



More than mere-mortals?

Investigating the risk and protective factors of depression severity between athletes, retired athletes and the public.

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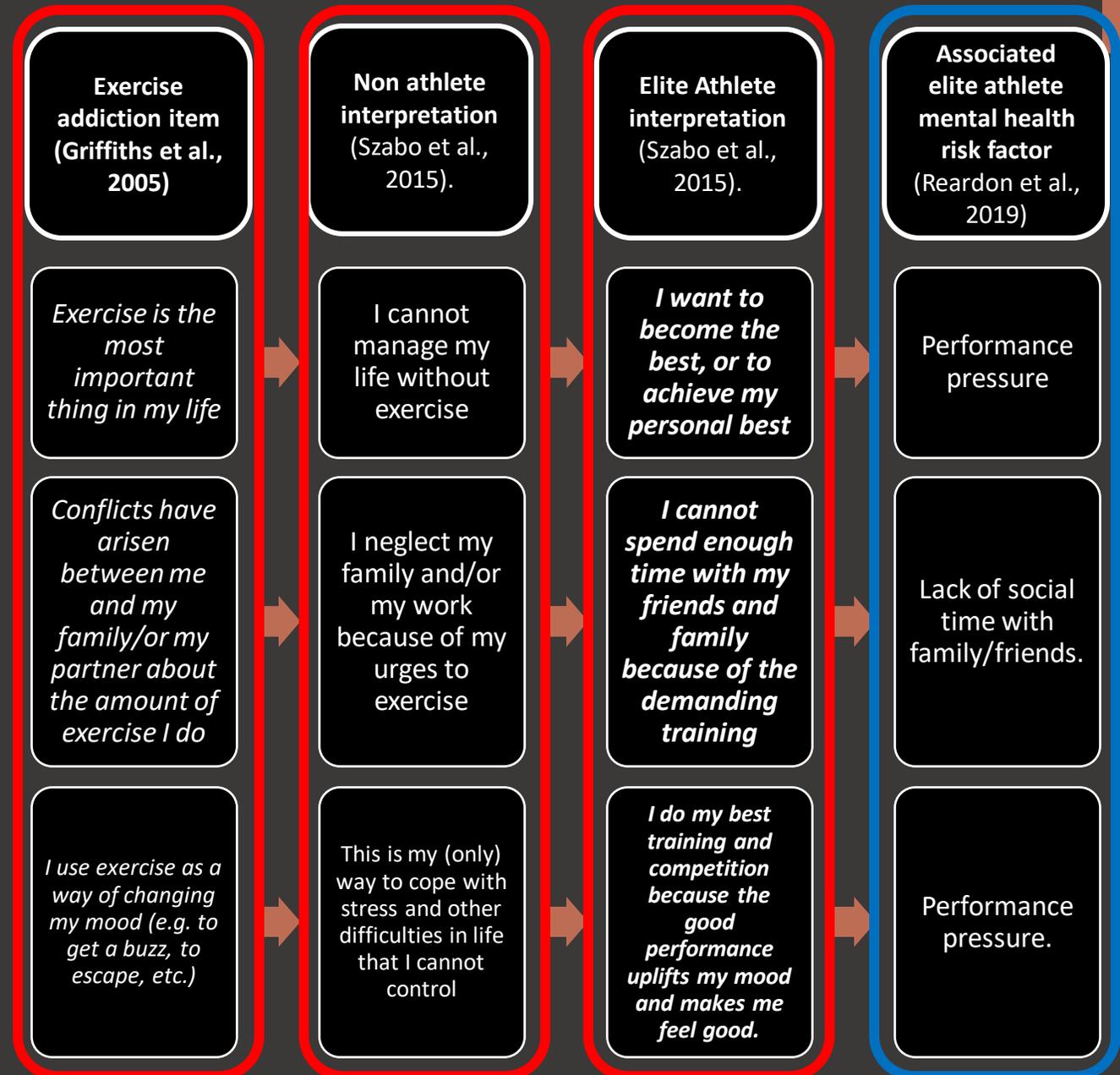


Personal Background

- Clinical Psychology PhD candidate at the School of Health in Social Sciences at the University of Edinburgh.
- Worked with international athletes from both British Canoeing and Canoe Northern Ireland.
- Former British Canoeing Athlete – best result 7th World Championships 2014.
- Drawn to clinical psychology upon realising how common mental health challenges were in my community of athletes and retired athletes.
- This presentation is focused on our study that attempts to make sense of why this might be the case.

The nuances of exercise

- Exercise is considered to be a mental health protective factor, which aids in promoting resilient qualities.
 - Exercise at higher thresholds is associated with exercise addiction, body dysmorphia and increased mental health burden.
- The validity of exercise addiction within athletes has been questioned (Szabo et al., 2015).
- Many of the arguments provided are associated with athlete mental health risk factors in current literature (Reardon et al., 2019).



Why is this relevant?



Prevalence of depression in elite-athletes is 17.8% (Gorczyński et al., 2017). This prevalence increases to 26.4% within retired athletes (Gouttebauge et al., 2019). This prevalence is comparable with the public.



This is despite the affiliation's elite-athletes and retired elite-athletes have with resilience and exercise.



Resilient individuals demonstrate the ability to successfully adapt to adversity through experience and the help of support networks (Fletcher & Sarkar, 2013).



However, too much exposure to adversity is associated with an increased prevalence of mental health difficulties (Schroeder et al., 2017).

Evaluating the different aspects of Resilience

Exposure and experience of adversity; conceptualised here through exposure to stressful life events.



Ability to adapt; conceptualised here through cognitive flexibility.



Strong support network, who can provide required emotional social support.



History of competing at high pressure events.





Hypotheses

1. The levels of depression will be significantly higher in retired athletes compared to athletes and non-athletes.
2. Factors associated with resilience (i.e. Cognitive flexibility, exercise, exposure to stressful life events, emotional social support and athlete status) will be significant in predicting depression severity across athletes, retired athletes and the public.
3. Exercise and exposure to stressful life events will have a U-shaped relationship with depression severity.

Methods

To explore the risk and protective factors, a survey study was conducted. The survey was distributed online via social media, sporting governing bodies and sporting service providers.

Sporting governing bodies and sporting service providers include :

- British canoeing
- English Institute of Sport (EIS)
- British Athletes Commission
- Life After Performance Sport (LAPS)

Measure	Measuring	Author
Patient Health Questionnaire (PHQ-9)	Depression severity	Kroenke et al., (2003)
Emotional Social Support Inventory (ESSI)	Emotional Social Support	Mitchell et al., (2003)
Exercise frequency scale	Estimate of weekly exercise frequency	National Assembly for Wales (1999)
Cognitive flexibility Inventory (CFI)	Adaptive thinking	Dennis and Vander Wall (2009)
	Rigid thinking	
LEC -5	Exposure to stressful life events	Weathers et al., (2013)
Russian invasion of Ukraine	Date of questionnaire initiation, relative to the 24 th of February 2022.	-

Preliminary
Data
(27/04/22):

Population
Demographics
and
corresponding
mean PHQ-9
scores
(depression
severity)

Total
participants:
176

Gender	(n)	Age (mean)	Age (Sd)	Age (range)	PHQ-9 (mean)
Female	74	28.85	7.46	18-50	8.18
Male	97	29.48	8.31	18-69	8.50
Non-binary	5	31.6	14.94	18-56	9.5

Pre Russian invasion of Ukraine (n)	PHQ-9 (mean)	Post Russian invasion of Ukraine (n)	PHQ-9 (mean)
88	7.75	88	9.03

Athlete status	(n)	Gender distribution (F:M:NB)	Age (mean)	Age (Sd)	Age (range)	PHQ-9 (mean)
Elite Athlete	39	13:26:0	25.49	4.97	18-39	10.2
Retired Elite Athlete	50	16:32:2	31.3	9.74	18-69	8.21
Non Elite Athlete	87	45:39:3	29.82	7.82	18-59	7.62

Data modelling

Preliminary data (27/04/22).

Regression analyses and ANOVA model comparison indicate that Athlete status, Gender and ESSI provided no significant change in model performance.

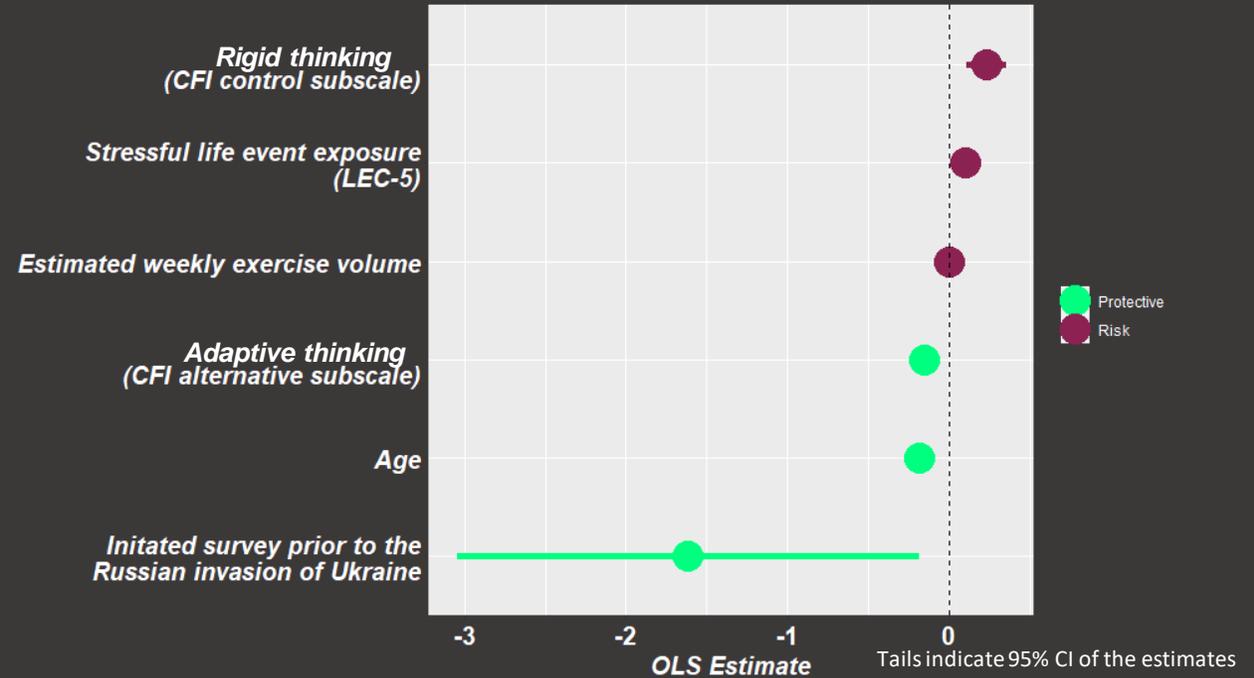
$$(F(5, 169) = 0.84, p = .52).$$

Model fit was optimised when both exercise and LEC-5 event exposure were treated as second order polynomial variables (meaning they have a U-shaped curve).

Optimized linear model of survey data in predicting depression severity

$$(Adjusted R^2 = .35, F(6, 169) = 16.56, p < .0001).$$

Plot displaying the optimised model estimates of the Risk and Protective factors of Major Depressive Disorder



*** = p < .001
 ** = p < 0.01
 * = p < 0.05

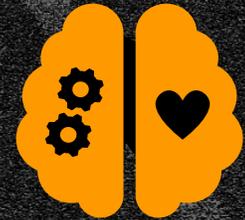
Risk Factors				Protective Factors			
Measure	β	S.E	t-val	Measure	β	S.E	t-val
Exercise ***	.001	.001	3.17	Age ***	-.19	.05	-4.13
Rigid thinking (CFI control subscale) ***	.23	.06	3.75	Adaptive thinking (CFI alternative subscale) ***	-.16	.03	-4.95
LEC-5 event exposure ***	.10	.03	3.93	Initiated survey prior to Russian invasion of Ukraine *	-.61	.73	-2.42

Discussion

Levels of depression within retired athletes were *not* significantly higher than that of athletes and retired athletes. At initial glance, depression severity within athletes was highest (however, this has the confounding variable of age).

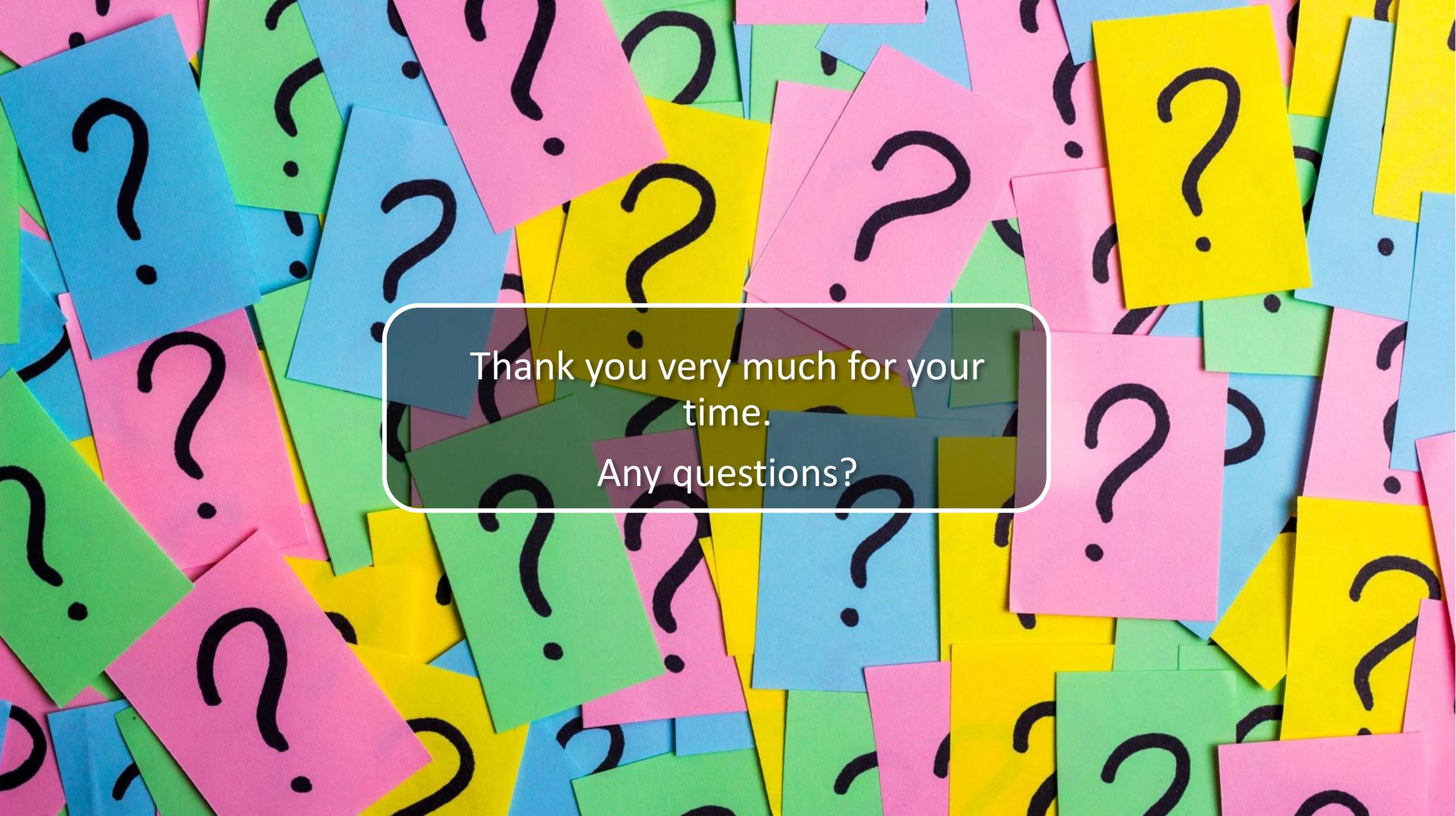


Most of the survey variables associated with resilience (Cognitive flexibility, exercise, exposure to stressful life events) were significant in predicting depression severity. **Athlete status and Emotional social support however was not.**



Exercise and exposure to stressful live events have a U-shaped relationship with depression severity, thus supporting the hypothesis, and stress inoculation theory. Recommendations for exercise based mental health interventions need to consider balance of exercise volume.



The background consists of a dense, overlapping collage of small, rectangular sticky notes in various colors including blue, green, pink, yellow, and light purple. Each sticky note has a large, bold, black question mark printed on it. The notes are scattered across the entire frame, creating a textured and busy visual effect.

Thank you very much for your
time.

Any questions?

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