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Introduction

The International Olympic Committee Mental Health Working Group (IOC MHWG) developed the Sports Mental Health Assessment Tool 1 (SMHAT-1) in 2020. It consists of a triage tool (The Athlete Psychological Strain Questionnaire, APSQ) and six screening instruments related to common mental health symptoms experienced by elite sports athletes. The SMHAT-1 aims to better detect and identify mental health symptoms and disorders experienced by elite athletes during their career development and to ensure that elite athletes at risk can receive support and treatment in a timely manner. Until now, of the questionnaires included in the SMHAT-1, only the anxiety (GAD-7) and depression (PHD-9) questionnaires have been tested for reliability and validity in the Chinese population. By translating and validating the remaining questionnaires, colleagues from the Sport Psychology Centre intend to better implement the SMHAT-1 within Chinese elite athlete populations.

Methodology

Measurements: The following items were examined: ten items from the Athlete Psychological Strain Questionnaire (APSQ); five items from the Athlete Sleep Screening Questionnaire (ASSQ); nine items from the Brief Eating-Disorder in Athletes Questionnaire (BEDA-Q); three items from the Alcohol Use Disorders Identification Test-Concise (AUDIT-C); and four items from the Cut, Annoyed, Guilty, and Eye-opener Questionnaire Adapted to Include Drug Use (CAGE-AID).

Participants: To ensure a sufficient sample size, the Sport Psychology Centre recruited 1,043 current athletes, between 10 and 30 years old from different provincial teams in Mainland China. A total of 21 sports were included.

Data Analysis: The study was carried out on an electronic platform. After data entry and processing, SPSS 22.0 was used to test the reliability of the questionnaires and AMOS 20.0 was used to perform confirmatory factor analysis on the results of the questionnaires.

Results

Reliability: The internal consistency of the Athlete Psychological Strain Questionnaire (APSQ) was very high, 0.90; the internal consistency coefficients for the Athlete Sleep Screening Questionnaire (ASSQ) and the Alcohol Use Disorders Identification Test-Concise (AUDIT-C) were acceptable, 0.714 and 0.769 respectively; the internal consistency coefficients for the Brief Eating-Disorder in Athletes Questionnaire (BEDA-Q) and the Cut, Annoyed, Guilty, and Eye-opener Questionnaire Adapted to Include Drugs Use (CAGE-AID) were 0.618 and 0.680 respectively, both of which were relatively low and require improvement.

Validity: The hypothetical models of the five questionnaires fit with the sample data well, indicating that the questionnaires had good structural validity. See Table 1 for details.

Conclusion

The preliminary reliability and validity results for the IOC SMHAT-1 generally support the implementation of the tool for Chinese athletes, with some of the assessment tools requiring further revision and improvement.

Table 1. Structural validity of IOC Sports Mental Health Assessment Tool 1

Goodness of fit	Goodness of fit critical value	APSQ	ASSQ	AUDIT-C	BEDA-Q	CAGE-AID
Chi-square		79.019	5.103	0.000	9.737	0.743
Absolute Goodness-of-Fit Indices						
CMIN/df	< 3.00	2.634	1.276	/	2.434	0.743
RMSEA	< 0.08 Reasonable < 0.05 Excellent	0.044	0.018	0.561	0.042	.000
GFI	> 0.90	0.982	0.998	1.000	0.996	1.000
Incremental Goodness-of-Fit Indices						
NFI		0.978	0.995	1.000	0.993	0.999
RFI		0.966	0.987	/	0.973	0.993
IFI	> 0.90	0.986	0.999	1.000	0.996	1.000
TLI		0.979	0.997	/	0.984	1.000
CFI		0.986	0.999	1.000	0.996	1.000