RESEARCH HIGHLIGHTS

Reliability and Validity of Applying the SMHAT-1 (Chinese Version) to Hong Kong Elite Athletes

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Introduction

In 2021, the Sports Psychology Centre translated the Chinese version of the Sports Mental Health Assessment Tool 1 (SMHAT-1) developed by the International Olympic Committee Mental Health Working Group and tested it on athletes in mainland China. The results showed that the hypothetical models fit the sample data of the five questionnaires well. Therefore, the Sports Psychology Centre used the main questionnaire in the SMHAT-1 to assess the elite athletes of the Hong Kong Sports Institute and tested the reliability and validity of the obtained results.

Methodology

Measurements : The 10-item Athlete Psychological Strain Questionnaire (APSQ), 5-item Athlete Sleep Screening Questionnaire (ASSQ), 9-item Brief Eating Disorder in Athletes Questionnaire (BEDA-Q), 7-item Generalized Anxiety Disorder (GAD-7) scale and 9-item Patient Health Questionnaire (PHQ-9).

Participants : The respondents were selected from the Hong Kong Sports Institute and comprised 735 active elite athletes spanning 33 sports. The sample size was adequate for the purpose of the study.

Data Analysis : The survey used paper questionnaires. After the data were inputted and sorted, a reliability test of the questionnaire and a descriptive analysis of the athletes' mental health were conducted using IBM SPSS Statistics version 22.0, and the factor structure of the questionnaire was extracted using IBM SPSS Amos version 20.0.

Results

Reliability and Validity : In this survey, the items of the five questionnaires were well differentiated. The internal consistency coefficient of the GAD-7 scale was 0.907, which is very good; those of the PHQ-9, the APSQ and the BEDA-Q were 0.842, 0.822 and 0.759, respectively, with good reliability; and that of the ASSQ was 0.612, which is relatively low, but still adequate for application. The hypothetical models of the five questionnaires fit the sample data well, indicating that the structure validity of the questionnaires is good (see Table 1 for details).

Conclusion

This psychometric examination provides further support for applying the key questionnaires in the SMHAT-1 to Chinese (including Hong Kong) athletes. It is an important finding that paves the way for a regular mental health screening project including early identification and timely intervention. Next, some more revision can be examined for ASSQ, while the suitability and psychometric quality of other SMHAT-1 questionnaires in the Hong Kong sample can be investigated.

	Cronbach's α	Overall fit coefficient				
		X^2/df	RMSEA	IFI	TLI	CFI
APSQ	0.822	2.186	0.040	0.979	0.970	0.979
PHQ-9	0.842	10.459	0.114	0.881	0.842	0.880
GAD-7	0.907	5.624	0.079	0.978	0.967	0.978
ASSQ	0.612	8.224	0.099	0.928	0.855	0.927
BEDA-Q	0.759	4.128	0.065	0.980	0.963	0.980

Table 1. Results of the reliability and validity tests for five questionnaires