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## Meta-Analysis of 21st-Century Skills in Youth and Sports

Ryan Abu Bakar<sup>\*</sup>, Mustika Fitri, Yusuf Hidayat<sup>3</sup>, Amung Ma'mun, Yogi Akin  
Sports Education, Graduate School, Universitas Pendidikan Indonesia, Indonesia

\*Corresponding e-Mail: [ryana.bakar@upi.edu](mailto:ryana.bakar@upi.edu)

ABSTRACT	ARTICLE INFO
<p>The purpose of this study is to ascertain the impact of incorporating sports values into a young development training program for soccer. An experiment using a model of quasi-experimental design is the research technique employed. A questionnaire was utilized as the method of data collection in this study. Purposive sampling was used as the sampling method. 30 young men between the ages of 15-20 made up the sample, and they were split into three groups: a group that received football training with the integration of sports values and group b received soccer training without the integration of sports values. The findings demonstrated that the development of sports values was greater in the soccer training group (group a) that had sports values incorporated into the curriculum than in the soccer training group (group b) that did not. Adolescents' daily lives can benefit from the development of youth sports values, which can help them deal with the demands and difficulties of life while also reaping the advantages of sports values.</p> <p>© 2023 ASEAN Journal of Sport for Development and Peace</p>	<p><b>Article History:</b> <i>Submitted/Received 20 Feb 2023</i> <i>First Revised 16 Apr 2023</i> <i>Accepted 8 May 2023</i> <i>First Available online 20 Jul 2023</i> <i>Publication Date 30 July 2023</i></p> <hr/> <p><b>Keyword:</b> <i>Sport Values,</i> <i>Soccer Training,</i> <i>Positive Youth Development.</i></p>

## 1. Introduction

Rapid technological advances mark the 21st-century. Our lifestyle and the way we interact with people have changed significantly when digital technology is present in various areas of our lives (Sukmasari, 2014). With today's technological sophistication, everything seems to be in hand with the rapid progress of gadgets, making very fast changes in communication working, studying, and various other areas of life (Sukmasari, 2014). The development of science and technology due to the rapid progress of the times seems to require every individual to continue to work and be productive (Asrani, 2019). Therefore, 21st-century skills are prepared as knowledge and skills to deal with problems that can occur in the 21st-century, both problems of global economic competition and digital technology (Reynolds et al., 2017)

The 21st-century has seen many changes from the 20th century, including in work, social life, and self-actualization (Wijaya et al., 2016). These changes will become an opportunity and a challenge that can be present in the 21st-century. Developments in the 21st-century must be balanced with the ability to face and overcome problems that can occur in the modern era of the 21st-century (Ngafifi & Ngafifi, 2014). One area that has not escaped change is the sports sector (Sugiyanto, 2018). One of the present changes is the application of technology in the world of sports. Various sports have now made technology an additional instrument for the development of various things in sports (Hidayah, 2015). Various innovations and creativity in sports continue to be developed to improve the quality and quantity of community participation in sports so that sport is not just a compliment but becomes an industry and media for each individual's self-development (Akin et al., 2020). Sports development in facing the challenges of the modern era continues to be developed with the support of sports policy, sports funding, and sports infrastructure and technology, which are important for sustainable sports development, with the overarching goals of peace, lifestyle quality, and the impact of sport on the country's economy (Oluwatoyin et al., 2021).

Sports academics should be at the forefront of sports development. However, unfortunately, practitioners and academics are still only a small part of the sports world, while politicians and businessmen still hold a big part. Of course, in the future, sports teaching staff must direct their learning to be ready to face the challenges of an increasingly extreme era (Ra. Bakar, 2022).

This research is a meta-analysis of 21st-century skills related to youth and sports by looking at articles and books available in the digital world. Meta-analysis is a technique used to summarize the findings of two or more studies to combine, review, and summarize previous research (Hidayatullah & Wulan, 2022). Besides that, using meta-analysis, various questions can be investigated based on data found from the results of previous research that has been published. One of the conditions needed in conducting a meta-analysis is examining the results of similar studies (Mansyur, 2017).

Based on the background above, the author intends to get an overview of 21st-century skills among youth and sports activists by conducting a meta-analysis of 21st-century skills articles related to youth and sports.

## 2. Methods

The research method used is meta-analysis. This meta-analysis is a technique used to summarize some of the findings of two or more studies regarding 21st-century skills in youth and sports. This research is a meta-analysis of the research results on 21st-century skills. This meta-analysis research is a study that uses secondary data in the form of data from previous research results (Mansyur, 2017). This research can be called ex post facto research in the form of a survey and analysis of literature articles on sports and youth.

### 2.1 Procedure

As for the procedure for meta-analysis of the article here, the researcher uses the Harzing publish or perish application to select data sources from Google Scholar, Science Direct, and Scopus by entering the keywords 21st-century skills, youth, and sports with a period from 2010 to 2023. The search results show 100 articles related to 21st-century skills, then. From the 100 existing articles, the researcher selected again to become 20 articles that are the most supportive and related to 21st-century skills in youth and sports.

### 2.2 Data Analysis

The data analysis technique used is descriptive analysis to assess whether the results of a meta-analysis are relatively stable against changes if a sensitivity test is necessary, among others, by comparing the research results

## 3. Results and Discussion

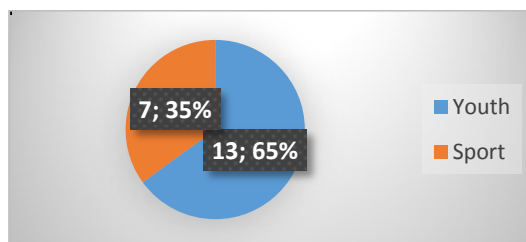
Based on the findings of articles from a literature review regarding 21st-century skills in sports and youth, research on 21st-century skills in youth and sports is still rare because articles on specific 21st-century skills in youth and sports are still difficult to find. Some are compared in education and technology. Based on the results of the search, it was found that there were 20 relevant articles in the field of sports and youth. The articles can be seen in the table below:

**Table 1.** Relevant Articles on 21st-Century Skills in the Field of Youth and Sports

No	Author and Year	Title	Journal
	Author and Year	Title	Journal
1	(Richmond et al., 2021)	Refocusing Science Education for Youth Empowerment In The 21 <sup>st</sup> Century s Skills	IOSR Journal of Research & Methods in Education
2	(Magno et al., 2016)	Student Teachers and Cooperating Teachers' Practices in the 21 <sup>st</sup> Century Classroom: Developing 21 <sup>st</sup> Century Skills among Learners	International Journal of Social Science and Humanities Research
3	(Tandika, 2022)	Instructional Materials and the Development of Young Children's 21 <sup>st</sup> Century Skills: Perspectives From Early Educators in Ukerewe, Tanzania	Journal of Research in Childhood Education

4	(Ichsan et al., 2023)	The Effectiveness of STEM-Based Learning in Teaching 21 <sup>st</sup> Century Skills in Generation Z Student in Science Learning: A Meta-Analysis	Jurnal Penelitian Pendidikan IPA
<b>No</b>	<b>Author and Year</b>	<b>Title</b>	<b>Journal</b>
5	(Boulden, 2021)	Developing 21 <sup>st</sup> Century Skills through Restorative Practices	Journal of Educational Strategies, Issues, and Ideas,
	(Sofyan, 2022)	The Development of Sports Management Research in Indonesia in the Early Twenty-First Century: A Bibliometric Analysis	Indonesian Journal of Sport Management
7	(Bahadir et al., 2019)	The Role of 21 <sup>st</sup> Century Learner Skills of Physical Education and Sports Teachers and Teacher Candidates on Teacher Skills	Turkish Journal of Sport and Exercise
8	(Tight, 2021)	Twenty-first-century skills: meaning, usage, and value	European Journal of Higher Education
9	(Sulistyaningrum et al., 2019)	Analisis Kemampuan Awal 21 <sup>st</sup> Century Skills Mahasiswa Calon Guru	Jurnal Pendidikan Dasar Nusantara
10	(Chin et al., 2013)	Sports for All (SFA) Strategies: An Integrated 21st Century Model of Leisure, Sports, and Health in Guangzhou, China	World Leisure Journal
11	(Edginton et al., 2013)	Revitalizing Health and Physical Education in the 21 <sup>st</sup> century	Journal of Physical Education, Recreation & Dance
12	(Greenlaw, 2015)	Deconstructing the Metanarrative of the 21 <sup>st</sup> Century Skills Movement,	Educational Philosophy and Theory
13	(Hidayatullah & Wulan, 2022)	Meta-analysis of the influence of 21st-century high school students' skills in learning physics using a guided inquiry model	Journal of Physics: Conference Series
14	(Humberstone, 2015)	Critical Space and Leisure Education in the 21 <sup>st</sup> Century Case Study Outdoor	Studies, Tourism Recreation Research
15	(Afandi et al., 2019)	Development Frameworks Of The Indonesian Partnership 21st-CenturySkills Standards For Prospective Science Teachers: A Delphi Study	Jurnal Pendidikan IPA Indonesia
16	(Naylor & Yeager, 2013)	A 21 <sup>st</sup> Century Framework for Character Formation in Sports,	Peabody Journal of Education
17	(Dahiru et al., 2016)	Nigerian youth: victims of the 21 <sup>st</sup> century	Elixir International Journal
18	(Alghafary, 2020)	. The Availability of the 21st Century Skills in the Sport and Health for All Curriculum of the Undergraduate University Students at Al-Balqaa Applied University, Jordan.	International Journal of Human Movement and Sports Sciences
19	(Rayinda Dwi Prayogi, 2019)	Kecakapan Abad 21: Kompetensi Digital Pendidik Masa Depan	Jurnal Manajemen Pendidikan
20	(Vanjani, 2022)	Soft Skills as Crucial Skills of the 21 <sup>st</sup> Century skills	International Research Journal of Management Sociology & Humanity

From the results of a literature review conducted on articles about 21st-century skills comparisons in the youth and sports fields, there are more youth fields than sports. The comparison is as follows:



**Figure 1.** Comparison of 21st-Century Skills Articles in the Field of Youth and Sports

From the results of the comparison above, it can be seen that there are 13 articles in the youth sector, while in the sports sector there are 7, so it can be concluded that there are more articles on 21st-century skills in the youth sector than in the sports sector.

#### 4. Discussion

21st-century skills were first developed by the Organization for Economic Cooperation and Development (OECD) country framework, which is detailed in a document entitled "21st-century Skills and competencies for New Millennium learners in OECD countries". about skills and competencies In the 20th century (Reynolds et al., 2017), researchers examined and critically reviewed the effects of Information and Communication Technology (ICT) on youth, along with consequential changes in teaching and assessment systems in several OECD countries (including Australia, Austria, Belgium, Canada, Finland, Ireland, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, and Turkey) (Reynolds et al., 2017). In Indonesia, 21st-century skills indirectly arise because of the reality of global education which has not fully accommodated the needs of digital era educational outputs. This is similar to the world of sports, the exercise paradigm that is formed is generally oriented towards competition. Athletes who unknowingly learn and their coach likes to compete but forget to cooperate (Rayinda&Dwi Prayogi, 2019). These 21st-century skills involve skills and understanding but also emphasize aspects of creativity, collaboration, communication, productivity, and multi-culturalism. Some also involve technology, behavior, and moral values, while emphasizing critical thinking and communication skills which are more challenging in the process (Voogt & Pareja, 2010). Furthermore, these 21st-century skills are summarized in a scheme called the 21st-century knowledge-skills rainbow (Trilling & Fadel, 2009).



**Figure 2.** 21st-century Skills Rainbow Diagram  
Source: [www.p21.com](http://www.p21.com)

In this study, it was found that 21st-century skills do not only come from one source. The authors have identified and observed 43 skills from three documents analyzed, including P21 (12 skills), enGauge-21CS (20 skills), and AT-21CS (11 skills). Skills. Their skills also have some of the same things (Afandi et al., 2019). This is proof that the skill demands contained in the three documents have the same content, and there is a reflection of conformity between the various competency frameworks, indicating the level of agreement between researchers in the field (Afandi et al., 2019). If we identify and compare the Conceptual Framework of 21st-century skills from the three institutions are as follows:

**Table 2.** Frameworks of 21<sup>st</sup>-Century Skills from P21, enGauge-21CS, and AT-21CS

P21	enGauge-21CS	AT-21CS
Learning and Innovation	Inventive Thinking	Ways of Thinking
<ol style="list-style-type: none"> <li>1. Creativity and Innovation</li> <li>2. Critical thinking and Problem Solving</li> <li>3. Communication</li> <li>4. Collaboration</li> </ol>	<ol style="list-style-type: none"> <li>1. Creativity</li> <li>2. High-Order Thinking and Sound Reasoning</li> <li>3. Curiosity Risk-Taking</li> </ol>	<ol style="list-style-type: none"> <li>1. Creativity and Innovation</li> <li>2. Critical thinking</li> <li>3. Decision Making</li> <li>4. Learning to Learn</li> <li>5. Metacognition</li> </ol>
Life and Career Skills	Effective Communication	Ways of Working
<ol style="list-style-type: none"> <li>1. Social and Cross-Cultural Skills</li> <li>2. Leadership and Responsibility</li> <li>3. Flexibility and Adaptability</li> <li>4. Initiative and Self-Direction</li> <li>5. Productivity and Accountability</li> </ol>	<ol style="list-style-type: none"> <li>1. Interactive Communication</li> <li>2. Teaming and Collaboration</li> <li>3. Interpersonal Skills Personal,</li> <li>4. Social and Civic Responsibility</li> <li>5. Inventive Thinking Adaptability, and Managing Complexity</li> <li>6. Self-Direction High Productivity</li> <li>7. Prioritizing, Planning, and Managing Results</li> <li>8. Effective Use of Real-World Tools Ability to Produce Relevant,</li> <li>9. High-Quality Products</li> </ol>	<ol style="list-style-type: none"> <li>1. Communication</li> <li>2. Collaboration</li> </ol>
		Living In the Word
		<ol style="list-style-type: none"> <li>1. Life and Career</li> <li>2. Personal and Social Responsibility</li> </ol>
Information, Media, and	Digital-Age Literacy	Tools for Working

Technology		
<ol style="list-style-type: none"> <li>1. Information Literacy</li> <li>2. Media Literacy</li> <li>3. Technology Literacy</li> </ol>	<ol style="list-style-type: none"> <li>1. Information Literacy</li> <li>2. Technological Literacy</li> <li>3. Visual Literacy</li> <li>4. Basic Literacy</li> <li>5. Scientific Literacy</li> <li>6. Economic Literacy</li> <li>7. Multicultural Literacy</li> <li>8. Global Awareness</li> </ol>	<ol style="list-style-type: none"> <li>1. Information Literacy</li> <li>2. ICT Literacy (information, media, and technology)</li> </ol>

of the good competencies in P21, enGauge-21CS, and AT21-CS, it is believed that they need to be able to live and survive in the 21st century (Hidayatullah & Wulan, 2022). Likewise, in the field of youth and sports, an athlete cannot only rely on expertise in the sport he is involved in. Besides that he must also have other skills to survive in situations when he is not an athlete. Both with the ability to become a trainer, entrepreneurship, or other fields that can meet the needs of a decent life (Akin & RA. Bakar, 2023). Not a few young people and athletes live by using technology to make extra money, either by becoming YouTubers, content creators, endorsers, and sponsors in collaboration with the activities they are involved in (Maros & Juniar, 2016).

## 5. Conclusion

Changes in the digital era are happening so fast, so we have to be able to adapt as quickly as possible to existing changes. So we have to have the right abilities, namely 21st-century skills, so that we can survive and get a decent life. Like a young man and athlete, apart from studying activities in the sport he is involved in, he must be equipped with other skills to perfect the activities. Digital technology is the future that will be faced with all its impacts, both positive and negative impacts. In the next research, writing provides recommendations for research on the influence of sports education on 21st-century skills and positive youth development (PYD) because there is a close relationship between education and 21st-century skills.

## 6. Authors' Note

The author would like to thank all those who have helped in writing this article, especially those whose writings have been cited and used as references in this paper. The author realizes that there are still many things that are not perfect in this writing. Here we apologize profusely. This can be a material improvement for writing subsequent articles.

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