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Validation of the Expectancy-Value Questionnaire in Sport among Chinese High School Campus Football Players

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ABSTRACT

Guided by the Expectancy-Value Theory (EVT), this study aimed to test the reliability and validity of the Chinese version of the Expectancy-Value Questionnaire (EVQ) among Chinese high school campus football players. A proportionate stratified random sampling method was adopted, and a total of 385 high school campus football players were selected as the sample (228 boys and 157 girls; M_{age} = 16.07 years; SD = 1.15; age range = 14–19 years). Using SPSS 25 and Amos 24 software, confirmatory factor analysis was conducted with the maximum likelihood estimation method. The results showed that the four constructs (i.e., expectancy beliefs, attainment value, intrinsic value, and utility value) had a good fit with the sample data, and all indicators met the requirements of convergent validity. Moreover, expectancy beliefs and subjective task values exhibited good discriminant validity, while the three sub-dimensions of task values (i.e., attainment value, intrinsic value, and utility value) lacked discriminant validity. Furthermore, the second-order model with task values as a higher-order factor demonstrated an excellent fit, supporting its use in measuring subjective task values in campus football scenarios. This study provides a valid and reliable Chinese version of the EVQ for this population, enriches the cross-cultural empirical evidence for EVT, and offers practical implications for improving the motivation of campus football players. Future studies can be improved by expanding the sample (e.g., covering diverse ages and regions)

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and adopting a longitudinal design to enhance the generalizability of conclusion.

Keywords: Expectancy-Value Questionnaire; Expectancy Beliefs; Subjective Task Values; Confirmatory Factor Analysis; Football Players

1. Introduction

Over the years, the Chinese government has placed a great emphasis on the development of football, providing it with strong, sustained support. Since 2015, Chinese government has formulated a Mid- and Long-term Development Plan for Chinese football (2016-2050), expecting to increase the scale of youth football participation through the campus football model, so as to improve the popularization and competitive level of football[1]. The campus football model emphasizes integrating football training into school physical education, establishing a tiered competition system, and strengthening teacher training to promote youth participation in football. Unfortunately, it is found that teenagers can maintain high enthusiasm in the early stage of participating in football, but such enthusiasm is not lasting, and a considerable number of high school students have the phenomenon of enthusiasm fading or even premature disengagement[2]. Relevant theories and research processes have shown that expectancy-value motivation, which underpins achievement performance and choice, acts as a key individual cognitive factor that facilitates athlete engagement[3–7]. However, there is currently a lack of an adapted and validated Chinese EVQ, hindering effective assessment of adolescents' football-related expectancy beliefs and subjective task values in Chinese campus football. In view of this, the present study aims to test the validity of the Expectancy-Value Questionnaire (EVQ) in the Chinese cultural context and investigate expectancy beliefs and subjective task values of high school football players participating in campus football activities.

The Expectancy-Value Theory (EVT) , originally proposed by Eccles et al.[8], aims to explain the behavior of individuals who choose and continue to participate in a certain activity[4,9,10]. Eccles et al.[8] proposed that individuals are more likely to choose and continue to participate in a task or activity when they believe that they can achieve a high sense of achievement, believe that they can complete the task, that the task itself has value, and that the cost and effort required to complete the task are relatively small. Individual expectations and values have been suggested as useful frameworks for predicting physical activity behavior, and these have been supported by evidence from previous studies[5,11–14]. Additionally, Eccles and Wigfield have recently introduced a situational expectation-value model (SEVT)[4,9]. To facilitate a comprehensive understanding of this model and its associated research, various aspects have been explored in multiple studies. Overall, according to EVT, an individual's achievement outcomes are primarily shaped by two core factors: expectancy-related beliefs and subjective task values[4,8,9]. To put it more plainly, expectancy beliefs primarily refer to "Could I do the task?" while subjective task values mainly refer to "Do I want to do the task and why?"[15].

Expectancy beliefs refer to an individual's perception of his or her ability to accomplish a task in the near future[8]. Eccles et al.[8] conceptually distinguished two dimensions of expectancy beliefs: expectancies for success (i.e., individuals' beliefs about behaviors leading to success) and competence beliefs (i.e., individuals' perceived ability in various areas relative to others). Unlike the self-perception of ability in a specific domain and the perception of task difficulty, this perception of ability is not limited to a single specific task, but constitutes a relatively broad judgment of one's overall competence in a given domain[9]. It is worth noting that, due to the high correlation of these constructs in factor analyses, they are often treated as a single construct self-concept of domain-specific ability in empirical research to avoid multicollinearity[9]. The expectancy variable is conceptually similar to self-efficacy as both reflect beliefs about one's own ability, while self-efficacy is typically anchored in very specific tasks (e.g., playing football) and independent of others' performance[16], whereas expectancy beliefs encompass broader domain-specific competence judgments including social and cross-domain comparisons[9]. In the present study, expectancy beliefs are described as an integrated construct of individuals' self-concept of athletic ability and success expectations, specifically measuring individuals' current athletic ability, athletic ability in social comparison,

cognitive perceptions of athletic ability via cross-domain comparison, and expectations for future sports performance and skill learning [17,18].

Subjective task value refers to different individuals assigning different values to the same task [8]. It consists of four components: "intrinsic value, utility value, attainment value, and cost" [9]. Among them, attainment value refers to the significance and satisfaction that an individual derives from completing the task. Intrinsic value refers to the pleasure derived from completing the activity. Utility value describes how helpful and meaningful a task or activity is to its future plans. Cost refers to the cost of taking into account the effort and emotion required to participate in an activity. Furthermore, Part et al. [19] demonstrated that subjective task value comprises a general subjective task value factor and six specific dimensions: attainment value, intrinsic value, and utility value (categorized as value beliefs), as well as effort cost, opportunity cost, and psychological cost (categorized as costs). However, existing empirical studies reveal that the factor structure of subjective task value is not fixed or uniform and may vary across research contexts [20–22]. Although Eccles and Wigfield [23] identified cost as the fourth component of task value and defined it as the negative aspects of task engagement, this construct has rarely been directly measured via the EVQ in sports-related domains [15,24–27]. In this study, subjective task values refer to how much individuals value a particular task, how much they enjoy completing it, how it fits in with their further planning, and will be measured using the STV questionnaire [28].

As a core instrument rooted in the EVT for measuring individuals' expectancy beliefs and subjective task values, the EVQ has been tested and researched across multiple countries and different domains. However, previous relevant studies have mainly focused on the context of primary and secondary school physical education [24,25,27], with only a limited number of studies examining the validity of the EVQ in the sports domain [22,26]. Specifically, as previous research has indicated, expectancy beliefs interact with subjective task values to shape achievement-related outcomes, while also being shaped by socialization processes, attributional patterns, and cultural contexts [4,8–10,17,29]. Furthermore, these studies generally support the rationality of the 4-factor structure, which includes expectancy beliefs, attainment value, intrinsic value, and utility value, and have found that the EVQ exhibits measurement invariance across different school stages and gender groups. Additionally, Zhu et al. [24] validated the expectancy belief and task value construct of the expectancy-value model in the field of primary and secondary school physical education. Taken together, existing EVQ testing studies provide instrumental support for the application of EVT in sports-related domains, while also highlighting the future research direction of deepening the adaptability testing of the EVQ in sport-specific contexts.

Within the Chinese sociocultural context, previous studies have examined the validity of the EVQ in Hong Kong and Taiwan, China. For example, Pang and Ha [15] verified the Chinese version of the scale that measures the subjective task value of Hong Kong schoolchildren physical activity participation; Liao [22] developed a Chinese version of expectancy and value beliefs scale in sport for children and adolescents. To date, little research has focused on developing and validating tools for assessing adolescents' expectancy-related beliefs and task values in Chinese campus football programs. Therefore, based on the expectancy-value model and related research [4,8–10,17,24], this study proposes a hypothesized measurement model for assessing football-related expectancy beliefs and subjective task values. Guided by the EVT, the present study aims to preliminarily test the reliability and validity of the EVQ among Chinese high school football players. This effort not only seeks to fill the critical practical gap by providing a psychometrically sound instrument for assessing the expectancy-related beliefs and subjective task values of players in Chinese campus football, but also seeks to contribute valuable empirical evidence to validate the cross-cultural reliability and validity of the EVQ, thereby enhancing the generalizability of EVT in different sport contexts.

2. Method

2.1. Participants

The survey sample for this study comprises 385 high school football players recruited from 45 high schools with football programs across 8 administrative regions of Zhaoqing City, China. Among these 45 schools, 36 are academic high schools and 9 are vocational high schools. Notably, all 45 schools maintain boys' football teams, while 27 of the academic high schools further have established girls' football

teams; this results in a total of 72 eligible football teams for sampling. In the specific sampling procedure, the research team followed methodological guidelines from Krejcie and Morgan [30], who developed a widely used framework for determining sample sizes in given population surveys, and Hair et al. [31], who emphasized sample size sufficiency for complex statistical analyses like structural equation modeling (SEM). Based on these recommendations, a proportionate stratified random sampling method was adopted to randomly select 20 football teams from the 72 eligible ones, and a final sample of 385 players (M_{age} = 16.07 years; SD = 1.15) was confirmed. In general, the sample size of this study can not only meet the needs of SEM analysis and oversampling suggestions, but also adequately represent the population given in this study.

2.2. Instruments

The Expectancy-Value Questionnaire (EVQ), originally developed by Eccles and her colleagues [8,17,29], was later further adapted and applied to the field of sports by researchers including Stuart [32] and Fredricks and Eccles [18], evolving into a widely used instrument for assessing students' expectancy beliefs and subjective task values in sport. The questionnaire utilized in the analysis of this study comprises 11 items, all derived from the expectancy belief and task value scale adapted by Stuart [28] and Fredricks and Eccles [18]. These items encompass domain-specific content constructed on theoretical foundations: 5 items are used to measure expectancy-related beliefs, and 6 items are employed to assess subjective task values. Among these components, subjective task values are further divided into three dimensions, namely attainment value, intrinsic value, and utility value, with each dimension consisting of 2 items. All items are specifically designed for the sports domain, and responses are collected using a 7-point Likert scale (see **Appendix A**). The psychometric properties of this questionnaire and its respective subscales have been confirmed by existing studies [22,28], with reliabilities ranging from 0.90 to 0.94 across the subscales.

2.3. Procedures

This study followed a structured research process to ensure methodological validity and ethical compliance. First, based on the back-translation method [33,34], the original EVQ was translated into Chinese by an experienced Chinese sports psychologist and three PhDs in the sports field, then back-translated by two bilingual translators; after evaluating and confirming the equivalence between the original and back-translated items, a pilot study involving 30 high school football players was conducted to assess content validity. Next, closed-ended self-reported questionnaires were adopted for data collection, with the study strictly following the standardized research procedures and ethical guidelines proposed by Creswell [35]. Specifically, the researcher first completed background verifications and obtained approval from the Research Ethics Committee of Sultan Idris Education University, then secured permission from district education bureaus and school principals, and gained the support of football coaches. Prior to data collection, participants were provided with study information sheets, and all data were stored securely; after obtaining written consent from both participants and their parents via consent forms, sealed questionnaires were distributed, brief explanations of the survey were provided to participants, and the questionnaires were collected in person by the researcher upon completion, followed by expressions of gratitude to the participants.

2.4. Data Analysis

To explore the factor structure of items measuring players' expectancy beliefs and subjective task values, confirmatory factor analysis (CFA) was applied in this study. The analysis was carried out using SPSS 25.0 and Amos 24.0 software, with the maximum likelihood (ML) estimation method used to calculate the parameters of the CFA model. Drawing on Eccles' theoretical propositions [8] and prior empirical findings [24], a four-factor model was tested. Whether this measurement model achieved validity depended on its conformity to the acceptable threshold values for fit and construct validity proposed by Hair et al. [31]. Specifically, for construct validity, sufficient convergent validity required standardized factor loadings ($\geq$0.70), average variance extracted (AVE $\geq$ 0.50), and composite reliability (CR $\geq$ 0.70); discriminant validity was confirmed if the square root of AVE exceeded its bivariate correlations with other constructs. For fit validity, multiple goodness-of-fit indices including chi-square, degrees of freedom, normed chi-square, RMSEA, SRMR, GFI, AGFI, NFI, TLI, and CFI were selected accord-

ing to recommendations from Hair et al. [31], Kline [36], and Jackson et al. [37], with their cut-off values based on Hair et al. [31] to evaluate adequate model fit with the data [38].

3. Results

To meet the assumptions of SEM, this study conducted a systematic screening of the collected data, including missing data assessment, outlier detection, and normality evaluation. In terms of data integrity, none of the 11 observed variables involved in this study had missing values, thus no missing data imputation was required. Next, outlier detection was conducted on the data obtained in this study. On one hand, by observing the frequency distribution characteristics of histograms and boxplots and calculating standardized z-scores, the results showed that the absolute values of z-scores for all items were within 4, with no univariate outliers detected; on the other hand, the Mahalanobis D^2 method was used to test for multivariate outliers, and the results indicated that there were no potential multivariate outliers in the study [36]. The results of normality evaluation are presented in **Table 1**. The skewness of all variables ranged from −1.05 to −0.38, and the kurtosis ranged from −0.36 to 0.42, which fully conformed to the normality criteria proposed by Hair et al. [31]. Taken together, the 385 valid cases finally obtained in this study not only met the sample size requirement for SEM analysis but also passed multi-dimensional tests for data screening, thus all were retained for subsequent analysis.

Table 1. Descriptive analysis, normality, correlation, reliability, and discriminant validity (N = 385).

Construct	M	SD	Skewness	Kurtosis	Cronbach's α	1	2	3	4	5
1. Expectancy belief	5.46	0.724	−0.38	−0.36	0.88	0.77				
2. Task values	5.93	1.03	−1.05	0.30	0.91	0.50**	0.93			
3. Attainment value	5.86	1.09	−0.96	0.42	0.84	0.47**	0.94**	0.85		
4. Intrinsic value	6.03	1.14	−1.02	0.12	0.89	0.48**	0.95**	0.89**	0.90	
5. Utility value	5.93	1.14	−1.05	0.37	0.89	0.46**	0.92**	0.86**	0.87**	0.89

Note: A diagonal element in bold represents the square root of AVE. The elements below the diagonal in the matrix are the Pearson correlation coefficients between the latent constructs; ** $p < 0.01$.

Next, the sample characteristics will be described and a bivariate correlation analysis will be conducted. As shown in **Table 1**, the average scores of players in terms of expectancy-related beliefs and task value were 5.46 (SD = 0.72) and 5.93 (SD = 1.03), while their average perceived scores on the attainment value, intrinsic value, and utility value dimensions were 5.86 (SD = 1.09), 6.03 (SD = 1.14), and 5.93 (SD = 1.14) respectively. These data indicate that players hold a relatively high level of expectancy beliefs toward school football activities, and the respondents also demonstrated a high level of perception in terms of attainment value, intrinsic value, and utility value. In addition, all bivariate correlation estimation results reached a statistically significant level ($p < 0.01$). Specifically, the main expectancy beliefs showed a moderate correlation with task values ($r = 0.50$), while a strong correlation was observed among attainment value, intrinsic value, and utility value (see **Table 1**). Overall, these results showed that all bivariate relationships among the variables in this study were significantly associated, but there might be potential multicollinearity [39].

This study focused primarily on analyzing the four-factor model of expectancy-value constructs proposed by Eccles et al. [8]. This model comprises four subdimensions (i.e., expectancy beliefs, attainment value, intrinsic value, and utility value) and includes a total of 11 measurement items (see **Figure 1**). To verify the model fit, the study tested multiple fit indices, and the final fit statistics for the four-factor model were as follows: χ^2 (38) = 55.77, $p = 0.03$, $\chi^2/df = 1.47$, GFI = 0.97, AGFI = 0.95, CFI = 0.99, TLI = 0.99, NFI = 0.98, RMSEA = 0.03, SRMR = 0.03. It is important to note that although the chi-square test result was significant ($p = 0.03$), which would suggest the model should be rejected, this outcome may be related to the relatively large sample size used in this study [40]. Overall, the normed chi-square value was less than 3, while other fit indices such as GFI, AGFI, CFI, TLI, and NFI were all higher than the critical value of 0.9, and RMSEA and SRMR were less than 0.05. This fully indicates that the expectancy-value measurement model exhibits a good fit with the sample data in this study. Based on this, the study further conducted a test of construct validity.

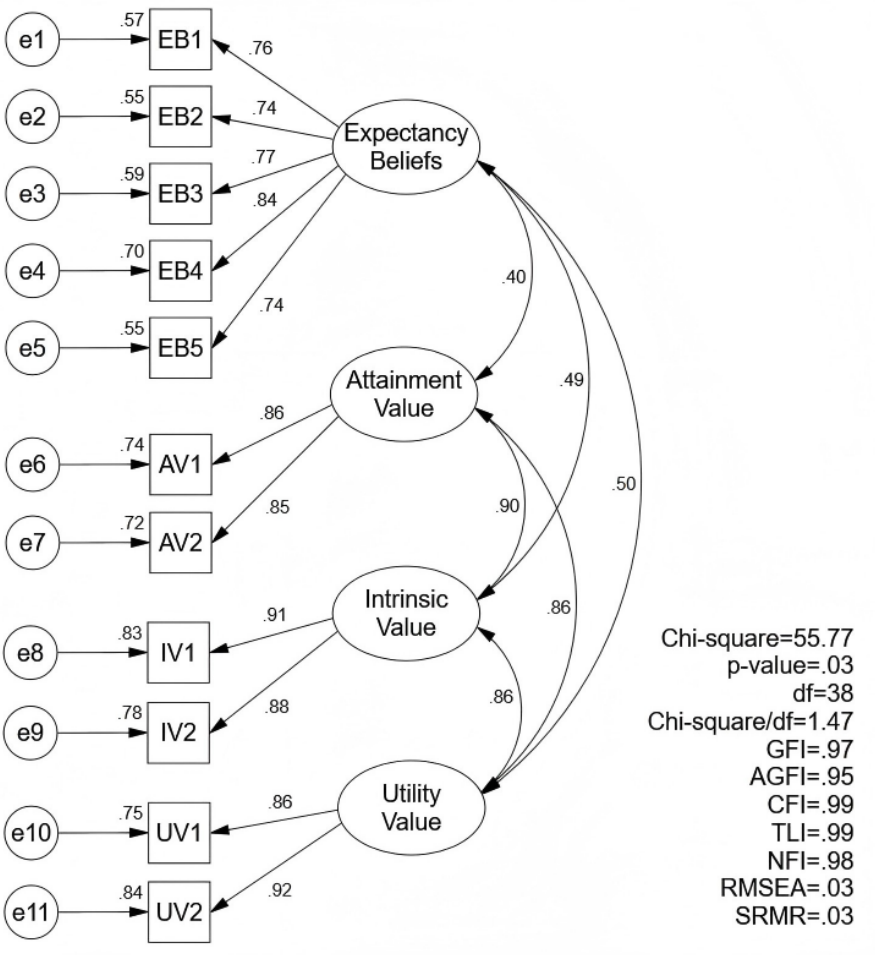

Figure 1. The Overall Measurement model of Expectancy-Value Questionnaire.

The parameter significance results of the construct validity test are presented in **Table 2**. First, all factor loadings reached a statistically significant level ($p < 0.001$), and the standardized factor loadings ranged from 0.74 to 0.95, which were higher than the 0.7 standard. Second, the squared multiple correlation (SMC) of each measurement item ranged from 0.55 to 0.91, exceeding the critical value of 0.5, which reflected that individual items had acceptable reliability; the composite reliability (CR) values of all latent variables were between 0.84 and 0.95, which were all higher than the 0.7 standard, further confirming that each construct had good internal consistency reliability. Third, the average variance extracted (AVE) values of each construct ranged from 0.59 to 0.87, satisfying the minimum requirement of 0.5 and providing additional support for convergent validity. These multidimensional test results confirm the convergent validity of the expectancy-value measurement model. Notably, **Table 1** showed that by comparing the square root of the AVE of each variable with the absolute correlation coefficients, the results indicated that there was discriminant validity between expectancy beliefs and task value, but no discriminant validity between attainment value, intrinsic value, and utility value [41].

Given the potential multicollinearity among the subdimensions of subjective task value and their lack of discriminant validity, this study conducted the CFA on the two constructs of expectancy beliefs and task value, where task value was operationalized as a second-order three-factor construct. As illustrated in **Figure 2**, within the hypothesized expectancy-value model of this study, the standardized factor loadings for expectancy beliefs all exceeded the 0.7 threshold, while the standardized factor loadings for attainment value, intrinsic value, and utility value were estimated at 0.92, 0.95, and 0.93, respectively. Moreover, the hypothesized model yielded the following fit statistics: $\chi^2 = 65.86$, $\chi^2/df = 1.65$, GFI = 0.97, AGFI = 0.95, CFI = 0.99, TLI = 0.99, NFI = 0.98, RMSEA = 0.04, and SRMR = 0.04. These

results indicated that the hypothesized model fit the sample data well. Furthermore, a comparison between the first-order four-factor model and the hypothesized model revealed that both models met the fit criteria in their CFA results. Finally, using the target coefficient[42], it was found that the hypothesized model explains 84.7% (55.77 / 65.86 = 0.847) of the covariance within the first-order four-factor construct. This indicates that the hypothesized measurement model in this study can represent the first-order construct of EVQ, thereby simplifying the model. Therefore, the more parsimonious second-order measurement model can be prioritized for measuring the subjective task value of sports in future research.

Table 2. The Convergent Validity of Expectancy-Value Questionnaire (N = 385).

Construct	Item	Parameter Significance Estimation				Convergent Validity			
		Unstd.	SE	*t*-Value	*P*	Std.	SMC	CR	AVE
Expectancy beliefs	EB1	1.00				0.76	0.57	0.88	0.59
	EB2	0.92	0.06	14.41	***	0.74	0.55		
	EB3	0.88	0.06	14.97	***	0.77	0.59		
	EB4	1.07	0.07	16.33	***	0.84	0.70		
	EB5	0.88	0.06	14.36	***	0.74	0.55		
Subjective Task values	AV	1.00				0.94	0.87	0.95	0.87
	IV	1.06	0.06	18.70	***	0.95	0.91		
	UV	0.95	0.06	16.83	***	0.92	0.84		
Attainment value	AV1	1.00				0.86	0.74	0.84	0.73
	AV2	0.90	0.05	20.01	***	0.85	0.72		
Intrinsic value	IV1	1.00				0.91	0.83	0.89	0.81
	IV2	0.97	0.04	24.93	***	0.88	0.78		
Utility value	UV1	1.00				0.86	0.75	0.89	0.80
	UV2	1.12	0.05	23.37	***	0.92	0.85		

Note: Unstd = unstandardized factor loading estimates; S.E. = standard error; *t*-value = critical ratios; *** $p < 0.001$; Std = standardized factor loading estimates; SMC = item reliability; CR = Composite reliability; AVE = average variance extracted.

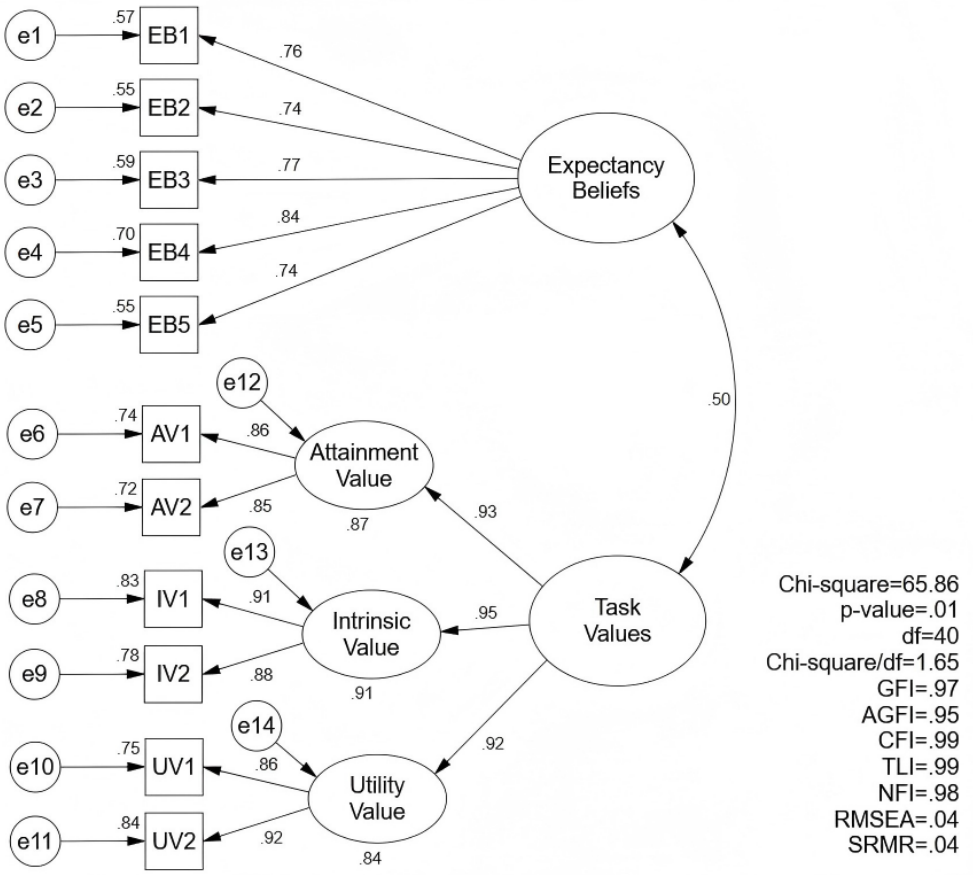

Figure 2. The hypothesized measurement model of Expectancy-Value Questionnaire.

4. Discussion

Based on the Expectancy-Value Theory proposed by Eccles et al.[8], this study took 385 high school players in the context of Chinese campus football as the sample (228 boys and 157 girls; M_{age} = 16.07 years, SD = 1.15, age range = 14–19 years), aiming to verify the applicability of the EVQ among Chinese campus football players. The study collected data using a translated and revised Chinese version of the EVQ, preliminarily examining the psychometric properties of this Chinese EVQ in the context of Chinese campus football, with a focus on verifying the applicability of the expectancy-value model among high school campus football players. The results of CFA yielded three core findings, which were not only consistent with theoretical expectations but also reflected the context-specific characteristics of Chinese campus football.

First, the first-order four-factor model (i.e., expectancy beliefs, attainment value, intrinsic value, and utility value) showed a good fit with the sample data. All standardized factor loadings with a range of 0.74–0.95 exceeded the 0.7 threshold proposed by Hair et al.[31], and the CR values with a range of 0.84–0.95 and AVE values with a range of 0.59–0.87 of each latent variable also exceeded the standards of 0.7 and 0.5, respectively. This indicates that the Chinese version of the EVQ has strong convergent validity among high school campus football players, and the questionnaire items can effectively capture the core connotations of each construct in the specific context of campus football. These results are consistent with previous studies[22,24–27], indicating that this scale can accurately measure players' cognition of their own football ability and expectations of future performance, which is precisely the core element of expectation belief defined by Eccles et al.[8].

Second, discriminant validity analysis showed a clear distinction between expectancy beliefs and subjective task values (i.e., the square roots of AVE for expectancy beliefs and task values were 0.77 and 0.93, respectively, both greater than their bivariate correlation coefficient of 0.50). However, the three subdimensions of task values (i.e., attainment value, intrinsic value, and utility value) lacked discriminant validity. This result was consistent with Liao's[22] findings on Chinese adolescent players but differs from research results in physical education and general physical activity contexts[15,25]. This discrepancy may stem from the fact that campus football, as a team sport integrated into the school environment, often presents multi-dimensional overlapping values for players. For example, the interest in participating in football, the perceived importance of football, and the usefulness of football for personal growth may be closely intertwined, which may lead to unclear boundaries between the three subdimensions[43,44].

Finally, with reference to the above analysis results, considering the strong correlation and lack of discriminant validity among the three subdimensions of subjective task values, and to avoid the interference of multicollinearity on model estimation, this study operationalized subjective task values as a second-order three-factor model with the three subdimensions as higher-order factors. The results showed that this model had good fit validity and construct validity, fully meeting the fit criteria recommended by Hair et al.[31], and could explain 84.7% of the covariance of the first-order four-factor model. This fully proves the rationality of using the second-order structure to measure subjective task values in the context of campus football. These results are also consistent with previous findings[15,24], that is, the subdimensions of task values are often highly correlated in specific sports contexts and thus suitable for integration into a higher-order factor. From a practical perspective, the second-order model simplifies the measurement framework while retaining core information, making it more suitable for subsequent studies in the field of campus football.

4.1. Contributions and Implications

This study makes three main theoretical contributions to the fields of EVT and EVQ validation. First, it fills the gap in the validation of the Chinese version of the EVQ in the context of Chinese campus football. Although the Chinese government attaches great importance to the development of youth football, relevant research in this field has been relatively scarce. By focusing on high school campus football players, this study provides empirical evidence for the cross-cultural applicability of EVT in sport-specific contexts. Second, it confirms the applicability of the second-order factor structure of subjective task values in the campus football context. This finding addresses previous controversies regarding the factor structure of task values[19], indicating that contextual factors may influence the dimensional division of task values. Third, it enriches the psychometric evidence for

the Chinese version of the EVQ. Through systematic testing of convergent validity, discriminant validity, and model fit, this study provides a reliable measurement tool for future research on the motivation of Chinese youth football players and lays a foundation for cross-regional and cross-cultural comparative studies.

In terms of practical implications, the research findings offer actionable insights for improving football players motivation levels. First, the high average scores of expectancy beliefs and task values in this study indicate that current high school campus football players hold positive perceptions of their own abilities and have a high level of value recognition for football. On this basis, coaches and educators can strengthen expectancy beliefs by designing ability-enhancement activities (e.g., tiered skill drills matching players' current levels), while highlighting the value of football from multiple dimensions to maintain a high level of perceived task values. Second, the result that the subdimensions of task values (interest, importance, usefulness) lack discriminant validity suggests that intervention strategies should avoid focusing on a single value dimension in isolation, but rather simultaneously strengthen the sense of interest, importance, and usefulness. Finally, the validated Chinese version of the EVQ serves as a practical tool for assessing football players' expectancy beliefs and task values. It can be used to identify players with low scores in either construct at an early stage, thereby facilitating targeted interventions (e.g., personalized skill guidance for those with low expectancy beliefs and value-oriented counseling for those with low task values) to prevent motivation decline.

4.2. Limitations and Future Research

Despite the certain contributions of this study, it still has several limitations that need to be addressed in future research. First, the geographical scope of the sample is limited to one region in China, which may affect the generalizability of the results. Future studies should expand the sample coverage to include other regions in China, so as to test the stability of the EVQ factor structure among different groups. Second, the study adopts a cross-sectional design and lacks criterion validity, making it impossible to establish a causal relationship between expectancy beliefs, task values, and sport performance. In the future, longitudinal studies are needed to track changes in these motivational factors and their predictive effect on participants' behavioral factors. Third, the study does not include the cost dimension of task values. Although previous studies in the sports field have also rarely measured cost [15,25–27], cost may be a key factor leading to football players dropout. Future studies should revise the EVQ to include cost items and test whether the corresponding measurement model is suitable for the campus football context. Last but not least, this study did not incorporate the analysis of football coach-related factors and participants' football experience [3,43]. These factors may affect players' expectancy beliefs, which in turn limits a comprehensive understanding of the influencing mechanisms of expectancy beliefs. Future studies could integrate these variables to more deeply explore the formation mechanism of motivation among campus football players.

5. Conclusions

This study sampled 385 high school campus football players from Zhaoqing City, China, to validate the psychometric properties of the Chinese version of the Expectancy-Value Questionnaire (EVQ). The results indicate that the four constructs in the EVQ fit well with the sample data, and all psychometric indicators meet the requirements for convergent validity. Meanwhile, expectancy beliefs and subjective task values demonstrate good discriminant validity, whereas the three subdimensions of subjective task values lack discriminant validity. Furthermore, the second-order model with subjective task values as the higher-order factor achieves a good fit, can explain most of the covariance of the first-order model, and is more suitable for expectancy-value motivation measurement in future studies. In conclusion, this study provides a reliable Chinese version of the EVQ, enriches cross-cultural evidence for the Expectancy-Value Model, and offers practical implications for enhancing football players' motivation. Future research should further expand the sample size, adopt a longitudinal design, and incorporate the cost dimension, among other improvements.

Author Contributions

C.J.: Conceptualization, Data curation, Investigation, Methodology, Project administration, Software, Writing—

original draft, Writing review & editing; Z.Q., Q.F., P.Z. and Z.G.: Investigation, Writing—review & editing. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

This research was conducted in accordance with the guidelines of the Declaration of Helsinki, and the survey protocol was approved by the Research Ethics Committee, Sultan Idris Education University (UPSI/PPPI/PYK/ETIKA-M-014-469).

Informed Consent Statement

Written informed consent has been obtained from patients to publish this paper.

Data Availability Statement

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

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Conflicts of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Appendix A. Expectancy-Value Questionnaire

Expectancy beliefs (5 items, $\alpha = 0.88$)

1. How good at football are you? (1 = not at all good, 7 = very good)
2. If you were to list all the students in your class from worst to best in football, where would you put yourself? (1 = not at all good, 7 = very good)
3. Compared to most of your other activities, how good are you at football? (1 = worst, 7 = a lot better)
4. How well do you expect to do in football this year? (1 = not at all well, 7 = very well)
5. How good would you be at learning something new in football? (1 = not at all good, 7 = very good)

Subjective Task Values (6 items, $\alpha = 0.91$)

1. How important is it to you to be good at football? (1 = not important at all, 7 = very important)
2. How useful is it to you to be good at football? (1 = not useful at all, 7 = very useful)
3. How much do you like playing football? (1 = not much at all, 7 = very much)
4. In general, I find playing football... (1 = very boring, 7 = very interesting)
5. Compared to other activities, how important is it to you to be good at football? (1 = not important at all, 7 = very important)
6. Compared to other activities, how useful is playing football to you? (1 = not useful at all, 7 = very useful)

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