Phan, 2010; Milkman et al., 2009) were also salient features on the SR process. As a result, SR helped participants to focus on long-term consequences of their choices and to make decisions that are more in line with their identities (Akerlof & Kranton, 2010). SR also helped participants to avoid short-term gratification (Fujita & Han, 2009), such as making the effort to engage in PA (even when not feeling like doing it) in order to enjoy the PA benefits in line with one's values, beliefs, feelings and abilities (Ochsner et al., 2004; Amodio and Frith, 2006; van Overwalle, 2009; Andrews-Hanna, 2012).

Contrasts among participants

Contrasts between participants were observed in the intentions behind engaging in PA and in determining whether SR is attended to or not. This was reflected in the participants' choice of PA: i.e. whether an intense or competitive one was chosen, where full task-focus attention was needed, or whether a more relaxing one, for example, a leisurely walk, where the walk was used as a means to reflect on one's life. It seemed that those who were more committed and structured in their PA used SR as a pre and post PA tool, while those who practiced their PA more leisurely used their 'relaxing' PA as their source of SR (for example, during their walks or yoga stretches). It is not that SR is practiced differently based on one's PA level, but how conscious or aware one is towards their SR (Van Der Meer et al., 2010). For example, competitive athletes, being more mentally trained, may consciously choose to ignore SR during their PA to focus on the task at hand (Gardner & Moore, 2007), and then use SR as a self-development, self-improvement and motivating tool towards their PA. Those with a more leisure perspective towards their PA chose less intense/structured PA so as to serve the purpose of SR and clarity in their everyday life, which in turn pushes them to engage in even more PA. For example, if the PA could be carried out automatically, requiring less cognitive processing, (e.g., walking), the PA becomes the means to provide mental space for SR. This does not imply that those who chose a less structured/intense PA didn't use SR for self-developing and learning. They still made use of it in that way, but more in relation to self-improve in their everyday life rather than improving their PA intensity or levels. The same can be said for more competitive paticipants, where SR, although used for self-improvement/development in their PA, was also transfered towards solving one's everyday life problems. Participants who practiced a mixture of competitive and leisure PA fitted in both categories, i.e. viewed PA as a positive competitive challenge and as a leisure stroll at the end of the day. 'Competitive' did not necessarily mean competing with other people, but also included competing with their previous selves, using PA to push themselves and improve on their previous limitations. Therefore, although two very different uses of SR in relation to PA was in evidence, similar to Carver & Scheier (1998) and Grant (2001), the end result was to self-develop/improve learning or as awareness/monitoring of one's emotions, thoughts, and behaviours.

In line with Zubala et al. (2018), all participants mentioned how through SR they became aware of specific routines practiced, especially in relation to specific preparations or planning for specific types of PA, which were crucial to keeping commitment towards one's efforts. However, those who valued a more structured type of PA tended to have quite a religious way of preparing for their PA (Schacter et al., 2007; Suddendorf and Corballis, 2007; Suddendorf et al., 2009), wheareas those with a more leisure perspective towards their PA determined not to plan or think about anything and just go for it. Participants who were not as immersed in their PA felt that allowing time for SR could serve as a hinderance by paving the way for excuses not to

engage in PA (Kocielnik et al, 2018; Brand & Ekkekakis, 2018; Buckley et al, 2014; Smallwood and Andrews-Hanna, 2013; McVay & Kane 2009; 2010; Grant et al., 2002).

Different people tend to have different priorities at different points in their life. For this particular reason, SR needs to be an ongoing process in order to match what it is that one truly needs, why it is that one is truly doing it, and how one should adjust one's life towards achieving that goal based on the circumstances at that moment in time. Routine can be helpful to enable adjustment to new forming habits that an individual may want to keep, however, that same routine can be the source of alienation from improving, developing further or tapping out of one's comfort zone (Marteau et al., 2012). As a process, SR can be quite demanding at times (Grant et al., 2002), as it requires a higher level of cognitive effort (Brand & Ekkekakis, 2018). As mentioned by P5 and P8, it sometimes needs "the help of a third person, like a coach" or "trustworthy people" to attain to, or maybe even make one aware of overtraining, and lead to insights (i.e. reward of SR) (Moreno-Murcia et al., 2017). In any rewarding behaviour, the reward is always difficult to attain and that's what makes the effort worthy, especially since most rewards linked to SR are intrinsic (therefore, have added meaning) towards the individual (Biddle & Nigg, 2000; Fortier & Kowal, 2007; Wilson et al., 2008; Fortier et al.,2011; 2012; Teixeira et al., 2012). The process of SR acts as daily effortful mental training to achieve moments of intrinsic insights, eventually becoming one's autonomous motivation (Ntoumanis et al., 2018).

Meaning behind one's actions

In today's society, one can easily go through everyday life activities without paying attention to what it is exactly one is doing, let alone what the intention ('the why') behind that activity may be. SR is a way to delve deeper into one's own thoughts, emotions and actions in order to create meaning in one's activities (Kyung Lee et al 2015; Carver & Scheier, 2000; Trope & Liberman, 2010; Frankyl, 2004). It is through this that maintenance of positive activities, such as PA, however effortful it may be, can take place. Meaning in one's activities can only be derived from a process of critical thinking (Cottrell, 2017; Phan, 2010), like SR, which can lead one to be attentive and aware of 'the why' accompanying one's actions. That 'why' will be based on one's values and principles towards what will become the purpose for challenging, and maintaining, a behaviour which might require effort and commitment (Kyung Lee et al 2015; Andrews-Hanna, 2012; Ochsner et al., 2004; Amodio and Frith, 2006; van Overwalle, 2009; Grant et al., 2002).

As found in previous research (Rouse et al., 2011; Supervía et al., 2018; Vansteenkiste, et al., 2010; Texeira et al., 2018), it was evident that motivations and rewards were highlighted through a process of SR. In the reflection that took place, even during the interview itself, participants were asking critically analytical

questions (e.g. "why do I like PA?"? "why do I still seek to go for it even though I have a lot of other daily tasks to go through?") to identify what it truly was (meaning/purpose) that made them want to change/maintain a behaviour, such as engaging in PA for the first time, engaging in more PA, or increasing the intensity of one's PA. This allowed the participants to keep motivations high and persist in such behaviours, even though sometimes it seemed like a difficult task to fulfil (Akerlof & Kranton, 2010; Fujita & Han, 2009; Martin & Rubin, 1995). This kind of retrospective monitoring process, or reflection-on-action (Schön, 1983), brought out the purpose for the participants' engagement in their PA, which lead to commitment towards their PA.

Based on the study findings, an adaptation of Grant's (2002) Self- Regulation process is proposed.

Set a PA goal

Develop an Action Plan

(First stage of SR)

(associated mostly with 'what' and 'how' of PA)

Avoid

Act

Change what is not working and Do more of what works

(requires SR and PA interaction)

(associated with the 'what' and 'how' once again as well)

Monitor

(requires SR and PA interaction)

Evaluate based on one's values and beliefs at that moment in time

(requires SR and PA interaction)

(associated with the evaluation of the 'why' and Insight)

Success/Maintenance

Figure 2: The role of SR and insight on PA motivation and behaviour

The adapted model reflects how SR has a role in the development and delivery of an action plan to achieve a PA goal. In the modification, SR allows individuals to monitor their own behaviours through a process of critical analysis and reality checking. The participant's action is evaluated by drawing on more personal

meaning (what motivates one to go for that goal, the 'why') towards one's behaviours, which can lead to more SR insight, and then working on changing that which is not in line with the 'why' by focusing on 'what needs to change and 'how' that is going to take place. This either leads to another cycle of further action, monitoring, evaluation and change to lead to successful maintenance of the desired PA behaviour, or to a complete change of the PA goal.

Limitations

There are a number of important study limitations for current and future researchers to consider. First, all participants were chosen due to their high Insight score in the SRI scale. This means that the information they provided is inherently biased towards those high in self-reflection. While the author's intention was to examine the relationship between SR and PA, so those specific participants were deliberately included, future research should consider those who are low in SR and the impact on PA motivation and behaviour.

Second, participants who were available for the interviews all practiced moderate to high levels of PA (even though there were differences in PA between participants). Although the author did not have any control over this, having different levels in PA engagement among participants resulted in interesting but different insights among the participants, such as how SR is used and when. Future research may wish to examine SR across a fuller range of PA engagement, including those who are less physically activity than the participants in this study.

Third, the sample mainly comprised female Maltese participants. While this was out of the author's control, and from the information gained there did not seem to be much variation in participants SR experiences and PA motivation and behaviour, future studies using a male dominated population from different cultural groups are warranted.

Fourth, all participants seemed to have early life engagement in PA and came from active families (ranging from constantly staying active with house work such as gardening, cleaning etc. to purposefully practicing some kind of sport). Although it might be unconscious to the participants, however, being brought up with such social norms (Bandura, 1977) might have informed PA motivation and behaviour in later life (Ntoumanis et al., 2018). Groups from less physically active families and backgrounds should also be of interest for researchers.

Conclusion and Future Recommendations

The current research provided further in-depth knowledge on the role of SR on PA motivation and behaviour. While SR may not be a useful tool for changing someone's perspective and motivating PA adoption, it seems to provide a self-regulatory role on PA motivation and behaviour once a PA goal has already been set and an attempt to act on it has already taken place. Having a functional threshold of cognitive control allows participants to make an effort to process new PA information, resist inactivity urges, overcome mental fatigue during exercise, and reprioritize plans to continue an exercise programme (Buckley et al., 2014). Through SR, maintenance of certain PA behaviours in line with one's motivations at that moment in time might be more likely to occur. Such motivations are developed through the same SR process, which might change based on one's present priorities. As a result, PA behaviour change interventions should ensure the education and inclusion of personalised (Kyung Lee et al., 2015) SR within the process of reflection in and on action, through the use of exercises such as informal conversations with friends, reading, journaling/writing and the use of technology such as fitness trackers. As a direction for future studies, it would be interesting to see whether participants from different countries, cultures, genders, and those motivated by different types of motivation would yield more information on the role of self-reflective practice and its influence on physical activity motivation and behaviour.

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Appendix:

<u>**Interview Questions:**</u>

1. In your opinion, how do you define SR?

2. Can you tell me some examples on how SR can be practiced?

3. What's your view on PA?

4. How active do you consider yourself?

    I.   Can you tell me your experience of how you started practicing PA?

        a)   Can you please describe in depth what helps you maintain your PA?

            ▪   Challenges?

            ▪   Motivations?

            ▪   Rewards?

        b)   Can you please describe a typical scenario of how you prepare for your PA?

            ▪   Thoughts?

            ▪   Rituals/behaviours?

            ▪   Any planning?

5. Do you think there is a relationship between SR and PA motivation and behaviour?

    I.   If yes, how?

    II.   If no, why?

6. Now I'd like to ask you to think of a time that you've found challenging in your PA

    I.   How were you feeling? Thought processes? Were you conscious of your thoughts about PA? Did you engage in any purposeful reflection – self or talking to others?

    II.   What did you realise / learn / conclusions did you come to through these reflections?

    III.   What effect did this have – what happened next?

7. Now a time you've felt positive in your PA behaviour…

    I.   How were you feeling? Thought processes? Were you conscious of your thoughts about PA? Did you engage in any purposeful reflection – self or talking to others?

    II.   What did you realise / learn / conclusions did you come to through these reflections?

    III.   What effect did this have – what happened next?

8. Is there anything you would like to add or maybe recommend?

Research Commentary

In this commentary, I will be discussing my research journey, with emphasis on i) the process of undertaking and writing research, where I'll be specifically referring to the Systematic Review and the Empirical Studies 1 and 2, and ii) reflections on my development as a researcher. Where necessary, I will be including *quotes* from my reflective diary to provide further insight into my development as a researcher since day 1 of my Professional Doctorate.

Knowing that the Systematic Review (SR) was something I had never conducted before, I anticipated that it would need more of my time to successfully finish it, so I decided to start with that. My initial thoughts were that it would take me around 6/7 months to complete, which would then enable me to focus on the two Empirical Study research pieces. A key lesson learnt was not to underestimate the time it takes to do an SR! The whole process took me double the amount of time I had envisaged, but on reflection, I was glad I had started it early. I would advocate other trainees to do the same, and avoid a situation where the SR does not get attention. Do it early, or keep 'at it' across the timeframe of the doctorate – don't leave it late!

At the beginning of my professional doctorate, I was extremely passionate about the topic of Mindfulness. However, I also felt that this kind of thinking was delimiting me in my outlook about Sport and Exercise Psychology, and I didn't want to become extremely narrow-minded in my approach to practice such that Mindfulness was always my 'go to' intervention of choice. I was also conscious that Mindfulness hadn't yet been fully established as an efficacious sport and exercise psychological intervention. Due to this, I was interested to explore the research on Mindfulness Intervention in Sport, both as a worthy Systematic Review topic and to confirm whether my passion towards Mindfulness was something worth pursuing in more depth as an applied practitioner.

With the great help of my supervisory team and a huge amount of additional reading and researching, I completed the whole process, and I think it was the most difficult and life-changing experience I've had throughout the whole Prof Doc journey. While I had supervision and other SR publications to draw upon, I was the first trainee to start and finish the SR, and as I was part of the first cohort on the programme I had none of the other fellow doctorate candidates to turn to for advice and share the pain! At times, the process seriously made me question what I'm really good at, given my perception that my research skill was my strongest area, although I realise now that SR's are not easy, and as with any new thing, they take time to master. I've also reflected that the SR can be quite an isolating process. You become so immersed in protocol, methods, research findings and the deconstruction of papers that are read multiple times, it is sometimes difficult to see out of the SR bubble. Being a Maltese person in a foreign country away from the closest people in your life fuels that even more, and there were times when I just wanted that connection from them to tell me that everything would be OK. It was really challenging to feel that I was struggling with the first piece of work when there were so many more pieces to be written.

On reflection, I felt that starting with the SR has provided me with the opportunity to prepare myself for what I was going to experience on the Prof Doc journey. It taught me so much about myself as a person, e.g. a change in my perspective when it comes how to view supervision (more on this in the reflective sections below) and that Mindfulness, like most concepts, does have methodological flaws, so I needed to open my mind to other Sport Psychology interventions.

As a researcher, I began to get a fuller grasp of the foundation and essence of research. In particular, it's ontology (our beliefs about the nature of reality) and epistemology (our belief about how knowledge can be understood and captured), and how this would translate to my own research philosophy but also connect with my philosophy as a practitioner psychologist.

I could understand how important it was to go back to previous research, test the quality of papers, check for bias and provide a neutral, scientific perspective of what the research was really showing, rather than what the authors wanted the research to show. It was at that point that I felt I understood what my supervisors really meant by 'critical analysis'. I no longer read scientific research to just find out what they found but started delving deeper and critically examining why and how they found out what they found.

During the conduction of the SR, I also found my myself questioning the research publication process and the 'game' that I thought was being played, which as some sort of a rebellious act, was pushing me away from a desire to publish my own work.

It was crazy to see how certain studies were even published with such poor qualities (e.g. missing intervention details, lack of data reporting, missing confounding variables, lack of clarity in relation to bias, among others). This was the first instance I started really questioning the publishing process. What are they truly after? Do they really peer-review the studies before publishing? Are all studies accepted if people paid enough money to satisfy the publishing houses? What is the process exactly? How are studies accepted or denied?[...] Why are we paying so much money to get certificates representing a high level of knowledge when in reality it is a sort of coerced knowledge that we're learning? Why are studies with statistical findings only published when not finding a result still implies an important finding? Or contrary to this, why are studies with poor methodology (for example, small sample sizes, lack of data reporting etc.) showing a significant result being published and used as proof of how the applied intervention worked?

Fortunately, I have realised that rebelling and not publishing my work is not a good decision. On a practical level, that's not going to build my CV and increase my chances of getting a job, and on a personal level, if

I believe that I'm putting effort into my work and doing all the necessary tasks needed to produce a good piece of research, why would I rebel by not publishing my own work?

For the two empirical papers, I linked a quantitative and a qualitative study that have distinct ontologies and epistemologies on a topic I was very keen to find out more about. Self-Determination and Self-Reflection are concepts that align with my own values and beliefs, and have both provided me with 'golden threads' that run through the research and consultancy work documented in this portfolio. While 'mindfulness' is part of the Cognitive Behavioural 'waves' of Psychology, I felt that other Cognitive Behavioural waves, underpinned by Cognitive Psychology theory and principles represented better umbrella terms for my research, practice, and also teaching approaches. In addition, I've always felt myself to be a very self-reflective person, and in my reflective diary entries I continued to reassure myself how important self-reflection is in everything we do. After all, what better way can we make sense of our beliefs about the nature of reality (ontology) and how knowledge can be understood and captured (epistemology) than through reflective practice.

In working alongside Dr. Martin Eubank as my main supervisor, and Dr. Paula Watson as one of my research supervisors who was interested in Self-Determination Theory and Physical Activity Behaviour, I became increasingly aware of how my philosophical approach is very much related to principles of Self-Determination. The importance of giving clients autonomy and opportunities for competence and relatedness as basic psychological needs are core beliefs and values that I hold dear. This led to some insightful moments with regard to my research studies, my practice and myself! I needed to consider 1) combining self-reflection, SDT and physical activity in my first study, 2) the need to explore SDT in much more depth (as a result I attended an SDT conference), 3) the importance of supervision, and 4) how my research approach, focus and interests are highly linked to my core beliefs, values and philosophy of practice.

When I started my first research project back in 2013 [pre- Prof Doc]*, I was really confident that a qualitative approach was more aligned with my kind of values. This is because I loved the depth, richness, and stories of people going through life. At that point, I felt that qualitative research really mimics the therapeutic relationship in consultancy, by giving the participant/client the space to freely open up about topics, which can be of a highly abstract nature. As strange as it may sound, I used to love transcribing the interviews as I used to see it as a discovery quest. Discovery in a sense of exploring the participant's/client's story in the most raw and genuine way possible. I remember how much the process of transcribing used to make me feel connected to the participants' story.*

However, after that 2013 study, the dominant approach of all my research was quantitative methods. Although *what* I was researching was in line with my core beliefs, values and philosophy of practice, *how* I was researching it was not. On reflection, I think this had also led my initial thoughts about consultancy, and my approach to it, to become a bit structured, and in a way a bit reductionist i.e. there is a problem to solve, so design a tight, evidence driven, expert led protocol to come up with the answer for the client – job done! It was through the Prof Doc programme and my encounters with supervision and self-reflection that I began to become aware of practice and research approaches that were more congruent to my core beliefs, values and philosophy.

During a lecture, Dr. Tod was describing how if we are to become practitioners, qualitative research tend to add richness and depth to our understanding that is similar to having a therapeutic session with a client. […] Sometimes I feel quantitative methods turns people into numbers, which creates a sort of distancing from the 'being-ness' of being human.

This is what led to my final empirical study 'the lived experience of participants' self-reflective practice in relation to physical activity motivation and behaviour'. Although this felt more aligned with my core beliefs, values and philosophy of practice, I felt a bit out of my comfort zone dealing with qualitative

research once again. However, the feeling of growing as a researcher made me a bit more ambitious in my approach to the empirical research. From day 1 I didn't want to do the Prof Doc for the sake of getting a 'Dr.' in front of my name, but more to learn as much knowledge as possible and, as a person, grow in all key areas as much as I could.

One of my major changes throughout the whole research process was the complete shift in my perspective towards supervision. Research supervision is a crucial necessity of the process of development as a researcher. This is because supervision not only helps trainees develop research skills, but there is a deeper underlying process taking place that fosters developmental and transformational learning (Carroll, 2010). Initially, whenever I used to go to one of my supervisors or an academic who might be involved in my research, what I wanted out of the meeting was a sense of knowing what I must do next and that what I am carrying out is on the right track. I began to realise early on in the doctorate (after the difficulties I faced during the systematic review process and the aim of the 'tough' supervision I received while carrying it out), and in my self-reflection at the end of the process, is that supervision is not meant to be easy and give you all the answers. Contrary to that, I started comparing supervision to the effects of a traumatic experience. What I mean here is how I no longer sought straightforward replies; I started searching for a completely lost 'after-effect' where I have existential questions about myself, and my relationship towards the piece of research I am carrying out. For example, "what am I really passionate to find out more on?", "why am I trying to research this particular area?", and "how will this research improve me as a person and as a researcher?" I understood that being in that confused space is part of the process of learning as it pushes one to think critically.

That said, by having this newfound belief I was not aiming to have that 'shattered' feeling from every single supervision meeting. In fact, as shown by Coren and Farber (2019), informal supervision is as important as this type of challenging supervision. However, it was interesting for me to see and feel how my relationship towards supervision has changed. Although I was never a person to rely on other people to be pro-active,

ambitious and to move forward with my life, I became mindful of the fact that supervision is meant to be a bit cathartic. Cathartic in a sense that it should be moving enough to make me question and reflect my actions and deep held beliefs (Sheu et al., 2017; Carroll, 2010). In that sense, I would say, supervision has served its purpose throughout this professional doctorate. As DeAngelis (2014) states, "under the wings of a trusted, knowledgeable and competent supervisor, a novice therapist's intellectual understanding transforms into real-life interventions that can profoundly affect others' lives for the better" (p. 42)

Looking back it is interesting to see how naïve I was in my perspective towards the research process. I remember thinking initially how I felt in an existential void after meeting with a supervisor about a specific aspect of some research or about the process of writing. Little did I know at that time how important that void was to improve students' creativity and critical thinking, even though at that time I felt completely helpless. Helpless because I was not sure whether what I was doing was on the right track, or the fear that I might have to change what I was working on completely.

I learnt that writing, similar to development is not a simple straight line, but a process of going back and forth. Quickness is not equal to greatness. On the contrary, as the idiom states, 'too much haste results in less overall speed'. ... Because it is in that process of iteration that self-reflection on the what, why, how of writing takes place, leading to further critical analysis of one's writing, and ultimately, creativity (Marczewska, 2018).

However, it was during these times that I felt I learnt about critical thinking the most. Continuing with the analogy used in the reflection above, children tend to be so developmentally restricted when parents, teachers, caregivers etc. constantly provide them with something to pass the time (such as, tablets, games etc.), or having such a structured way of teaching certain subjects (for instance, how primary and secondary schools tend to teach their pupils). Here, creativity, and therefore critical thinking is restricted, when these are the very skills needed to facilitate developmental and transformational learning (Arzamarski, 2019).

It is the feeling of being left in such an existential crisis that taught me how to 'think outside of the box' or think critically. Based on my doctoral research experience, I wish I had been more aware of, and skilled in, critical-thinking, and how important it is to adapt and grow when research is not going as planned. What I've also learnt is that when supervisors put students in a position of having to work things out for themselves, it's not because they feel the work carried out thus far is wrong, rather they are creating opportunity for you to consider, INDEPENDENTLY, how you might revise the work to enhance its quality. It took me a long time to discover this lesson; When I began to understand this, I started to become eager for the mental challenges supervisors provide students with as a means to make them think critically. Looking more broadly, these questions and challenges are, in fact, similar to how psychologists indirectly (through specific type of dialogue and questioning such as probing) facilitate clients' to identify areas of change without directly leading the client, so as to leave the client in an autonomous position. The same principles apply when academic supervisors work to help us trainees to develop and demonstrate competence; we are given the facilitated space to have autonomy and find answers by thinking for ourselves and becoming independent researchers. This makes me return to how my research approach, focus and interests are highly linked to my core beliefs, values and philosophy of practice. The client/student led approach is exactly what I do when I practice and educate. This is the cornerstone of SDT. As a trainee with a deep interest in SDT, I can now realise how I came to appreciate these difficult moments throughout my research process. I feel glad that I managed to arrive at this perspective through my supervised research process. For me it illustrates powerfully the importance of self-reflection in everything we do. Of course, I had moments of deep frustration while I was carrying the research out, but the hardships endured throughout allowed me to become the more self-confident researcher (and person) I am today.

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Reflective Practice Commentary

In preparation for the production of this Reflective Practice Commentary, I (re)engaged with some of the well-established research pertaining to practitioner development and reflective practice in Sport and Exercise Psychology (McEwan et al., 2019; Thorpe & Garside, 2017; Ronnestad & Skovholt, 2013; Poczwardowski & Sherman, 2011; Knowles & Gilbourne, 2010; Poczwardowski et al., 2004; Anderson et al., 2004; Risner, 2002). I also re-read my reflective diary and highlighted key aspects of these entries that, for me, represent key learning experiences and critical moments of development that have impacted me the most within the wider context of my work and inspired me to become a better practitioner psychologist. In terms of reflective practice theory, my reflections are based on Gibbs (1988) model. I have found this model to be most helpful to my reflective thinking. More specifically, being able to describe the situation and my emotions and cognitions at that moment in time assists my ability to evaluate the pros and cons of the experience, analyse the situation, and identify alternative actions I could have taken, and would take, if the same scenario repeated itself in the future. Although these reflections are written retrospectively, or what Schön (1987) coined as 'reflection-on-action', much of the daily actions I go through as a reflective practitioner also involves reflecting while things are happening ('reflection-in-action') and reacting to events. The aim of this reflective practice commentary was to 1) take a meta-reflective 'look back' at the whole professional doctorate journey, 2) to engage in deeper, more critical (Knowles & Gilbourne, 2010) levels of reflection on the whole process, and 3) to synthesise the commentary with relevant practitioner development and professional practice literature to theoretically inform the commentary content.

I started the Prof Doc programme with a deep passion for, and interest in, Mindfulness, and a vision of being a sport psychologist with a well-established football team. Looking back, the idea of coming out of the programme as a 'Mindfulness Football Psychologist' is a shuddering thought on a practical, philosophical and legal level! While it is entirely plausible that, in my future practice, I find myself working with a footballer who benefits from a mindfulness intervention, it does not capture where I am today as a

Sport and Exercise Psychologist! It took me quite some time to secure applied work during my professional doctorate, and with each day that passed my pre-programme 'Psychologist in Football' vision began to fade as I got stuck into my Systematic Review (…on Mindfulness!). As a result, I spent a lot of time trying to figure out my psychological core in relation to my philosophy of practice. On reflection, this 'delay' was probably the best thing that could have happened. If an opportunity to work in Football had come early, who knows where I might have been now?

At the beginning of the course, I always used to have this vision of myself being a highly successful sport psychologist, working full-time with a well-known team. The more I got into the professional doctorate, the more, for some reason, this vision started to become blurry and slowly fading. Could it be due to the lack of high-profile work opportunities available? Possibly (and somewhat obvious now but not at the time!). Maybe it was due to seeking a dream/vision which wasn't actually mine, but which other people saw as prestigious? This could also be the case! It could be that I started to learn more about the difference between sport and exercise psychology and where I fitted in, including that the discipline exists beyond elite athletes). Also possible. Maybe it was a combination of all these questions! I even used to ask myself questions like 'why do I always have to be different in my choice of actions?' I still had the struggle that I may not be fitting well in this environment.

I remember one particular event early in the Prof Doc where we had a task in class. Every one of us had to move to the right or left of the room based on which Philosophical paradigm (Poczwardowski et al., 2004) we connect mostly to at that point in time – sophist, certaintist, practitioner-led v socratic, construalist, client-led. I, alongside another doctorate student stood 'frozen' in the middle (middle-left to be exact), not really convinced I was in the right place, not really knowing why I was, or whether I could even be there, and if not unsure whether I wanted to move left or right. Being the kind of person who always thought they knew what they wanted to do, and being very self-reflective, I was now experiencing self-doubt and confusion about how the other trainees seemed to have a direction while I didn't. I started feeling like I

didn't belong or that I was doing something wrong. So many questions, with the main ones being 'why are the majority of the group so sure? What does that say about me?

Who am I as a person? What makes me happy? What makes me sad? What are the things in my current life that I want to keep? What are the things in my current life that I would remove to achieve what I want to achieve? What am I willing to sacrifice? … "Am I in the right course?", "Am I in the right career path?", "Who am I exactly?"

This was a key moment for me. I remember I felt the need to read and get in touch with the different philosophical and theoretical paradigms, and find the time to get deeper within myself to connect with my core beliefs and values and work out why I didn't align with one paradigm (side of the room) more than another. At that point, I remember telling myself that just because the majority of the others align more to one paradigm, it doesn't mean I have to follow them. I even remember sharing this with the tutors, to which they jokingly replied, "you're just sitting on the fence", but what they meant (more seriously and importantly) was 'you're right Bernice, as long as you know why, and that's OK'. That was my discovery homework, and is something I have grappled with over the course of my Prof Doc journey. The commentary below details a little of the answer I arrived at.

To provide some context, during my time back home in Malta I had spent 2 years working voluntarily with the Maltese National Futsal Team, hence the initial Football focus and Sport emphasis! However, I also worked as a Fitness Instructor with the Malta Health Promotion and Disease Prevention Department and in gyms with people from all 'walks of life' for 3 years. I competed personally in fitness and cross-fit competitions, and constantly took care of my own exercise and physical activity – I had a real Sport ***and*** Exercise Psychology background. In a discussion of my background with my supervisor, we explored how my previous experiences might translate into how I saw myself working as a Sport and Exercise Psychologist. It became clear that I had lost the Exercise component of the title somewhere along the line

and inadvertently narrowed the discipline, despite my vocational and personal interest in Exercise and Physical Activity! My supervisor suggested that this might be something for me to consider when identifying applied opportunities, but also in my reflections of what my practitioner identity might look like in relation to the things I value in myself, and my client base. He had also invited one of the LJMU staff to deliver a session to the group based on Exercise Psychology, specifically the use of self-determination theory to enhance autonomous motivation for Exercise and Physical Activity related Behaviours and thought it might be interesting and timely for me. The class (delivered by Dr. Paula Watson who later on became my 2nd supervisor for the empirical studies) helped me to recognise that my past study and work as a fitness instructor was something I gravitated towards and enjoyed for a reason. Listening to the session I started to realise that I wanted to reengage with this word, and in finding my niche, I might also find myself.

...for the first time I felt a stronger sense of belonging and connection between me, and my own values and the discipline. I had a sudden sense that I knew more about the direction I wanted to take in my training but also my own professional development.

During this same time, I also had the opportunity to have some new clients as part of my work with LJMU TASS athletes. While this was sport focused, it was more broadly located around lifestyle support rather than performance psychology. Being part of such a great multidisciplinary team and community reignited my passion towards sport psychology once again.

I began to realise that while in sport, I was taking care of both lifestyle and psychological issues among elite athletes, and whether working with athletes or physical activity in the general public, I'm aligned, congruent, connected and satisfied by work that holistically targets well-being and lifestyle components of the client's context.

Having found my Sport and Exercise Psychology niche, I return to my practice philosophy discovery question. I listened to staff talk about concepts like empowerment, autonomy, collaboration, facilitation and relationship when discussing the common active and foundational ingredients of practice, and I felt real resonance with these descriptions. Here, and in listening to Paula talk (passionately) about self-determination, I connected these ideas with how I view people, and thus the core belief and values I hold that I then apply to clients and my work. They are autonomous, responsible, competent beings who just need some direction. For me, a very open, collaborative/discursive kind of therapeutic alliance and approach, where the client is the one who owns the change and I'm just there to help them become aware of some unconscious and potentially dysfunctional patterns / thinking, and collaboratively change these to healthier and purposeful patterns for sustainable changes is where I sit. I remember how good it felt to feel that authentic certainty! In terms of translating that into models of approach, while I could always see logic in the application of Mindfulness, Acceptance-Commitment-Therapy, Cognitive-Behavioural Therapy, and aspects of Humanistic and person-centred approaches to clients, I had, until this point struggled to combine and fit these to my own philosophy of practice. Although my applied work and case studies were informed by a theoretical paradigm, somehow I could never see the real connection between my philosophy and the theoretical paradigm. I always used to ask myself why I needed to justify which intervention I will use if I'm confident that it will work for the client in front of me? I remember one particular session with a guest lecturer where he mentioned that 'it doesn't matter what intervention you're using, we don't need labels, we just need to be with the client and genuinely listen to what the client is saying in order to inform our next decision'. I remember saying to myself, 'that's exactly me, but doesn't that just make me an eclectic practitioner', and guilty of just doing what works. Of course the guest lecturer was making a different point about common ingredients of service delivery that are always present, not that we shouldn't be able to justify our intervention, even if, as Keegan (2016) suggests, we locate ourselves in a more 'pragmatic' or 'fallible' philosophical frame when some clients and context dictate. I realised, that was me stepping into the middle of the room again, but now I knew why!

To explain this through reflective levels (Knowles & Gilbourne, 2010), I was stuck reflecting on a *technical* level to reach efficiency, accountability and effectiveness for my role as consultant in the prof doc to the point that I was missing the obvious links I needed to make through more *practical* and *critical* engagement. In other words, I did deep self-reflection to identify what my core values, beliefs, and philosophy of practice were. I was researching approaches and using paradigms that aligned with what I now refer to as my own 'psychological core' (depending on the client and context in front of me), but I wasn't confident in owning my decision for choosing a specific paradigm, model of practice & consultancy process. I used to think that aligning with one meant that was the only method I could use with clients. It took me a while to realise that practitioner congruence and alignment is more than just doing the same thing every time…that would take me back to the vision of the mindful football psychologist I started with!

To summarise my Prof Doc journey, I find it useful to present my training and development in this way:
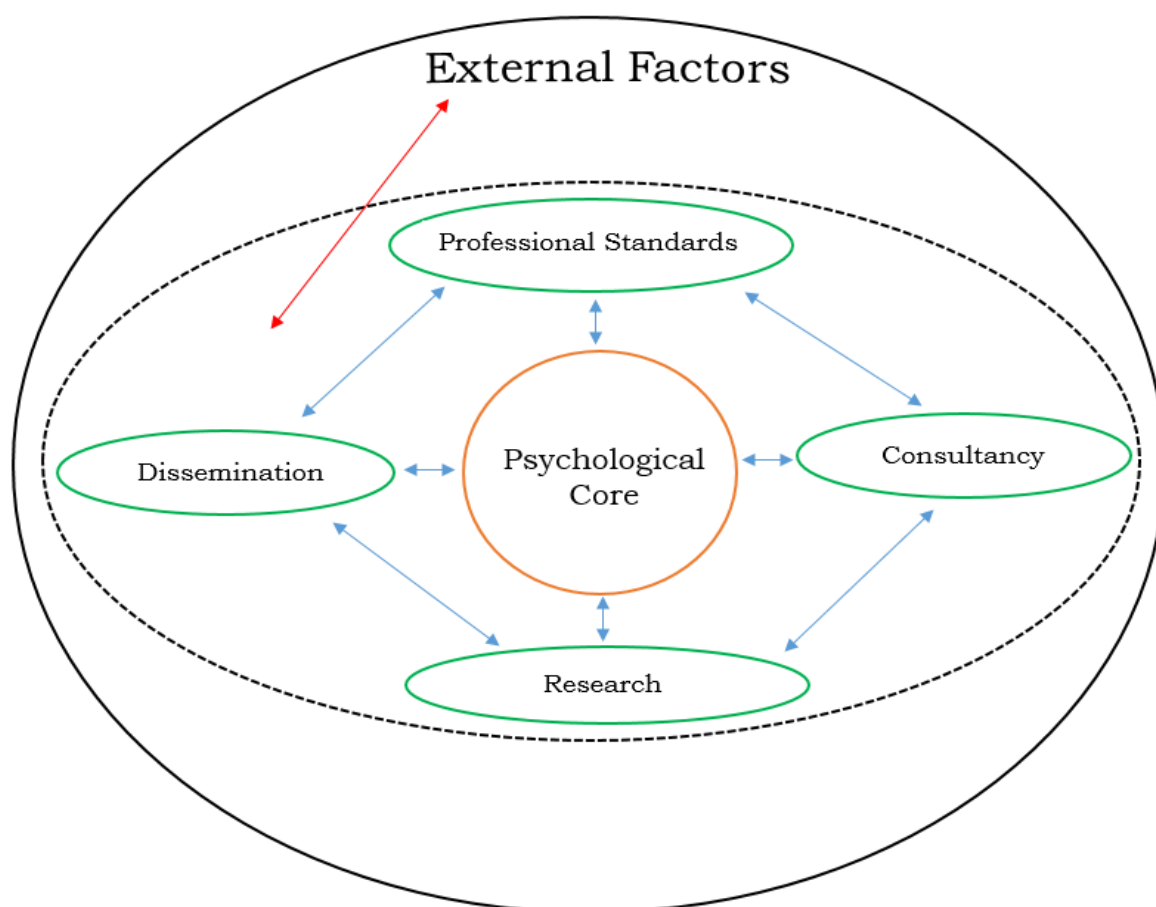
Figure 1: Dynamic view of the interactions between my development in relation to the key roles and other external factors

In this visual representation, I am presenting my meta-reflective view of the interactions between my reflective practice development as a trainee sport and exercise psychologist (involving the 4 programme learning outcomes / key roles) in a dynamic fashion. In the middle of the diagram, the fairly stable and internal psychological core that represents my practitioner identity and its associated core beliefs and values and practice philosophy can be found, constantly influencing, while also being influenced by, the ethics and professional standards, consultancy, research and dissemination that combine to represent me, as an aspiring and competent practitioner psychologist. As an example, one particular area of practice that has developed me as a practitioner is the ethics of working with both adult and young athletes. In the latter group, the safeguarding and care of the young athlete can be more complex, given the additional responsibilities that those in contact with them hold. For example, confidentiality might not always be straightforward (Jenkins, 2010; Tan et al., 2007), especially when parents are involved. The need to ensure that the child athlete is clear about consent and comfortable with sharing session information with their parents or guardians is important to establish. Another area of development for me was to understand both what is being said, and more importantly, what is not (Bradford & Rickwood, 2015). Young athletes tend not to disclose everything they are thinking and feeling, or as clearly on in the same way as adults. It is up to us, as practitioners, to learn how to ethically engage young athletes to help them understand their own reality and improve it (if that is the value based approach of the practitioner), but also to have clear systems in place if there is a need to refer or make alternative ethically informed decisions about a child client.

These interactions are also influencing, and being influenced, by external factors, which 'circles' the relatively stable but diverse settings i.e. systems, environments and cultures that Sport and Exercise Psychology operates within. The dotted semi-circle represents, for me, the interaction between practitioner and work setting, which includes the individualistic nature of different clients within the same setting, or the sub-contexts and sub-cultures that are 'live' within the same setting, both of which (client and context) are transient and dynamic. This representation helps me to consider not just my own 'internal' reality, and

how I operate effectively and continue to develop, but also how the practitioner's interaction with these external factors influences my own effectiveness and development needs. Although the psychological core is quite stable, that doesn't mean that a client who needs a different approach that will work better for them is something I couldn't offer. I am comfortable with the flex required to avoid rigidity to the point of 'paralysis'. This is my self-determined autonomy as a practitioner, where deterministic life experiences (Weissman, 2018) or contexts (external factors) provide enough autonomy to free myself from external artificial attachments and help me to make efficient and effective choices about my practice and where I do it (Habermas, 1971; Gilbourne & Richardson, 2006; Stone, 2009; Carr & Kemmis 1986).

I concluded that, while not excluding myself from working in (professional) sport in the future, work settings and populations that seemed, to me at least, to offer more potential to be accommodating of a holistic approach seemed far more attractive. For me, settings where a practitioner is able to have the freedom and autonomy to allow the nature of the therapeutic relationship to control sessions with clients (instead of being restricted to deliver a sport psychology 'quick-fix' under time and monetary constraints) are far more congruent to my own philosophy of practice at this point. I connected this in my own mind to the 3 psychological needs of SDT (competence, autonomous and relatedness), and how much one's need to feel 1) purposeful, goal directed, competent and self-determined, 2) a sense of belonging or relatedness, and 3) autonomy to be oneself without any external control.

Now, I'm no longer in a constant struggle of whether I align more towards sport or exercise psychology, but rather I'm willing to work in both exercise and sport realms if I see that they align to my 'psychological core'. On the one hand, it would have been nice to feel that I arrived at this point earlier than I did, but practitioner development is not a race and certainly not a sprint! I am glad to say that the academic and personal difficulties and challenges I've encountered over the last 3 years has meant that I've learnt a lot about myself as the Trainee Sport and Exercise Practitioner, and more importantly, about myself as Bernice. Bernice who sees everything as a learning opportunity, who values patience, acceptance, autonomy in

herself and others, who is extremely self-determined, and who, above anything else, learnt the true worth of self-care both for herself and the effect it can have on her clients. It is these same descriptions that inform who I am as a practitioner, because it is when the personal and professional identities of practitioners integrate (Tod et al., 2009) that efficiency and authenticity can be reached, and helps me to see the 'person' behind my 'athlete'. In addition, I have learnt the value of the importance of research evidence informing practice. In some of my early training encounters, I found myself 'solution-eering' a little too quickly; problems where allocated solutions based on my own knowledge of what I thought would work, normally something to do with Mindfulness because that is what I knew. On reflection, this was more about what I knew might work, and a limited 'know' at that, and not about why what works, works! As a better scientist-practitioner than when I started, I have learnt the value of being able to explain and justify what I do by knowing the evidence that supports the efficacy of my intervention, which includes an answer as to how and why it works in theory as well as practice. For me, I see this as one of the key factors that distinguishes qualified Sport and Exercise Psychologists from those who are not appropriately qualified to do the job. An ability to conduct, use and translate current high quality research to inform practice is impossible to do well by those who practice (badly) out of a textbook or from a website.

Due to these influences, I have made the links between myself, my practice and the broader social structures and forces that contribute to my decision making about what jobs I'm willing to work in and what clients I wish to serve (Rønnestad & Skovholt, 2012; Tod, 2017). As a result, I have started to feel more confident to invest in myself (e.g. launching my professional website and collaborating with other people). With this I conclude that trainee practitioners can only develop a coherent and congruent philosophy of practice (Lindsay et al., 2007; Poczwardowski, 2017), when, through the guidance of peer and expert supervision (McEwan et al., 2019), life-long effort is put into understanding one's psychological core, or as Poczwardowski et al., (2004) positioned it, 'the base of the philosophical pyramid'. Because it is only when we understand our deepest selves (Tod et al., 2017; Giacobbi et al., 2005) that we can be in a position to deliver our best authentic service to our clients (Poczwardowski & Sherman, 2011; Risner, 2002).

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Appendices

THE EFFECT OF MINDFULNESS TRAINING ON SPORT INJURY ANXIETY DURING REHABILITATION

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ABSTRACT

Purpose: This study investigated whether mindfulness training can play a role in decreasing sport injury anxiety during rehabilitation.

Methods: Injured participants ($N = 10$) recruited from different sports and quasi-randomly assigned to either a mindfulness intervention group ($n = 5$) or control group ($n = 5$). Both groups completed the Mindfulness Attention and Awareness Scale and the Sport Injury Anxiety Scale pre- and post-intervention, while the intervention group also took part in social validation interviews when the intervention was completed.

Results: The mixed ANOVA indicated that there was a significant interaction effect between group and time for both mindfulness ($p < .01$) and sport injury anxiety ($p < .01$) and also for time ($p < .05$) for both mindfulness and sport injury anxiety. However, there was no main effect for group separately in both mindfulness and sport injury anxiety. Additionally, Awareness, Acceptance and Action were the three super-ordinate themes elicited from the social validation interviews.

Discussion: Following an evaluation of the strengths and weaknesses of this study, the theoretical significance of the results was assessed and the promise for the application of mindfulness training in decreasing sport injury related anxiety during rehabilitation was discussed.

KEY WORDS: Mindfulness Injury Rehabilitation Anxiety Sports

BACKGROUND

Intro

- Mindfulness improves performance (e.g., Jackson & Csikszentmihalyi, 1999; Ravizza, 2002; Aherne et al., 2011; Kee & Wang, 2008; Gardner and Moore, 2007; 2012), aids in reduction of pain sensitivity (Zeidan et al., 2010; Zeidan et al., 2010), decreases injury risk (Ivarsson et al., 2015) and is recommended to support injury rehabilitation (Mosewich et al., 2012, Demarzo et al., 2015)
- Mindfulness on sport injury anxiety during rehab? – only 1 study , very brief educational acceptance-commitment based approach (Mahoney & Hanrahan, 2011).
- CBT vs Mindfulness
- Will a full MAC intervention help?

Emotional Response towards Sport Injury Rehabilitation

- Emotional effects towards injuries (National Center for Injury Prevention and Control, 2000; Williams et al., 2001).
- Psychological distress in returning to sport and rehab adherence (Williams et al., 2001; Mahoney & Hanrahan, 2011).
- Process of Emotions during injury - Hightened distress, decreased distress **and heightened once again** (Morrey et al., 1999; Mahoney & Hanrahan, 2011).
- Emotional coping strategies: avoidance, denial, impaired autonomy, support dissatisfaction and inhibition lead to higher levels of negative emotions such as anxiety.

Mindfulness

- Mindfulness - enhancing current moment awareness (e.g., Jackson &Csikszentmihalyi, 1999; Ravizza, 2002), generating "flow", (e.g., Aherne et al., 2011; Kee & Wang, 2008), increasing attention focus (Gardner and Moore, 2007; 2012).

Athletic Identity

- Mindfulness - self vs self as context (Mahoney & Hanrahan, 2011)
- Psychological flexibility (Arch & Craske, 2008; Hayes et al., 2006).

OBJECTIVES

- To establish whether sport injury related anxiety can be reduced after a full Mindfulness-Acceptance-Commitment (MAC) intervention.
- Potential for the anticipated findings to contribute to knowledge of how Mindfulness may be used as a possible vehicle to successful injury rehabilitation.

METHODS
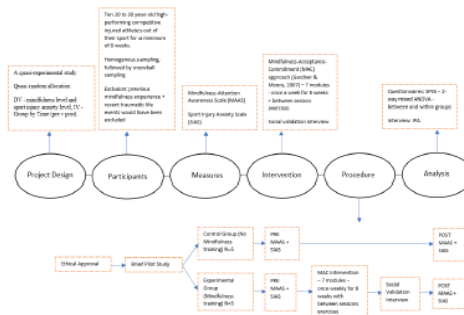
RESULTS

Awareness	Acceptance	Action
Focus	Resilience	Behaviour change
In the moment presence	Meaning/purpose	Adherence to rehabilitation
Concentration and Attention	Patience	Athletic identity

RESULTS

CONCLUSIONS

- Awareness of sample size, heterogeneity and lack of a follow-up session
- Good starting step:
  - MAC training can aide athletes with sport injury related anxiety
  - MAC training can aide psychological flexibility and athletic identity retention
  - MAC training should be part of an athletes' daily training regime
  - MAC training proves to be necessary in sport

Is Mindfulness worthy of all the hype?
Systematic Review and Mapping

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ABSTRACT

Purpose:
- To evaluate the methodological quality of the research conducted on Mindfulness Interventions (MI) among competitive athletes to date, while also, through the use of a systematic map, gaps in existing research literature were identified.

Background:
- Building on the 3 systematic reviews already present on MI in sports, this review provides another viewpoint on the quality of MI studies to date.

Methods:
- Randomised and Non-randomised inclusion criteria: any kind of MI, modified versions of MI, those where an ACT approach was used, as long as, a MI in a sport competitive setting was present. Searches completed through a no of databases, between July-Nov 2017, ending with 23 studies (n = 19,048). Risk of bias was assessed through Downs&Black and Cochrane. Due to the heterogeneity, a narrative review (n = 23) on the quality of studies, alongside a systematic map (n = 17) was carried out.

Conclusions:
- The results have suggested that MI may be of benefit. That said, similar methodological problems emerged, with the additional complexities in defining mindfulness highlighted. Making strong causal claims about the benefits these strategies offer for athletes can be difficult as there's still more room for improvement.

BACKGROUND

Intro
- Mindfulness in different contexts: schools, hospitals, business organisations, and military organisations, with activities such as diet/eating and surgery (e.g. Fernando et al., 2014; Horner et al., 2014; Jha et al., 2015; Schonert-Reichl et al., 2015; Congleton et al., 2015; Godfrey et al., 2015)
- Mindfulness as a 3rd wave CBT
- Athlete as performance vs athlete as a person – PST vs Mindfulness (Gardner & Moore, 2007; Kaufman et al., 2009; Moore, 2009)
- Mindfulness for (a) the non-judging awareness + acceptance of one's internal state, (b) attentional focus to the task at hand, and (c) consistency and effort to one's personal values-driven commitment to behavioural actions (Gardner and Moore, 2012) – more psychological flexibility (Kabat-Zinn, 2003)

Different Interventions
- Different approaches available Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990; 2003), Mindfulness-Based Cognitive Therapy (MBCT; Segal et al., 2002; Teasdale et al., 2003), Acceptance-Commitment Therapy (ACT; Hayes et al., 1999), Mindfulness-Acceptance-Commitment (MAC; Gardner & Moore, 2007) and Mindfulness Sport Performance Enhancement (MSPE; Kaufman et al., 2009) - Similar theoretical underpinning, but differ in practical application

Systematic reviews in the same area
- Three similar systematic reviews have taken place between 2012 till date of study; a narrative review by Gardner and Moore (2012), and a systematic review by Sappington and Longshore (2015) and another one by Noetel et al. (2017)

Current Review
- This review: systematic review alongside systematic mapping with added papers or different outcomes from previous reviews

OBJECTIVES

- To evaluate the methodological quality of the research conducted on mindfulness interventions among competitive athletes to date
- Through the use of a systematic map, identify gaps in existing research literature.

METHODS

Identification
- Records identified through database searching (n = 19,048)
- Additional records identified through other sources (n = 35) thesis, conferences, other

Screening
- Records after duplicates removed (n = 456)
- Papers rejected at title (n = 18,616)
- Records screened (n = 456)
- Records excluded (n = 383)

Eligibility
- Full-text articles assessed for eligibility (n = 73)
- Full-text articles excluded, with reasons (n = 51)
  - 18 = Qualitative
  - 12 = Not competitive athletes
  - 8 = Not a Mindfulness Intervention
  - 8 = No control
  - 4 = 2 or more interventions at once
  - 3 = Full text could not be obtained

Included
- Studies included in qualitative synthesis (n = 23)
- Studies included in systematic mapping (n = 17)

RESULTS

Figure 4 below represents all the outcomes measured in the included studies (listed on the right hand side of the graph in different colours). The bubbles shown on the graph represent each study. The colours of each bubble represents the different outcomes, while the size of the bubble is based according to the pre and post intervention raw scores of the outcomes. The x-axis represent the pre scores, while the y-axis represent the post scores.

Legend: Acceptance and Action, Anxiety, Athlete Burnout, Athlete self-rating: Performance, Athletic Performance, Coach rating: Performance, Cognitive Emotion Regulation, Difficulties: Emotion Regulation, Flow, General Well-Being, Group Environment, Mindfulness, Pessimism, Resilience, Self-Confidence, Thought Suppression, Thoughts During Running
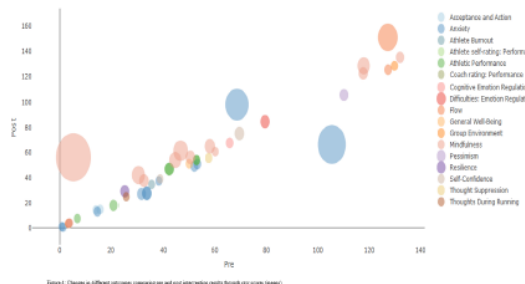
Figure 4: Changes in different outcomes comparing pre and post intervention raw scores through raw scores (means)

CONCLUSIONS

Although Mindfulness interventions still seem to be promising, however awareness of these points are crucial for future research:
- Complexity of Mindfulness definition (abstract) – heterogeneity (scale use, interventions)
- Poor quality of studies (sample sizes, randomization, blinding, unclear details)