Supplementary Materials

Measures used

General Health Questionnaire (Goldberg & Hillier, 1979)
The GHQ was used to measure mental health. The scale has 28 items, providing a total score and scaled scores for somatic complaints, anxiety and insomnia, social dysfunction and severe depression. We examined continuous scale scores as well as potential 'caseness', in which those scoring six or more are considered to have a probable mental health disorder. The scale asks 'have you recently' to a number of questions, with Likert scores ranging from zero to three. Example items for the four subscales include 'Been feeling perfectly well and in good health?', 'Been getting scared or panicky for no good reason?', 'Felt on the whole you were doing things well?', and 'Felt that life isn't worth living?', respectively.

Kessler 10 (Kessler et al., 2002)
The K-10 was used to assess psychological distress. The scale has ten items, and the total score was used. The scale asks 'During the past 4 weeks, on a scale of "none of the time" to "all the time", about how often did you feel the following', with Likert scores ranging from one to five. Example items include 'So nervous nothing could calm you down?' and 'So sad that nothing could cheer you up?'

Rosenberg Self-Esteem Scale (Rosenberg, 2015)
The RSES was used to measure self-esteem. The scale has ten items, and the total score was used. The scale provides a number of statements with Likert scores ranging from zero to three. Example items include 'On the whole, I am satisfied with myself' and 'I wish I could have more respect for myself'.

Warwick-Edinburgh Mental Well Being Scale (Tennant et al., 2007)
The WEMWBS was used to measure wellbeing. The scale has 14 items, and the total score was used. The scale asks 'over the last 2 weeks, on a scale of "none of the time" to "all of the time", how often did you feel', with Likert scores ranging from one to five. Example items include 'I've been thinking clearly' and 'I've been feeling close to other people'

Eating Disorders Examination Questionnaire (Fairburn & Beglin, 1994)
The EDEQ was used to measure body via two items ("How dissatisfied have you felt about your weight?" and "How dissatisfied have you felt about your shape?") which were averaged to create a single measure of body dissatisfaction as has been used in multiple studies previously. The scale asks 'The following questions relate to how you have been feeling about your weight and body shape over the past month only', with Likert scores ranging from zero to six.

Alcohol Use Disorders Test (Saunders, Aasland, Babor, De la Fuente, & Grant, 1993)
The AUDIT was used to measure risky alcohol consumption. The scale has ten items, and the total score was used. Each item is a question; examples include 'How often do you have six or more drinks on one occasion?' and 'How often during the last year have you failed to do what was normally expected of you because of drinking?', with Likert scores ranging from zero to four.

Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985).
The SLS was used to measure satisfaction with life. The scale has five items, and the total score was used. The scale provides statements, with Likert scores ranging from one to seven.

Supplementary Materials

Example items include 'In most ways, my life is close to ideal.' and 'If I could live my life over, I would change almost nothing.'

Adverse Life Experiences
Adverse life experiences were assessed over the lifetime and previous year. Thirteen items were included, consisting of 'standard' life event questions and additional events encountered by athletes. Example items include 'I suffered from a serious illness or injury' and 'I was stalked by a fan (a stranger or someone known to you)'. Responses are 'no, never', 'yes', and 'yes, past year'.

Social Support (Purcell, Pathé, Baksheev, MacKinnon, & Mullen, 2012)
Social support was measured using three questions which examined the perceived availability, adequacy, and sources of social support. The first question asks 'Do you have someone who you can discuss your troubles with? (yes/no). The second question asks 'If yes, who is this mainly?', with nine options including family, friend, and sports roles. The final question asks 'Is the amount of support you get from others enough for your needs?', with Likert scores ranging from 1 to seven.

General Help Seeking Questionnaire (Wilson, Deane, Ciarrochi, & Rickwood, 2005)
Help-seeking for a personal or emotional problem was measured by asking 'If you were having a personal or emotional problem, how likely is it that you would seek help from the following people?' with Likert scores ranging from one to seven. Sixteen options were available, including friends, family, medical, community, and sporting positions (e.g., coach or sport psychologist).

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

BMJ Open Sp Ex Med

Supplementary Materials

Supplementary Table 2. Bootstrapped Regression Coefficients with Bias Corrected Accelerated 95% Confidence Intervals, and Bootstrapped

Significance Values for GHQ-28 Severe Depression and Anxiety and Insomnia Sub-scales.

	Severe Depression						Anxiety & Insomnia					
	Men			Women			Men			Women		
	B	BCA 95% CIs	Sig	B	BCA 95% CIs	Sig	B	BCA 95% CIs	Sig	B	BCA 95% CIs	Sig
Step 1	$F_{(4, 226)} = 1.56$, p =.18, $R^2 = .03$, $R^2_{Adjusted} = .01$			$F_{(4, 287)} = 9.60$, p <.001, $R^2 = .12$, $R^2_{Adjusted} = .11$			$F_{(4, 226)} = 1.79$, p = .13, $R^2 = .03$, $R^2_{Adjusted} = .01$			$F_{(4, 287)} = 7.34$, p <.001, $R^2 = .09$, $R^2_{Adjusted} = .08$		
Extra-curricular study	.05	-.57, .65	.90	.22	.22	.22	-.25	-1.42, .93	.67	.22	-.96, 1.32	.70
Extra-curricular work	-.66	-1.52, .01	.08	.17	.17	.17	.35	-.82, 1.54	.54	.17	-.89, 1.32	.76
Previous concussion	.18	-.88, 1.58	.80	-.03	-.79, .77	.93	.28	-1.40, 1.94	.73	.55	-.82, 1.82	.46
Recent psychological Treatment	.92	-.32, 2.55	.22	2.42	1.49, 3.34	.00	2.53	.18, 4.97	.04	3.16	1.98, 4.31	.00
Step 2	$F_{(13, 217)} = 9.96$, p <.001, $R^2 = .37$, $R^2_{Adjusted} = .34$, $\Delta R^2 = .35$			$F_{(13, 278)} = 15.44$, p <.001, $R^2 = .42$, $R^2_{Adjusted} = .39$, $\Delta R^2 = .30$			$F_{(13, 217)} = 10.53$, p <.001, $R^2 = .39$, $R^2_{Adjusted} = .35$, $\Delta R^2 = .36$			$F_{(13, 278)} = 12.52$, p <.001, $R^2 = .37$, $R^2_{Adjusted} = .34$, $\Delta R^2 = .28$		
Extra-curricular study	-.07	-.65, .42	.79	.03	-.60, .64	.94	.29	-.72, 1.34	.55	.49	-.45, 1.41	.31
Extra-curricular work	-.12	-1.33, -.15	.03	-.04	-.73, .57	.91	.13	-.83, 1.14	.80	-.02	-.94, .86	.96
Past concussion	.27	-.78, 1.43	.61	-.28	-1.07, .46	.45	-.20	-1.68, 1.30	.78	-.12	-1.28, .99	.84
Recent psychological treatment	.65	-.45, 1.86	.32	1.02	.144, 1.93	.02	2.28	.44, 4.14	.03	1.04	-.35, 2.35	.10
Body dissatisfaction	-.09	-.26, .09	.30	.15	-.02, .32	.06	.33	.04, .61	.03	.12	-.14, .37	.37
Alcohol use	.02	-.05, .09	.59	.08	-.03, .2	.20	.09	-.03, .23	.17	.23	.09, .41	.01
Self-esteem	-.29	-.39, -.16	.00	-.24	-.32, -.15	.00	-.20	-.35, -.04	.01	-.27	-.38, -.16	.00
Satisfaction with social support	.05	-.23, .29	.73	-.33	-.61, -.03	.03	-.50	-1.04, -.03	.05	-.68	-1.12, -.30	.00
Financial hardship	1.61	.60, 2.52	.01	-.12	-1.03, .73	.78	1.93	.60, 3.27	.01	.22	-.94, 1.49	.68
Experienced discrimination	1.48	.15, 2.95	.04	1.26	.37, 2.13	.01	1.00	-.93, 2.94	.30	-.32	-1.66, 1.13	.64
Social media abuse	.73	-.65, 2.30	.35	.59	-.25, 1.13	.23	2.00	.14, 3.81	.04	.66	-.82, 2.08	.39
Felt undervalued	-1.06	-1.94, -.27	.02	.45	-.35, 1.25	.30	.83	-.40, 2.08	.19	1.21	-.04, 2.39	.05
Uncertainty with Financial Support	.19	-.54, .93	.61	-.66	-1.44, .07	.07	1.11	-.17, 2.40	.08	.28	-.79, 1.34	.59

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

BMJ Open Sp Ex Med

Supplementary Materials

Supplementary Table 3. Bootstrapped regression coefficients with bias corrected accelerated 95% confidence intervals, and bootstrapped

significance values for GHQ-28 somatic complaints and social dysfunction sub-scales.

	Somatic Complaints						Social Dysfunction					
	Men			Women			Men			Women		
	B	BCA 95% CIs	Sig	B	BCA 95% CIs	Sig	B	BCA 95% CIs	Sig	B	BCA 95% CIs	Sig
Step 1	$F_{(4, 226)} = 3.32$, p =.01, $R^2 = .06$, $R^2_{Adjusted} = .04$			$F_{(4, 287)} = 5.24$, p <.001, $R^2 = .07$, $R^2_{Adjusted} = .06$			$F_{(4, 226)} = 2.60$, p =.04, $R^2 = .04$, $R^2_{Adjusted} = .03$			$F_{(4, 287)} = 3.93$, p = .00, $R^2 = .05$, $R^2_{Adjusted} = .04$		
Extra-curricular study	.18	-.73, 1.02	.70	.21	-.69, 1.06	.65	-.16	-.89, .42	.64	-.23	-.86, .39	.49
Extra-curricular work	.65	-.19, 1.54	.13	.61	-.25, 1.50	.17	-.55	-1.19, .07	.09	-.28	-.95, .35	.42
Previous concussion	1.76	.29, 3.50	.04	.84	-.13, 1.80	.10	1.09	.29, 1.94	.02	.30	-.51, 1.25	.47
Recent psychological Treatment	1.69	-.03, 3.56	.05	1.86	.93, 2.98	.00	-.89	-2.02, .29	.13	1.39	.64, 2.16	.00
Step 2	$F_{(13, 217)} = 8.14$, p <.001, $R^2 = .33$, $R^2_{Adjusted} = .29$, $\Delta R^2 = .27$			$F_{(13, 278)} = 9.00$, p <.001, $R^2 = .30$, $R^2_{Adjusted} = .26$, $\Delta R^2 = .23$			$F_{(13, 217)} = 4.52$, p <.001, $R^2 = .21$, $R^2_{Adjusted} = .17$, $\Delta R^2 = .17$			$F_{(13, 278)} = 8.33$, p <.001, $R^2 = .28$, $R^2_{Adjusted} = .25$, $\Delta R^2 = .23$		
Extra-curricular study	.38	-.42, 1.08	.34	.46	-.35, 1.24	.24	-.16	-.87, .47	.66	-.12	-.73, .46	.72
Extra-curricular work	.50	-.22, 1.20	.22	.34	-.46, 1.27	.38	-.65	-1.26, -.04	.05	-.45	-1.00, .12	.14
Past concussion	1.33	.21, 2.60	.04	.36	-.63, 1.40	.45	.89	.11, 1.65	.02	-.04	-.81, .68	.92
Recent psychological treatment	1.52	.23, 2.92	.03	.43	-.52, 1.50	.36	-1.05	-2.21, .05	.06	.29	-.46, 1.06	.45
Body dissatisfaction	.23	-.02, .49	.09	.14	-.07, .34	.17	.08	-.17, .31	.47	.05	-.10, .21	.52
Alcohol use	.03	-.07, .15	.52	.14	.01, .27	.03	.01	-.06, .31	.85	.09	-.01, .19	.09
Self-esteem	-.13	-.25, -.007	.02	-.14	-.23, -.06	.00	-.15	-.27, -.03	.01	-.17	-.23, -.10	.00
Satisfaction with social support	-.30	-.65, .02	.13	-.56	-.94, -.16	.00	-.20	-.59, .14	.28	-.35	-.62, -.08	.01
Financial hardship	.61	-.53, 1.75	.27	.41	-.58, 1.41	.41	.62	-.22, 1.40	.15	.48	-.38, 1.19	.36
Experienced discrimination	1.53	-.03, 3.08	.05	.58	-.58, 1.77	.32	-.04	-1.40, 1.40	.95	.40	-.38, 1.19	.38
Social media abuse	2.84	1.24, 4.43	.01	-.07	-1.13, .93	.91	1.38	.08, 2.80	.08	-.60	-1.55, .28	.26
Felt undervalued	-.12	-1.32, 1.04	.83	.81	-.15, 1.75	.09	-.18	-.99, .60	.65	.45	-.26, 1.14	.26
Uncertainty with Financial Support	.83	-.24, 1.90	.15	.38	-.38, 1.20	.39	-.17	-.92, .49	.63	.31	-.48, 1.09	.41

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

BMJ Open Sp Ex Med

Supplementary Materials

Supplementary Materials

References

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *J Pers Assess, 49*(1), 71-75. doi:10.1207/s15327752jpa4901_13

Fairburn, C. G., & Beglin, S. J. (1994). Assessment of eating disorders: interview or self-report questionnaire? *Int J Eat Disord, 16*(4), 363-370.

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychol Med, 9*(1), 139-145. doi:10.1017/s0033291700021644

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., . . . Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychol Med, 32*(6), 959-976. doi:10.1017/s0033291702006074

Purcell, R., Pathé, M., Baksheev, G. N., MacKinnon, A., & Mullen, P. (2012). What mediates psychopathology in stalking victims? The role of individual-vulnerability and stalking-related factors. *The Journal of Forensic Psychiatry & Psychology, 23*(3), 361-370. doi:10.1080/14789949.2012.679007

Rosenberg, M. (2015). *Society and the adolescent self-image*: Princeton university press.

Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction, 88*(6), 791-804.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., . . . Stewart-Brown, S. J. H. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcomes, 5*(1), 63.

Wilson, C. J., Deane, F. P., Ciarrochi, J. V., & Rickwood, D. (2005). Measuring help seeking intentions: properties of the general help seeking questionnaire. *Canadian Journal of Counselling*.