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Validation of the sport education scale for higher education students in the Indonesian version

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ABSTRACT

Background Problems: At the higher education level, there is no valid and reliable perception instrument about Sport Education. **Research Objectives:** This study aims to adapt the Sport Education Scale and provide validity and reliability evidence for used in the Indonesian context of higher education. **Methods:** The research method used survey. A convenient sample of 156 students who had been taught Sport Education participated in this study, who completed the Sport Education Scale. **The research instrument used the Sport Education Scale. Data analysis techniques** used confirmation factor analysis. **Findings and Results:** The results of this study confirmed that the Indonesian version of the Sport Education Scale for Higher Education can be used to assess the features of Sport Education in the context of Higher Education. The research in this study refers to it as the "Indonesian version of the Higher Education Sport Education Scale". **Conclusion:** The Indonesian version of the Higher Education-Sports Education Scale implemented through the Sports Education curriculum is able to make a positive contribution to the development of Higher Education curriculum in Indonesia, especially those that adopt the Merdeka Belajar-Kampus Merdeka approach. In line with these findings, future research should focus on further investigation related to the application of the Sports Education Scale at educational levels other than Higher Education in Indonesia. In addition, recommendations for future research may include the development of sports teaching methods that focus on educational values and an increased understanding of the benefits of Sports Education in the context of Higher Education. This helps improve the quality of the Merdeka Belajar-Kampus Merdeka curriculum in Indonesia.

Keywords: Validation; sport education scale; higher education



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INTRODUCTION

Currently, in Indonesia at the Higher Education Level (HE) began to implement a new curriculum, namely the Merdeka Belajar- Kampus Merdeka (MBKM) curriculum (Junaidi, 2020). Similarly, the Sports Study

Program is also affected by using MBKM. In sports study programs in Indonesia, most of them prepare students to become physical education (PE) teachers by equipping them to teach and be able to master various sports branching techniques for them to teach later. In line with this, learning strategies are needed that can enable students to follow the learning process and also prepare them for the future (Ginanjar et al., 2021a). Even though many students want to become athletes or have become athletes and college in sports study programs and not become PE teachers. Maybe, after they retire, an athlete wants to be a coach or could be a referee, match observer, sports reporter, and so forth. Thus, they can live successfully through sports. Not only that, now many students do not have good sports skills, but they want to have success through sports.

Nowadays, sports have become a very large industry with various roles involved. For example, like the World Cup, not only players and coaches are involved in it, but many roles are involved, such as: referee, match commentator, match statistician, match reporter, and many other roles are involved. Therefore, sports study programs should be able to facilitate students to be ready to work in the sports industry or enthusiastic about participating in sports activities (Ginanjar et al., 2021a). Ultimately, students can have a decent life through sports, facilitated through the learning process. In this way, in line with the current curriculum, namely the MBKM curriculum. The MBKM curriculum is a form of learning in HE that is autonomous and flexible so as to create a learning culture that is innovative, not restrictive, and in accordance with student needs (Direktorat Jenderal Pendidikan Tinggi Kementerian Pendidikan dan Kebudayaan Republik Indonesia, 2020).

One way of learning that is in accordance with the MBKM curriculum is Sport Education (SE). There is a link between OBE and the MBKM curriculum, and there is also a link between OBE and the implementation of SE in sports study programs (Ginanjar et al., 2022). Furthermore, at the HE level, it is recommended that SE be better used as a basis for the curriculum of programs, especially those related to sports, in learning that uses various sports as a strategy in teaching (Effendy & Ramadhan, 2021). SE deserves attention to be developed by stakeholders in schools and other institutions (Slamet et al., 2021). SE has been widely used at all levels of education around the world and in developed countries such as America, England, and Australia, with the first developer (Siedentop, 1994; Siedentop et al., 2011). In Indonesia, the first complete book related to SE was published by Ginanjar, using basketball for junior high school students (Ginanjar, 2019). Then, it developed at the HE level by using futsal (Ginanjar et al., 2021b) and volleyball (Ginanjar et al., 2021). The goal of SE is the development of competent, literate, and enthusiastic sportspersons (Siedentop, 1994; Siedentop et al., 2011). As explained again, the competence development relates to having skills and knowledge of sports, literate relates to sports literacy, and enthusiastic sportspersons relates to enthusiasm in participating in sports activities (Ginanjar et al., 2021b). SE consists of six characteristics: season, affiliation, formal competition, culminating event, record keeping, and festivity (Siedentop, 1994; Siedentop et al., 2011).

In accordance with the characteristics in SE with the roles in attending lectures. In SE at the HE, some roles can be used, such as players, coaches, managers, match records, referees, and publications (Ginanjar et al., 2021; Ginanjar et al., 2021b). Players are tasked with being an athlete during the SE season. Coaches train their athletes during the SE season. The team manager prepares the equipment used for training and matches during the SE season. The match recorder makes a match sheet and records the results of the match while participating in the SE. The referee makes the rules of the game and takes the lead during the game during the SE. The publication makes sports news during team practice and matches and comments during matches. Thus, SE can facilitate the role of students as players who have never felt like an athlete and have the opportunity to become an athlete, as well as other roles.

In Indonesia itself, the first time it was discussed was limited to the curriculum model in PE (Suherman, 1996). Regarding this research, which was conducted at the HE level, SE has been implemented and has had a promising impact, but there are still a few references that can be used. Lectures using SE raise several character values (Purwanto et al., 2014). SE can improve performance and leadership in handball (Slamet et al., 2021). SE can enhance students' motivation according to the roles acquired during lectures using SE (Ginanjar et al., 2021a). SE influences students' competitiveness seen from the sports orientation of students who are involved in team roles (Ginanjar et al., 2023). SE provides students with enjoyment and success in participating in learning according to the characteristics of SE (Solihin et al., 2022).

Various impacts that SE has had on lectures in Indonesia, at the HE level, there is no valid and reliable perception instrument about SE. Meanwhile, the research area of student perceptions has received considerable attention in the literature (Hastie et al., 2011; Hastie & Wallhead, 2016; Wallhead & O'sullivan, 2005). Even though there is a Sport Education Scale (SES) for PE, it is still in English and Spanish versions (Burgueño et al., 2022). Research on this has been discussed by Solihin et al. (2022), who stated that students enjoy using SE based on the characteristics of SE, improving skills and understanding of sports, and prefer SE compared to conventional learning in the lecture process using sports. However, the instrument used still the Sport Education Season Survey (SESS), which was adapted from the research results of (André & Hastie, 2017), who also adapted the work of (Mohr et al., 2003). SESS results from Mohr et al. (2003) have never been published, as stated by Burgueño et al. (2022) in their research, but have been used in André and Hastie (2017) research at the HE level. Expert judgment is used as a basis for providing validity evidence based on the content of the survey questions (Kinchin, 2004), however, this particular survey is rarely used (Burgueño et al., 2018, 2022; Hastie & Sinelnikov, 2006). Thus, it is essential to adapt the SES to new sociolinguistic contexts (e.g., Indonesian) and different educational levels (e.g., HE) for the purpose of expanding the instrument's evidence of validity and reliability to other groups of population. In line with Burgueño et al. (2022), there is a further need for researchers and lecturers to investigate students' perceptions of SE in all educational level, including the HE level. Thus, this research aims to adapt the SES and gather validity and reliability evidence for use in the Indonesian context of the HE.

METHOD

The research method used survey. The survey research method collects information from samples taken from a predetermined population (Fraenkel et al., 2023). Thus, the participants involved in this research were students who had been taught using SE. Participants in this research were students who had been taught using SE in one of the sports study programs in Indramayu Regency. This sports study program has used SE as a practical lecture and included SE in the study program curriculum as a way of teaching. A convenient sampling technique was used to recruit and select participants, who had to be taught under the SE model. A convenient sampling is a group of individuals who are available for study, for example, a professor compares students' reactions to two different textbooks in his class (Fraenkel et al., 2023). A total of 156 students (130 male and 26 female), aged between 19 and 26 years ($M = 2,88$ and $SD = 1,23$), participated in the present research.

The used research instrument was the English version of the SES for PE, consisting of 28 items that, grouped into four items per subscale, measured the seven SE features, namely: season, affiliation, formal competition, culminating event, keeping records, festivity, and roles (Burgueño et al., 2022). The instrument is headed by the stem: "In the lessons...". Items were scored on a 5-point Likert-type scale ranging 1 (strongly disagree) to 5 (strongly agree).

Data analysis was conducted using SPSS 29,00 and Mplus 8,4 (Muthén & Muthén, 2017). Firstly, descriptive statistics were computed for each of the seven variables under study. Secondly, to gather valid evidence based on the internal structure, a confirmatory factor analysis (CFA) was run by the weighted least squares mean and variance adjusted (WLSMV) estimator, which is a robust estimator that does not assume the normal data distribution and provides the best choice for modelling categorical, ordered or non-normal data (Muthén & Muthén, 2017). The assessment of the goodness of the model's fit was made by scores up to 5 in the coefficient between chi-squared and degrees of freedom (χ^2/df), values higher than 0,90 in comparative fit index (CFI) and Tucker-Lewis index (TLI) in conjunction with values as high as 0,08 in standardized root mean squared residual (SRMR) and root mean square error of approximation (RMSEA) (Marsh et al., 2004). Standardized regression weights are acceptable with values greater than 0,50 (Hair et al., 2018). Latent correlations as high as 0,90 are indicative of a reasonable level of discriminant validity (Kline, 2016). Thirdly, Cronbach's alpha and McDonald's omega were estimated to meet reliability evidence. Both are representative of a good level of reliability with values over 0,70 (Viladrich et al., 2017). Fourthly, the average variance extracted (AVE) was calculated as a convergent validity, taking cut-off scores of 0,50 as satisfactory (Hair et al., 2018).

RESULTS AND DISCUSSION

SES Development

The development of the SES follows the theory proposed by (Ariwar, 2016). The validation stages carried out were as follows: 1) item writing rules, 2) expert appraisal, 3) pilot study, and 4) second expert appraisal (see Figure 1).

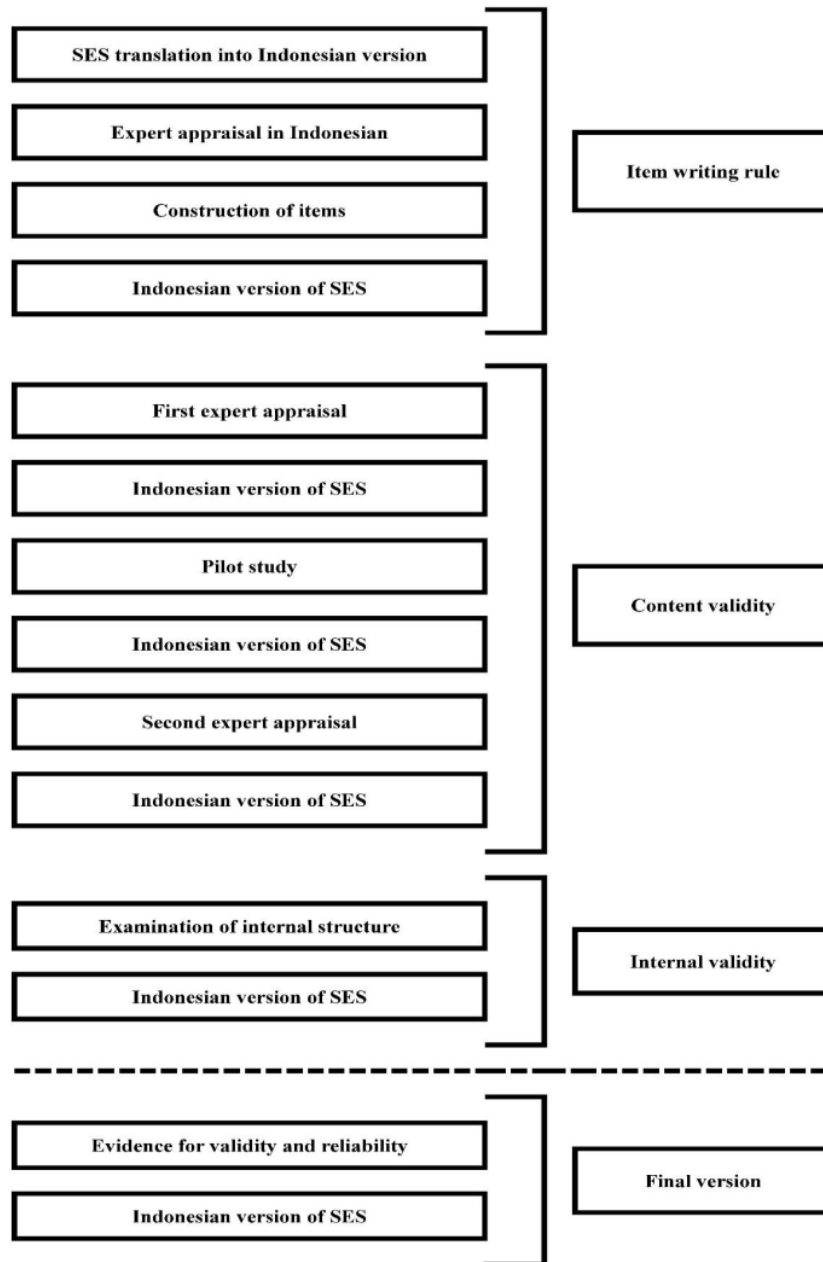


Figure 1. SES Development Process for HE Level

Item Writing Rules

Item writing rules are helpful for language suitability for respondents with Enhanced Indonesian Spelling (EIS). In language, use words and sentences that are simple, clear and easy for respondents to understand but still have to follow standard Indonesian writing and grammar (Azwar, 2016). The original version of the SES was in English and Spain. Therefore, the researcher translated it first into Indonesian with the help of lecturers from the English study program at a university in Indramayu. The translation results can be seen in Table 1.

Table 1. SES Translation Results into the Indonesian Version

No.	Code	Original version	Indonesian version
1	SES1	The duration of this unit was longer	Durasi unit ini lebih lama
2	SES8	The unit had more sessions than usual	Unit ini memiliki sesi lebih banyak dari biasanya
3	SES15	This unit was longer than common	Unit ini lebih panjang dari biasanya
4	SES22	There were more classes than typical	Ada lebih banyak kelas dari biasanya
5	SES23	The team was the same during the unit	Timnya sama selama unit
6	SES2	I was part on a same team	Saya adalah bagian dari tim yang sama
7	SES9	We stayed constantly in the same group	Kami terus-menerus berada dalam kelompok yang sama
8	SES16	We belonged to a same team	Kami tergabung dalam tim yang sama
9	SES17	We combined training and competitions	Kami menggabungkan pelatihan dan kompetisi
10	SES24	Activities and game with matches were intercalated	Kegiatan dan permainan dengan pertandingan pun diselingi
11	SES3	There were trainings and competing at the same time	Ada pelatihan dan kompetisi pada saat yang bersamaan
12	SES10	There was a schedule for trainings and competitions	Ada jadwal pelatihan dan kompetisi
13	SES11	There was a closing event	Ada acara penutupan
14	SES18	We participated in a final event	Kami berpartisipasi dalam acara terakhir
15	SES25	It is a good idea to be over the unit with an award ceremony	Merupakan ide bagus untuk menyelesaikan unit dengan upacara penghargaan
16	SES4	An event was celebrated to finish the classes	Sebuah acara dirayakan untuk menyelesaikan kelas
17	SES5	There was a record of scores and fouls during the sessions	Ada rekam skor dan pelanggaran selama sesi
18	SES12	We had to collect data in the classes	Kami harus mengumpulkan data di kelas
19	SES19	We kept the results from every competition	Kami menyimpan hasil dari setiap kompetisi
20	SES26	We had to keep records during the classes	Kami harus menyimpan catatan selama kelas
21	SES27	We made a festive climate with signage, colorful, and award ceremony	Kami membuat meriah meriah dengan rambu-rambu, warna-warni, dan upacara penghargaan
22	SES6	There was a festive atmosphere with colors, posters and celebration of genuine efforts	Ada suasana meriah dengan warna-warni, poster, dan perayaan atas upaya yang sungguh-sungguh
23	SES13	A ludic climate through signage and award ceremony was created	Suasana yang menggelikan melalui rambu-rambu dan upacara penghargaan telah tercipta
24	SES20	A festive atmosphere existed with the recognition of achievements, the use of advertisement and color	Suasana meriah hadir dengan penghargaan prestasi, pengiklanan dan warna-warni
25	SES28	Each one of us performed a role	Masing-masing dari kami memainkan peran
26	SES7	We all carried out a role for the team	Kami semua menjalankan peran untuk tim
27	SES14	We had to complete a role	Kami harus menyelesaikan sebuah peran
28	SES21	We were in charge of complying with some roles	Kami bertugas untuk mematuhi beberapa peran

Indonesian Language Expert Appraisal

After the translation was completed, two Indonesian-language experts were independently asked to check the translation results for EIS conformity. The two experts are lecturers at the Indonesian language study program at a university in Indramayu. The two experts have experience as lecturers for nine years, one has a doctorate and one has a master's degree in the Indonesian context. The results obtained from the discussion among both experts can be seen in Table 2.

First Expert Appraisal

Two independent experts came from sports study program lecturers at one of the universities in Indramayu who used SE as their lecture teaching. The two experts have experience as lecturers for nine years with experience teaching using SE for four years. One person has a doctorate with expertise in gymnastics and handball. One person has a master's degree with expertise in football and sports training theory. In addition, Aiken's V coefficient is calculated as a measure of content validity and is acceptable when the limit is 0.70 or higher (Azwar, 2016). The results obtained from the two experts stated that the word "durasi" was changed to "jumlah", the word "grup" was changed to "tim", the words "unit, sesi, and kelas" these three words had the same meaning changed to "pembelajaran and pertemuan" which is adjusted to suit needs. These words are used more often in teaching in Indonesia. From the results of the two experts, based on the calculation of Aiken's V coefficient, all items have a requirement of 0.70. The results of the differences between the validity of Indonesian language experts and the validity of the first version of SE experts can be seen in Table 2.

Table 2. Results of Differences in the Validity of the Suitability of the EIS and the Validity of the Suitability of the First Version of the SE

No.	Code	Validity of EIS suitability	Validity of SE suitability
1	SES1	Durasi unit ini lebih lama dari biasanya.	Jumlah pertemuan ini lebih lama dari biasanya
2	SES8	Sesi pada unit ini lebih banyak dari biasanya.	Pertemuan pada pembelajaran ini lebih banyak dari biasanya
3	SES15	Proses unit ini lebih panjang dari biasanya.	Pertemuan lebih lama dari pada biasanya
4	SES22	Kelas dalam unit ini lebih banyak dari biasanya.	Terdapat lebih banyak pertemuan dari pada biasanya
5	SES23	Tim dalam unit selalu sama.	Tim yang sama selama mengikuti pembelajaran
6	SES2	Saya adalah bagian dari tim yang sama.	Saya adalah bagian dari tim yang sama
7	SES9	Kami selalu ada dalam kelompok yang sama.	Kami terus berada dalam tim yang sama
8	SES16	Kami tergabung dalam tim yang sama.	Kami tergabung dalam tim yang sama
9	SES17	Kami menggabungkan pelatihan dan kompetisi.	Kami menggabungkan pelatihan dan kompetisi
10	SES24	Pertandingan diselingi banyak aktivitas dan permainan.	Kegiatan pelatihan diselingi dengan kompetisi diakhir pembelajaran
11	SES3	Terdapat pelatihan dan kompetisi dilaksanakan secara bersamaan.	Terdapat pelatihan dan kompetisi dilaksanakan secara bersamaan
12	SES10	Terdapat jadwal pelatihan dan kompetisi.	Terdapat jadwal pelatihan dan kompetisi
13	SES11	Terdapat acara penutupan.	Terdapat upacara penghargaan
14	SES18	Kami berpartisipasi dalam acara terakhir.	Kami berpartisipasi dalam upacara penghargaan
15	SES25	Mengakhiri unit dengan upacara penghargaan merupakan ide yang bagus.	Mengakhiri pembelajaran dengan upacara penghargaan merupakan ide yang bagus
16	SES4	Sebuah acara dirayakan untuk menyelesaikan kelas.	Upacara penghargaan dirayakan untuk menyelesaikan pembelajaran
17	SES5	Terdapat rekam skor dan pelanggaran terdapat selama sesi berlangsung.	Terdapat pencatatan skor dan pencatatan pelanggaran selama pertemuan berlangsung
18	SES12	Kami harus mengumpulkan data di kelas.	Kami harus mengumpulkan data dalam pembelajaran
19	SES19	Kami menyimpan hasil dari setiap kompetisi.	Kami menyimpan hasil dari setiap kompetisi
20	SES26	Kami harus mengumpulkan catatan selama di kelas.	Kami harus menyimpan catatan selama mengikuti pembelajaran
21	SES27	Kami membuat meriah meriah dengan rambu-rambu, warna-warni, dan upacara penghargaan.	Kami membuat suasana meriah dengan adanya nama tim, profil tim, berita olahraga, dan upacara penghargaan
22	SES6	Terdapat suasana meriah dengan warna-warni, poster, dan perayaan sebagai bagian dari upaya yang sungguh-sungguh.	Terdapat suasana yang meriah dengan adanya nama tim, profil tim, berita olahraga, dan upacara penghargaan dengan usaha yang sungguh-sungguh
23	SES13	Telah tercipta suasana yang mengesankan melalui rambu-rambu dan upacara penghargaan.	Telah tercipta suasana yang mengesankan dengan adanya nama tim, profil tim, berita olahraga, dan upacara penghargaan

No.	Code	Validity of EIS suitability	Validity of SE suitability
24	SES20	Suasana meriah hadir dengan penghargaan prestasi, pengiklanan dan warna-warni.	Suasana meriah hadir dengan adanya nama tim, profil tim, berita olahraga, dan upacara penghargaan
25	SES28	Masing-masing dari kami memainkan peran.	Masing-masing dari kami memiliki peran
26	SES7	Kami semua menjalankan peran untuk tim.	Kami semua menjalankan peran untuk tim
27	SES14	Kami harus menyelesaikan sebuah peran.	Kami harus menyelesaikan sebuah peran
28	SES21	Kami bertugas untuk mematuhi beberapa peran.	Kami bertugas untuk mematuhi sebuah peran

Pilot Study

The Indonesian SES version, the results of the first expert appraisal, was then tested on 20 sports study program students who had been taught using SE, who were the same as the 156 participants involved in this study and who were not involved in data collection. They were asked to identify each item that they considered similar or repeated, as well as understand the statement of each item. As a result of this process, almost all students understand the statement of each item and are in accordance with the characteristics of SE as long as they are taught using SE.

Second Expert Appraisal

After being tested on 20 students, the second expert appraisal was carried out. Three independent experts came from sports study program lecturers at one of the universities in Indramayu who used SE as their lecture teaching. All of the experts still have master's degrees because there are still very few lecturers who use SE in their teaching and the sports study programs of the three experts have included SE in the study program curriculum as a way of teaching. First, lecturers with expertise in volleyball and sepak takraw with nine years of teaching experience and teaching using SE for three years. Second, lecturers with expertise in outdoor education and traditional sports with nine years of teaching experience and teaching using SE for two years. Third, a lecturer with expertise in basketball and pencak silat and has taught using SE in all his practical courses with teaching experience for eight years and has taught using SE for two years. Similar to the first expert appraisal, in this second expert appraisal the Aiken's V coefficient is also calculated. The results obtained from the three experts stated that all items had a requirement of 0.70 and all had the same perception as the first expert's appraisal.

Descriptive Statistics, Reliability, and Convergent Validity

Table 4 shows that each of the seven variables scored higher than the mid-point of their respective measurement scale. Furthermore, scores between 0.81 and 0.92 were obtained in Cronbach's alpha and McDonald's omega, as well as values from 0.52 and 0.79 in AVE.

Table 4. Reliabilitas

Variable	M	SD	α	ω	AVE
Season	3.87	1.01	0.91	0.91	0.78
Affiliation	3.91	1.16	0.83	0.84	0.65
Formal competition	4.01	1.13	0.81	0.81	0.52
Culminating event	4.31	1.04	0.85	0.85	0.69
Record keeping	4.17	1.04	0.88	0.88	0.70
Festivity	4.25	0.99	0.92	0.92	0.79
Roles	4.27	1.02	0.87	0.87	0.73

2 Confirmatory Factor Analysis

The seven-factor correlated model obtained an acceptable fit to the observed data: $\chi^2 (df = 329) = 712.731$, $p < 0.001$, $\chi^2/df = 2.167$; CFI = 0.953; TLI = 0.946; SRMR = 0.052; RMSEA = 0.066 (90% CI = 0.058 – 0.075). Figure 2 shows standardized regression weights between 0.77 and 0.94, each reaching the level of statistic significance ($p < 0.001$). Correlations among latent factors ranged from 0.74 to 0.91.

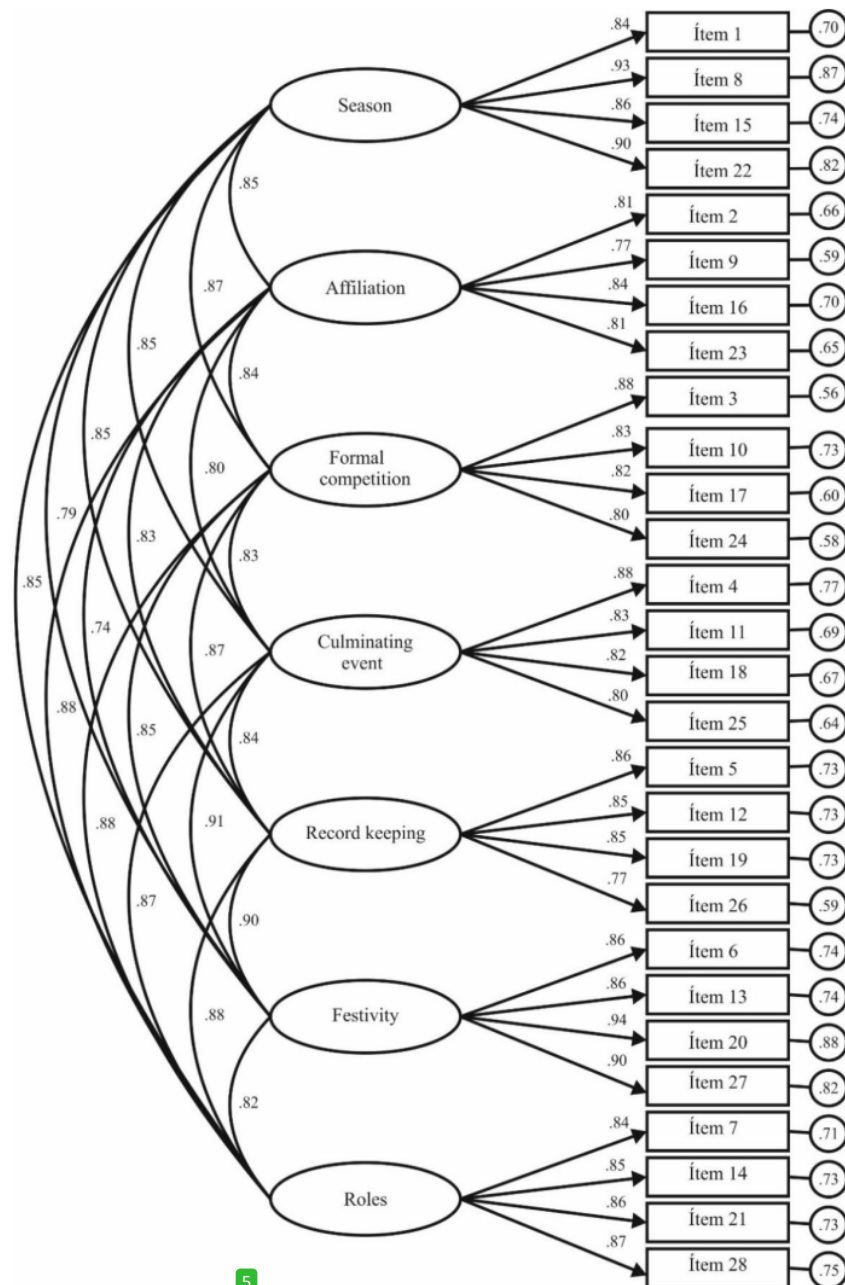


Figure 2. Cognitive Process Dimension Confirmatory Factor Analysis for the Indonesian Version of the Sport Education Scale. *Note.* Ellipses Represent Latent Variables; Rectangles Represent Items and Small Circles Include Every Item's Explained Variance.

This study aims to adapt the SES and provides validity and reliability evidence for use in Indonesian context at HE levels. The results of the CFA showed adequate fit indices for SES with seven factors. Thus, this research adds to the Indonesian version of the SES reference for HE, and the research calls it SES-HEvIna (Indonesian version of Sport Education Scale-Higher Education). In addition, this study also complements what was

suggested by [Burgueño et al. \(2022\)](#) to be conducted on new populations in multi-country settings. In line with the statement of [\(Burgueño et al., 2022\)](#), this structure acquires particular relevance in empirical research given that it supports the use of a general value formed by the average score of SES that allows one to calculate their arithmetic mean (i.e., general value) through the sum of the arithmetic means of each each of the principal order factors that compose it.

Regarding items, several items from Indonesian language experts are adapted to the use of SE in HE in Indonesia, such as signage, colorful posters, and advertisements adapted to team names, team profiles, and sports news which are often used in three-phase SE in HE in Indonesia and has been confirmed in several studies ([Effendy & Ramadhan, 2021](#); [Ginanjar et al., 2021a](#); [Ginanjar et al., 2023](#); [Solihin et al., 2022](#)). This is also in line with [\(Burgueño et al., 2022\)](#), who considered additional aspects of each feature, such as team cheers, team shield creation, clothing, and colors, to operationalize the core features of affiliation.

The existence of SES-HEvIna allows HE lecturers in Indonesia, especially sports study programs, to explore students' experiences with SE. In addition, the use of data processing analysis techniques using Mplus is still minimal. It does not even exist as a software for analysis, especially in the psychological instrument development in the sports field in Indonesia. Although this statistic software is rarely used for analyses in the psychological instrument development in Indonesia, Mplus is broadly used for data analyses in the sport context at the international level ([Appleton et al., 2016](#); [Catalán et al., 2018](#); [Chen et al., 2015](#); [Hancox et al., 2015](#); [Rocchi et al., 2017](#)). Most researchers in Indonesia immediately adapt existing instruments in English or other languages by simply translating from the original version into Indonesian without paying attention to the rules that must be followed first, which ultimately does not have the robustness of a research instrument.

However, this research could not test the instrument's invariance across gender and, in consequence, to analyze the potential gender differences because only 26 female students took part into this study. Research participants are good if the number is above 30 people ([Sugiyono, 2013](#)). Apart from that, in Indonesia, not all HE sports study programs use SE, and in fact, none of them do. Except, one of the sports study programs in Indramayu has used SE as practical lecture teaching and included SE in the study program curriculum as a teaching method. This has also been confirmed in the book "Quality Control Group" for the study program in question, which started in 2019. The results of this research can complement the results of research that has been carried out on HE in Indonesia using SE. SE is in line with the MBKM curriculum which is currently developing in Indonesia ([Agustin et al., 2024](#); [Budiawan et al., 2022](#); [Effendy & Ramadhan, 2021](#); [Ginanjar et al., 2022](#); [Ginanjar et al., 2021a](#); [Ginanjar et al., 2023](#); [Ginanjar et al., 2023](#); [Ginanjar et al., 2023](#); [Ramadhan et al., 2024](#); [Slamet et al., 2021](#)).

CONCLUSION

This study concludes that SES-HEvIna can be used to examine SE features at the HE level. SES-HEvIna which is implemented using SE can help the development of the HE curriculum in Indonesia which uses the MBKM curriculum. With the roles involved in SE, it is possible to be in line with the expectations of the MBKM curriculum by creating an innovative learning culture and in line with the development of the sports industry in Indonesia which is also consistent with the needs of sports study program students. It is necessary to add female participants in collecting data and using instruments in research assessment and learning using SE.

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CONFLICT OF INTEREST

The authors declared no conflict of interest.

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