

The relationships between psychological flexibility, self-compassion, and mental illness of Japanese Athletes: A large-scale cross-sectional web-based survey

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Introduction:

- Recently, there has been growing interest in athletes' mental illnesses (Reardon et al., 2019). However, only a few studies have investigated mental illnesses among athletes or demonstrated the applicability of cognitive behavioral therapy for athletes' mental illnesses. According to Ekelund, Holmström, and Stenling (2022), evidence of third-wave cognitive behavioral therapies for athletes is essential for expanding psychological support for them.
- The study examined the relationship between athletes' mental illness, psychological flexibility, and self-compassion.

Methods:

- Respondents: athletes ($N = 2415$, 1229 men and 1186 women, mean age = 27.88 years, $SD = 6.59$).
- We defined "athletes" as those who are currently in company or organization teams (businessmen's teams), amateur club teams, or university extracurricular activities (excluding association) as an athlete and participating in games and official competitions.
- The main sports of this study's participants were soccer ($N = 211$), baseball ($N = 194$), tennis ($N = 151$), volleyball ($N = 122$), track and field ($N = 122$), basketball ($N = 116$), and others ($N = 1499$).
- Scales: 1. Japanese version of the Patient Health Questionnaire-9 (PHQ-9: Muramatsu, 2018)
2. The Japanese version of the Generalized Anxiety Disorder-7 (GAD-7: Muramatsu, 2018)
3. The Athens Insomnia Scale Japanese version (AIS-J: Okajima et al., 2013)
4. The Japanese version of the Alcohol Use Disorders Identification Test (AUDIT: Hiro, 2000)
5. The Japanese version of the Eating Disorder Diagnostic Screen-DSM-5 version (EDDS: Kuribayashi et al., 2021)
6. The Japanese version of the Acceptance and Action Questionnaire-II (AAQ-II: Shima et al., 2013)
7. The Japanese version of the Cognitive Fusion Questionnaire (CFQ: Shima et al., 2016)
8. The Japanese version of the Self-Compassion Scale (Arimitsu, 2014).

Results:

Table 1 Multiple regression analysis with psychological flexibility as a predictor variables ($N = 2415$).

Predictor	PHQ-9			GAD-7			AIS-J			AUDIT			EDDS			VIF
	B	β	Adj. R^2	B	β	Adj. R^2	B	β	Adj. R^2	B	β	Adj. R^2	B	β	Adj. R^2	
(Constant)	.67		.38	-.59		.42	1.34		.36	1.55		.12	.033		.26	
AAQ-II	.16	.28***		.13	.27***		.14	.27***		.15	.20***		.37	.21***		3.92
CFQ	.21	.37***		.19	.40***		.17	.35***		.11	.16***		.55	.32***		3.92

Table 2 Multiple regression analysis with self-compassion as a predictor variables ($N = 2415$).

Predictor	PHQ-9			GAD-7			AIS-J			AUDIT			EDDS			VIF
	B	β	Adj. R^2	B	β	Adj. R^2	B	β	Adj. R^2	B	β	Adj. R^2	B	β	Adj. R^2	
(Constant)	.85		.26	-.55		.27	.96		.24	.76		.08	-.99		.18	
Self-kindness	-.06	-.05		-.03	-.03		.06	.06		.10	.07*		-.14	-.04		3.04
Self-Judgment	.28	.26***		.24	.27***		.23	.26***		.17	.13**		.35	.11**		4.96
Common Humanity	.18	.13***		.10	.08**		.11	.09**		.21	.12**		.52	.12***		3.14
Isolation	.35	.25***		.25	.22***		.20	.17***		.19	.11**		1.05	.25***		4.11
Mindfulness	-.17	-.12***		-.08	-.07*		-.14	-.12**		.00	.00		-.12	-.03		3.63
Over-identification	.05	.03		.08	.07		.08	.07		-.16	-.10*		.19	.05		4.58

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion:

Cognitive fusion positively affects athletes' anxiety, depression, sleep problems, and eating disorders (Table 1). Moreover, the results suggested that self-judgments, common humanity, and isolation might be effective key points for improving athletes' mental illnesses (Table 2). Finally, we suggest that more validation of impacts of Acceptance and Commitment Therapy and Compassion Focused Therapy for treating athletes' mental illnesses in the future studies.

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