



TRAINING METHODOLOGIES IN SAMBO: A COMPARATIVE STUDY WITH OTHER MARTIAL ARTS

Mudayat^{1*}, Arisman², Ardo Okilanda³, Dede Dwiansyah Putra⁴

¹Universitas Terbuka, Indonesia.

^{2,4}Universitas Negeri Jakarta, Indonesia.

³Universitas Negeri Padang, Indonesia.

mudayat@ecampus.ut.ac.id

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ABSTRACT

This comparative research explores the complex martial arts disciplines of Sambo, Brazilian Jiu-Jitsu (BJJ), Judo, and Taekwondo, analyzing their distinct techniques, strategic orientations, and impact on combat preparedness. The research highlights the diverse levels of skill across practitioners, as measured by participant scores (PS). BJJ practitioners excel in ground-based fighting methods, whereas Taekwondo focuses on agility and precise striking. Thematic studies demonstrate that Sambo exhibits flexibility by swiftly shifting between striking and grappling techniques, which is in contrast to Judo's emphasis on strategic balance, leverage, and tactical accuracy. The research clarifies the effectiveness of each discipline in improving the readiness of practitioners for war, highlighting the need to align training methods with particular combat situations and strategic goals. Nevertheless, the presence of constraints such as the size of the sample and the variety of the demography requires careful interpretation of the results.



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Penulis Korespondensi:

Nama Penulis, Mudayat

Lembaga, Universitas Terbuka

Email: mudayat@ecampus.ut.ac.id

INTRODUCTION

Martial arts have long been a fundamental aspect of human civilization, functioning not just as methods of battle but also as practices that promote physical well-being, mental resilience, and cultural legacy (Lee, 2022; Rusticus & Dumoulin, 2023; Tong, 2022; Zhou, 2023). Sambo, a Russian martial art with origins in diverse grappling forms, has received acclaim for its distinctive training methods and efficacy in both self-defense and competitive settings, amongst the multitude of martial arts that have arisen across different cultures and time periods (Kudryavtsev et al., 2023; Manuatu, 2023; Scott, t.t.). Given the increasing worldwide fascination with martial arts, it is crucial to comprehend the unique training procedures of sambo and evaluate them in relation to other well-established martial arts (Bluestein, 2014; DeMarco, 2017). The origins of sambo may be traced back to the early 20th century in the Soviet Union (Manuatu, 2023; Petrov, 2014), when it was created as a complete martial art that included aspects of judo, wrestling, and other grappling methods (Dias et al., 2022; Holmes et al., 2023; Poliakov, 2023). Sambo distinguishes itself from many conventional martial arts by prioritizing throws, locks, and ground fighting, thereby making it a flexible discipline well-suited for diverse combat circumstances (Sivers, 2023). The training approaches used in Sambo aim to not only improve physical traits such as strength, agility, and flexibility but also foster strategic thinking, adaptability, and resilience.

On the other hand, martial arts such as Brazilian Jiu-Jitsu (BJJ), Judo, and Taekwondo have unique training methods that are based on their own histories, philosophies, and cultural backgrounds (Liu et al., 2023; Meyer, 2022).

While many martial arts emphasize the importance of proper form and technique, others place more emphasis on sparring and practical application in real-world scenarios. An examination of the training procedures in sambo and other martial arts provides valuable insights into their individual merits, constraints, and suitability across several domains, including competitive sports, self-defense, and military instruction (Burt, 2023; Quinlan, 2022). This article seeks to examine the training approaches in Sambo, offering a thorough examination of its fundamental concepts, tactics, and training routines.

Moreover, it aims to juxtapose Sambo's training procedures with those of other martial arts, emphasizing resemblances, disparities, and prospects for possible amalgamation. This research enhances comprehension of martial arts pedagogy, training optimization, and interdisciplinary information sharing by analyzing the fundamental concepts and practices that govern training in sambo and other martial arts. This article aims to provide a comprehensive understanding of teaching procedures in Sambo by conducting a meticulous examination of historical sources, empirical investigations, and expert perspectives. By placing Sambo into the wider framework of martial arts, the goal is to encourage discussion, cooperation, and originality in the training and instruction of martial arts. The primary objective of this comparative study is to deepen our understanding and recognition of the variety, intricacy, and progression of martial arts in many countries and traditions. This will facilitate future investigations, expeditions, and advancements in this dynamic domain.

METHOD

The primary aim of this comparison study is to examine the complex training methods used in four different martial art disciplines: sambo, Brazilian Jiu-Jitsu (BJJ), judo, and taekwondo. The study adopts the qualitative research paradigm and utilizes a purposive sample strategy to deliberately target three highly skilled practitioners or teachers from each martial art discipline. The purpose of this methodological option is to include a wide range of knowledge, teaching methods, and subtle observations that together lead to a thorough grasp of the training methods in each subject. In order to provide a formalized sampling technique, the study presents a mathematical formula known as the Participant Score (PS) (Büyükoçkan et al., 2004), which is defined as:

$$\text{Participant Score (PS)} = w_1R + w_2T + w_3P + w_4K$$

In this equation, the variables w_1 , w_2 , w_3 , and w_4 represent weighting factors applied to several criteria: hierarchical rank (R), total training experience (T), pedagogical competence (P), and specialized knowledge (K). The coefficients act as measurable indicators, showing the relative significance and contributions of each criteria to the total participant score. This guarantees a fair and thorough depiction of knowledge in the sampled group.

In the field of data gathering, this study uses semi-structured interviews as the main research technique. This choice is based on the interviews' ability to encourage in-depth discussions, personal reflection, and detailed examination of complicated topics. The interview protocol is carefully crafted to cover a wide range of topics and subtopics, with the intention of gaining a deep understanding of the many aspects that define the training methods of each martial art discipline. Simultaneously, the study design includes the use of direct observational methods during certain training sessions, thereby implementing a triangulation approach. This technique combines interview data with observational insights, resulting in strong and reliable data collection that is characterized by increased validity, reliability, and contextual richness.

The table displays a systematic interview guide created to investigate and comprehend specific elements of four prominent martial arts disciplines: sambo, Brazilian Jiu-Jitsu (BJJ), judo, and taekwondo. Every martial art style is methodically classified using a series of four interview questions, with the goal of obtaining thorough views and viewpoints from practitioners, teachers, or specialists in each specific discipline. Sambo's interview questions focus on its fundamental concepts, its distinctive emphasis on quick transitions between striking and grappling techniques, essential training methods, and its overall approach to promoting adaptation and versatility in various fighting situations. Similarly, the questions regarding Brazilian Jiu-Jitsu (BJJ) aim to clarify its fundamental principles, comprehend its focus on combat on the ground and technical expertise, investigate essential training methods, and evaluate how BJJ improves practitioners' grappling skills and strategic maneuvering abilities. Within the realm of Judo, the interview questions seek to uncover the historical development, philosophical principles, strategic focus on balance, leverage, and tactical accuracy, main training methods, and impact on practitioners' total battle preparedness and strategic insight. Finally, the questions for Taekwondo aim to investigate its fundamental principles, philosophical

beliefs, distinct focus on agility, quick kicks, and striking techniques, core training methods, and its contribution to improving practitioners' adaptability, precision, and overall combat effectiveness. This table functions as a thorough interview guide, organizing interview questions specific to each martial art discipline. It enables a methodical examination and comprehension of their distinct characteristics, methods, and philosophies, as well as their impact on combat readiness and strategic abilities.

Table 1. Interview Questions Specific to Each Martial Art Discipline

Martial Art Discipline	Interview Questions
Sambo	<ol style="list-style-type: none"> 1. Can you describe the foundational principles of Sambo? 2. How does Sambo emphasize rapid transitions between striking and grappling techniques? 3. What are the key training methodologies utilized in Sambo? 4. How does Sambo foster adaptability and versatility in combat scenarios?
Brazilian Jiu-Jitsu (BJJ)	<ol style="list-style-type: none"> 1. What are the core tenets of Brazilian Jiu-Jitsu? 2. How does BJJ emphasize ground-based combat and technical mastery? 3. What training methodologies are integral to BJJ? 4. How does BJJ enhance practitioners' grappling proficiency and strategic maneuvering?
Judo	<ol style="list-style-type: none"> 1. Can you elucidate the historical evolution and philosophical tenets of Judo? 2. How does Judo emphasize balance, leverage, and tactical precision? 3. What are the primary training methodologies employed in Judo? 4. How does Judo contribute to practitioners' overall combat readiness and strategic acumen?
Taekwondo	<ol style="list-style-type: none"> 1. What are the foundational principles and philosophical tenets of Taekwondo? 2. How does Taekwondo emphasize agility, rapid kicks, and striking techniques? 3. What training methodologies are central to Taekwondo? 4. How does Taekwondo enhance practitioners' adaptability, precision, and combat effectiveness?

During the shift to the analytical phase, the research starts on a rigorous journey of theme analysis, which is defined by its repetitive, recursive, and systematic nature. This analytical framework involves iterative processes of coding, progressing through stages of open coding, axial coding, and selective coding methodologies. In order to measure and determine the level of analytical precision present in this qualitative framework, the study develops the Inter-Coder Reliability (ICR) (O'Connor & Joffe, 2020) metric. Mathematically represented as:

$$\text{Inter-Coder Reliability (ICR)} = \frac{\text{Number of Agreements}}{\text{Total Number of Coding Instances}} \times 100\%$$

This formula functions as a numerical measure, precisely defining the level of agreement and similarity across coders. By checking how reliable each coder is with the others, the research improves the analytical strength, internal validity, and generalizability of new themes, patterns, and insights. This enhances the methodological integrity and academic rigor of the study.

Simultaneously, the study design carefully incorporates a comprehensive set of ethical measures, procedures, and considerations to ensure the protection of participants' rights, anonymity, and privacy. The informed consent processes play a crucial role in clearly explaining the rights of participants, the purpose of the study, the methods involved, and the possible consequences. Furthermore, the study design incorporates techniques for anonymizing data, guaranteeing that all gathered information is free from any identifying characteristics, thereby safeguarding the confidentiality and privacy of the participants. Reflexivity, an essential element in qualitative research, is consistently practiced to encourage self-reflection, openness, and rigorous methodology throughout the research process. This ensures that the study adheres to ethical standards, maintains academic integrity, and stays relevant to society.

RESULT

This study has thoroughly examined participant scores (PS) obtained from a comprehensive assessment of hierarchical rank, training experience, pedagogical expertise, and specialised knowledge in different martial art disciplines. The aim was to gain a deep understanding of the complex intricacies and training methods associated with these disciplines. The following table presents the participant scores, providing a comparative framework to analyse and understand the unique characteristics, strategic orientations, and training focuses of Sambo, Brazilian Jiu-Jitsu (BJJ), Judo, and Taekwondo. Upon examining the table, take note of the differences in participant scores across different practitioners in each field, resulting in an average PS that offers a consolidated assessment of the overall competence and skill seen. This comparative study provides a solid framework for in-depth understanding and thorough conversations about the distinct characteristics, capabilities, and strategic approaches that differentiate each martial art discipline in its specific field.

Table 2. Result

Martial Art	Participant 1 (PS)	Participant 2 (PS)	Participant 3 (PS)	Average PS
Sambo	32	29	26	28.33
BJJ	34	30	27	30.33
Judo	34	29	26	29.67
Taekwondo	30	26	23	26.33

Sambo

During this comparison investigation, Sambo practitioners demonstrated participant scores (PS) ranging from 26 to 32, with an average PS of about 28.33. The diverse variety of skills shown by the chosen participants highlights their high degree of competence. This demonstrates their hierarchical status, extensive training, teaching abilities, and specialised knowledge specific to Sambo. The variety of scores in question not only demonstrates the players' unique abilities but also highlights the discipline's focus on developing versatile practitioners who are skilled at navigating the complex aspects of sambo.

Upon further examination of the qualitative data analysis, a clear and noticeable pattern becomes apparent, revealing insights into Sambo's unique training system that is distinguished by its comprehensive incorporation of fighting skills. Sambo's educational approach focuses strongly on encouraging quick transitions between striking and grappling techniques. This comprehensive training philosophy provides practitioners with a diverse range of skills, allowing them to effectively handle both striking and grappling situations with precision and strategic intelligence. Moreover, the results clarify Sambo's comprehensive training approach aimed at promoting flexibility, versatility, and strategic expertise among participants.

These observations align with Sambo's main goal of developing adaptable fighters who can overcome various difficulties and battle barriers. Sambo's training regimen goes beyond technical skill, including a sophisticated combination of strategic foresight, tactical agility, and flexibility. This enables practitioners to thrive in different combat situations. To summarise, the results highlight Sambo's distinct training philosophy and methods, emphasising the discipline's dedication to developing practitioners' capacity to adapt, be versatile, and have strategic skills. The all-encompassing training strategy of Sambo highlights its effectiveness in generating versatile fighters who are skilled at negotiating the complex dynamics of modern martial arts, thereby establishing its respected standing within the wider martial arts world.

Brazilian Jiu-Jitsu (BJJ)

Within the scope of this extensive comparison analysis, individuals practicing Brazilian Jiu-Jitsu (BJJ) displayed participant scores (PS) ranging from 27 to 34, with an average score of roughly 30.33. The diverse variety of skills shown by the questioned BJJ practitioners demonstrates their exceptional knowledge and ability in several aspects of BJJ. This is a credit to their rigorous training, teaching abilities, and comprehensive comprehension of the complex elements of BJJ. The variation in ratings highlights the complex and diverse aspects of BJJ, a martial art that prioritises a combination of technical skill, strategic thinking, and tactical creativity to effectively traverse ground-based combat situations. An exhaustive examination of the qualitative data reveals the many subtleties and strategic directions inherent in BJJ's training model.

First and foremost, the educational framework of Brazilian Jiu-Jitsu (BJJ) prioritises techniques used in ground-based situations. This goes beyond traditional stand-up techniques and focuses extensively on concepts like leverage, joint manipulation, and submission grips. BJJ's emphasis on tactical and systematic fighting highlights its

preference for intricate techniques and strategic manoeuvring rather than relying on sheer strength or superficial tactics. In addition, the theme analysis highlights the importance of positional dominance in BJJ as a prerequisite for properly performing advanced techniques and submissions. This strategic focus emphasizes BJJ's dedication to honing techniques, developing spatial awareness, and learning leverage dynamics. These skills are crucial for conquering opponents.

The focus of this discipline is on strategic manoeuvres, controlling positions, and improving techniques. These elements work together to make Brazilian Jiu-Jitsu very effective in allowing practitioners to methodically neutralise their opponents' strengths and take advantage of their strategic weaknesses. The results shed light on the complete and strategic training philosophy of BJJ, highlighting the discipline's emphasis on ground-based techniques, leverage dynamics, and positional superiority. These observations not only emphasise the effectiveness of BJJ as a powerful martial art but also clarify its inherent worth in developing practitioners' skillful technique, strategic intelligence, and tactical creativity. Therefore, the intricate training methods and strategic approaches of BJJ establish its highly regarded status in the world of martial arts, highlighting its effectiveness, flexibility, and lasting significance in modern combat situations.

Judo

Judo is a martial art that combines skill, strategy, and philosophy in a complex manner. The scores of the Judo practitioners varied significantly, ranging from 26 to 34, with an average score of around 29.67. The wide range of results highlights the varied skills and competency of the assessed Judo practitioners, demonstrating their unwavering dedication to understanding the complex details of the discipline, improving methods, and preserving its cherished customs. An in-depth theme analysis of the qualitative data provides unique insights into the fundamental principles and strategic directions of Judo.

First and foremost, Judo's educational structure prioritizes the mastery of throws, takedowns, and ground control techniques. This goes beyond just athleticism and includes aspects of balance, leverage, and keen tactical awareness. Judo's emphasis on core principles highlights its dedication to aligning with the energy of opponents, using their momentum, and effectively diverting forces to gain tactical benefits. Moreover, the discoveries shed light on Judo's all-encompassing training methods, which are distinguished by their holistic approach to preparing for fights. Judo goes beyond basic physical skills and focuses on developing practitioners' strategic awareness, flexibility, and nuanced comprehension of opponents' moves and intents. The comprehensive training philosophy of Judo empowers its practitioners with a wide range of abilities that are intended not just for effective fighting but also for promoting mutual respect, discipline, and ethical behavior both within and outside the training facility.

Moreover, Judo's focus on effectively using the energy and movements of opponents highlights its strategic complexity. Judo practitioners can achieve martial harmony and tactical superiority by prioritizing balance, leverage, and tactical maneuvering. This allows them to neutralize adversaries' strengths, exploit vulnerabilities, and take advantage of strategic opportunities. To summarize, the findings obtained from the theme analysis clarify Judo's diverse training methods, strategic approaches, and long-lasting philosophical foundations. These revelations highlight the effectiveness of Judo as a powerful martial art and emphasize its lasting significance, flexibility, and profound influence in developing skilled practitioners who can navigate complex combat situations with skill, honesty, and strategic intelligence.

Taekwondo

Taekwondo is distinguished among martial arts disciplines for its dynamic fusion of striking methods, fluid motions, and philosophical principles. The scores of the participants in Taekwondo varied noticeably, ranging from 23 to 30, with an average score of roughly 26.33. The wide range of scores provides a captivating insight into the extensive knowledge and skill demonstrated by the surveyed Taekwondo practitioners. This emphasizes their unwavering commitment to mastering the complex techniques of the discipline, improving their teaching methods, and preserving its cultural legacy. An exhaustive thematic analysis of the qualitative data reveals the fundamental principles and strategic directions that are inherent to Taekwondo's training model. Taekwondo places great emphasis on developing quick kicks, agility, flexibility, and precise striking skills as key elements of its teaching approach. These fundamental components come together to provide a comprehensive training program aimed at improving the fighting effectiveness, strategic intelligence, and overall martial skills of practitioners.

Furthermore, the findings obtained from the theme analysis provide a deeper understanding of Taekwondo's extensive training methods, which are distinguished by their varied approach to preparing for fights. Taekwondo

practitioners develop a versatile range of skills suited for many fighting situations by focusing on quick kicks, agility drills, flexibility exercises, and precise striking methods. A sophisticated training philosophy provides practitioners with the necessary skills to handle the intricacies of warfare, adjust to changing circumstances, and take advantage of strategic chances with skill and strategic insight.

Moreover, Taekwondo's focus on attaining accurate technique and agility highlights its dedication to acquiring exceptional skill and expertise. By engaging in intensive training regimens, practitioners refine their reflexes, improve their spatial awareness, and develop a profound comprehension of distance, time, and leverage. Taekwondo's extensive range of abilities, including swift kicks, nimble maneuvers, and accurate strikes, establishes its reputation as a powerful martial art that enhances practitioners' physical abilities, mental strength, and ethical principles. To summarize, the findings obtained from the theme analysis clarify Taekwondo's diverse training methods, strategic approaches, and long-lasting philosophical foundations. These revelations highlight the effectiveness of Taekwondo as a powerful martial art, emphasizing its lasting significance, flexibility, and profound influence in developing skilled practitioners who can navigate complex combat situations with skill, honesty, and strategic intelligence.

DISCUSSION

A Comparison of Skill Levels

The comparative examination of Participant Scores (PS) among practitioners in Sambo, Brazilian Jiu-Jitsu (BJJ), Judo, and Taekwondo provides a complete perspective of the varying skill levels present in each discipline. BJJ practitioners had the highest average PS, suggesting their extensive proficiency in battle on the ground, complicated submission techniques, and strategic maneuvering. This level of skill demonstrates Brazilian Jiu-Jitsu's focus on using body mechanics, achieving superior positions, and employing precise technique to effectively neutralize opponents (Verghese, 2022). On the other hand, Taekwondo's somewhat lower average PS highlights its focus on striking methods, particularly fast kicks, nimble movements, and precise strikes designed for stand-up fighting situations.

Approaches and Beliefs in Training

A more profound theme analysis reveals the distinct training procedures, philosophical principles, and strategic orientations that set apart each martial art discipline. The training philosophy of Sambo, which involves quick shifts between striking and grappling methods, demonstrates its capacity to adapt, its flexibility, and its comprehensive battle preparedness. This strategy provides practitioners with a versatile range of skills, allowing them to smoothly switch between different combat situations, adjust to changing enemy tactics, and take advantage of strategic chances (Weissmann & Nilsson, 2023). On the other hand, Judo's focus on throws, takedowns, and ground control techniques demonstrates its dedication to maintaining equilibrium, using leverage, and executing strategic accuracy. The training regimens, skill development, and strategic acumen of practitioners in Judo are shaped by core ideas that have strong historical and philosophical roots. This contributes to Judo's renowned standing within the martial arts world.

Significance for Military Readiness

The findings obtained from this comparative analysis shed light on the effectiveness of each field in improving the battle readiness, tactical skills, and strategic abilities of practitioners. BJJ's focus on techniques performed on the ground develops practitioners' mastery in grappling situations, nurturing refined abilities in controlling positions, executing submission holds, and executing strategic maneuvers. On the other hand, Taekwondo's emphasis on agility, quick kicks, and striking techniques improves the capacity of practitioners to adjust to different circumstances, perform with accuracy (Aloui et al., 2022), and effectively attack in upright combat scenarios. These detailed observations emphasize the need of matching training methods to particular battle situations, enemy characteristics, and strategic goals. This will enhance the martial skills, preparedness, and overall effectiveness of practitioners in various combat conditions.

Constraints and Prospects for Further Investigation

This study offers interesting insights into the chosen martial arts disciplines, but it is important to acknowledge some limitations that should be taken into account in future research efforts. The generalizability and application of results across wider groups may be influenced by factors such as the sample size, regional representation, and demographic variety of participants. Incorporating quantitative metrics, biomechanical analyses, and longitudinal studies in future research endeavors would greatly enhance our understanding of the effectiveness, training methods, and overall impact of each discipline on the physical, mental, and ethical development of practitioners. These extensive research initiatives would help develop a more detailed understanding of martial arts disciplines, encourage

collaborations between different fields of study, and greatly contribute to the advancement of knowledge, improvement of training methods, and enhancement of combat readiness in the martial arts community.

CONCLUSION

To summarize, this comparative research has conducted a detailed examination of the complex martial arts practices of Sambo, Brazilian Jiu-Jitsu (BJJ), Judo, and Taekwondo. Each discipline contributes in a distinctive way to the larger field of martial arts, distinguishing itself through its own approaches, guiding principles, and strategic directions. The examination of participant scores (PS) revealed different degrees of proficiency among practitioners, with disciplines like BJJ demonstrating a notable focus on fighting techniques performed on the ground, precise skill execution, and tactical movement. On the other hand, disciplines like Taekwondo prioritize quickness, quick attacks, and precise techniques designed for upright combat situations. The thematic analyses uncovered the complex training methods and philosophical principles that are inherent to each discipline. Judo's emphasis on balance, leverage, and tactical precision emphasizes its strategic depth and historical lineage, while Sambo's ability to seamlessly switch between striking and grappling techniques exemplifies its adaptability. Moreover, the significance of readiness in warfare highlights the effectiveness of each field in developing practitioners' fighting skills, tactical intelligence, and strategic capacities. Such findings underscored the need to match training approaches with particular combat situations, enemy characteristics, and strategic goals to maximize practitioners' combat preparedness and effectiveness across varied contexts. Nevertheless, it is essential to recognize the constraints of the research, such as the limited number of participants, the lack of representation across different geographical areas, and the absence of a diverse demography, all of which might impact the capacity to apply the results to a wider population. Future studies should include integrating quantitative measures, biomechanical analysis, and longitudinal studies to get a deeper understanding of the effectiveness and influence of each field on the comprehensive growth of practitioners. Essentially, this comparative research aims to enhance our comprehension of martial arts disciplines, promote interdisciplinary partnerships, and improve training practices within the martial arts community. This study provides a solid basis for future research, professional growth, and ongoing innovation in the ever-changing field of martial arts by combining theoretical frameworks, empirical evidence, and practical knowledge.

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