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TRAINING THE STRUCTURE OF COMPETITIVE SKILL IN JUDO

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Abstract: *The training of competitive skills in judo is a continuous and holistic process that requires an integrated approach to all aspects of sport. To study the problem of the gradual training of judoka competitive skill, it was decided to conduct a study on different age groups of athletes. The judoka competitive skill has been assessed at different level competitions. As a result of the study, an innovative way to build a model of the "Ideal Judoka" was proposed, including 16 separate skills developed because of the officially adopted rules of judo competitions.*

Key words: *competence, competition, judo, professional inclinations, ideal athlete.*

1. Introduction

The trend in world sports is a constant increase in training volume and competitive tasks. This is due to the increased competition on the world stage, because of the number of countries whose representatives compete for the most prestigious awards in judo. The possibility of achieving the highest sports results increases if a fundamental role is given to the building and content of the education and training process, considering the "model of a highly qualified athlete".

In this capacity, scientists proposed a model of the "ideal judoka", developed on the basis of an analysis of the indicators of outstanding athletes. The creation of such a model through the work of outstanding scientists represented a breakthrough in sports science. However, building such a model requires a lot of factual material and many years of research on tens or hundreds of the world's strongest athletes, which is not always available, not

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to mention the difficulties of research. Therefore, a more advanced and accessible way to determine the characteristics (skills) of the „ideal athlete" is needed.

We proposed an improved method for building a model of the „ideal athlete" based on an in-depth study of the Competition Rules. We defined the model's set of individual skills as „competitive skill." In our opinion, is the most important. Because in the hierarchical distribution of model features, the highest level is occupied by the competitive activity model [6]. Because competitions, especially high-ranking competitions, are the goal of all sports activities, and the sports result is an evaluation of all previous training.

A definition of professional competence: „Professional competence is understood as an integral characteristic of a person that determines the ability to solve professional problems and tasks that arise in real situations of professional activity using professional and life experience, values and inclinations." [5].

Training competitive skill structure in judo involves a complex process that combines physical, technical, tactical, mental and psychological development of athletes. Here is a detailed approach to this process Table 1.

Training competitive skill structure in judo Table 1

Training competitive skill structure in judo	
Physical Development	**Strength and Physical Condition** - Strength training - Cardiovascular endurance - Flexibility and mobility **Functional training** - Balance and coordination exercises - Proprioception.
Technical Development	**Learning Basic Techniques** - Kumi-kata (Kimono clasp); - Throwing techniques (Nage-waza). - Immobilization techniques (Ne-waza): **Improving Techniques** - Reps and drills: - Sparring :.
Tactical Development	**Competitive Strategies** ● Opponent Analysis: ● Match planning: **Adaptability** ● Reaction and Combating: ● Tactical variety:
Mental and Psychological Development	**Concentration and Focus** ● Mindfulness techniques ● Views **Managing Stress and Emotions** ● Mental training ● Mental resilience

Training competitive skill structure in judo	
	Motivation and Attitude ● Setting objectives ● Intrinsic and extrinsic motivation.

Based on this, we can formulate a definition of competitive skill: "Competitive skill is understood as an integral characteristic of an athlete that determines the ability to solve problems and tasks that arise in real situations of competitive activity using the necessary, competitive and life knowledge, experience, values and inclinations."

In turn, the professional skill of judoka consists of the following aspects: cognitive, praxiological, axiological [2].

The cognitive aspect of competence is characterized by knowledge and awareness of what the athlete is doing. "...Knowledge is the core of any activity and the mechanism that regulates and directs it"); ". awareness. - the ability to justify the choice of a certain method of carrying out a task, that is, a given indicative basis for action, and not any other" [2]. They perform a system training function in the process of developing professional skills.

The praxeological aspect involves the mastery of different methods of competitive activity and allows the realization of skills in the conditions of a competitive duel.

The axiological aspect consists in value understanding. This component regulates the inclusion of mechanisms of self-esteem, self-analysis, self-management of competitive combat and competitive activity in general. It is aimed at correlating the process of training a competitive activity model and studying the extent to which the goal has been achieved.

Taking as an example the structural-content model of M.B. Shashkina and L.V. Shkerina [4], we tried to develop a similar model for judoka (Table 1).

The level of competitive skill of different ages and training levels will be different. Thus, for masters of sports it will be much higher than for third-class athletes. However, when comparing third and second ranked judoka or candidates for master of sports and masters of sport, it is quite possible that the advantage is on the side of the former. Training competitive skills depends on many factors: the organization of the training process, the competitive experience, the physical development of those involved, age, state of health, factors of increasing skills.

In the light of the above, it has been suggested that training the structure of competitive skills in long-term training from stage to stage does not always proceed progressively and uniformly. Due to age-related changes, increased training and competitive experience, at some point there is a „leap" in its development.

Organization and research methods. To study the problem of the gradual training of the competitive skill of judoka, it was decided to conduct a study on different age groups of athletes: I (11-12 years) - 726 people, II (13-14 years) - 553 people, III (15-17 years) - 637 people, IV (male) - 557 people. The competitive skill of judoka has been assessed at different level competitions.

The evaluation of the competitive skill of different age groups and weight categories judokas was carried out

according to the individual skills developed on the basis of the Competition Rules.

Methodology for awarding "+" / "-"e.g. first skill

1. Attack in the 1st minute of the match

"+": The athlete initiates a clear, decisive and intentional attack (e.g. a valid throw hold, an active encirclement) within the first 60 seconds of the fight.

„-": The athlete is passive, waiting, or the first actions are only probing/defending without a clear intent to attack during this interval.

16. Falling after throwing any part of the body except the back

"+": Performs a throw in which he lands controlled on one part of the body (e.g. hip, elbows) to protect his back and maintain control over the opponent.

"-": Lands on his back (losing points) or performs unsafe throws.

This methodology transforms the evaluation from a subjective one to a very objective one. The expert doesn't just look at „how the fight looks," but checks a list of well-defined criteria. An athlete with a high „+" number has demonstrated a wide range of tactical, technical, and physical skills, which sets him apart from someone who can win with a single action.

Table 2

The structural and content model of a judoka's professional skill: „Ready to use attack and defense techniques to achieve victory"

The aspect of skill	**Element of skill**	**Characteristics of the element judoka skill**
Cognition	Knowledge in the field of real objects in relation to which the skill is introduced. Knowledge in the field of methods, procedures and techniques of activity in the field of this skill.	Knowledge of attack and defense techniques; Knowledge of competition rules. Knowing how to use techniques in a duel within the rules of competition.
Praxeological	Skills, aptitudes and methods of activity in the field of competence Minimum competitive experience required.	Skills: ● apply attack and defense techniques. ● quickly assessing the situation in a fight and selecting appropriate technical actions. ● create a convenient situation for an attack. ● predicts the opponent's actions. - neutralizes enemy attacks.
Axiological	Attitude towards activities in the field of competence and its result (showing interest, activity, organization, focus on achieving results, understanding the meaning of the result and self-esteem).	Skills: - draws a conclusion about the appropriateness of the technical and tactical actions taken in a given combat situation and the degree of implementation of the combat and competition plan as a whole; - independently studies ways to gain an advantage in expected situations of confrontation and fighting in general. Understanding the importance of technique in judo.

2. Research results

When analyzing the fights for each of the 16 skills, depending on their presence or absence, each participant was given a "+" or "-".

Thus, the percentage of plus content was calculated by weight category. For this purpose, the number of fights multiplied by two was taken as 100% (since there are two participants in each fight). Based on these data, maps of Judoka's competitive competence were drawn up (Table 3).

The sequence of development of competitive skill was monitored by gradually comparing the average values of each individual competence by age: group I with II, II with III, III with IV. Comparisons were made using the Student 1 -test at a 5% significance level.

Between groups I (11-12 years) and II (13-14 years) differences were found in 1 (attack in the 1st minute of the fight), 2 (continuous attack), 7 (combined fights), 8 (attack), in lying down combat), 13 (no warnings) skills. In all cases, the result was higher in group I, despite the difference in age and combat experience. This is explained by the fact that, first, time of combating for athletes of group I is two minutes, and there is a complete lack of competitive experience, which forces 11-12-year-old judokas to attack from the first seconds, using all suitable cases.

Sports training

Their continuous attack sometimes seems like a combination of techniques; Judokas often try to gain an advantage in fights, where any successful technique can lead to a "shido" and end the fight early. Therefore, they have less "shido" penalties for passivity. Secondly, 13-14-year-old athletes have a little more wrestling experience, and the fight lasts not two minutes, but three. Because of this, they are careful to attack, spend more time preparing mainly for a technique, and don't always risk continuing the fight in a lying down position. And the referees are forced to give "shido" for such a fight.

After 13-14 years, the next age level is 15-17 years. Their comparison revealed differences in the following skills: 5 (performance during a fight), 7 (combined fight), 8 (attack in prone combat), 9 (three real attacks in a minimum period of time), 10 ("retreating" the opponent so that he takes a defensive position), 11 (Removing the opponent out of the combating area), 12 (blocking the opponent's attempts to throw from knees position or overhead with the leg on the abdomen), 13 (no warnings), 14 (handcuffing), 15 (making counterattack). In table 6 "P'" shows the overwhelming advantage of athletes in the III age group. Apparently, 15-17 years is the age at which there is a sudden qualitative leap in the competitive skill of judokas in most individual skills. Indeed, the most rapid growth of the body occurs at the age of 15-17 years. Bone growth slows down, muscle mass increases rapidly, several physiological indicators improve [4, 6], and athletes significantly increase their skills. Many meet the standard of a master's candidate in sports. In fact, they are already mature athletes.

Comparison of competitive skills of judokas from different age groups Table 3

Skills	I gr., 11-12 years	II gr., 13-14 years		III gr., 15-17 years		IV gr., male	
	M ± m	M ± m	P	M ± m	P'	Hsr ± m	P''
1	36,48 ± 3,95	19,83 ± 3,05	< 0,01	13,63 ± 0,94	-	5,48 ± 1,41	< 0,001
2	18,52 ± 2,78	8,54 ± 2,88	< 0,05	10,85 ± 1,45	-	9,91 ± 2,56	-
3	2,73 ± 0,51	3,77 ± 1,98	-	5,72 ± 1,45	-	6,25 ±1,56	-
4	36,34 ± 1,85	38,22 ± 3,78	-	40,25 ± 1,78	-	41,81 ± 2,25	-
5	14,73 ± 1,73	9,55 ± 2,22	-	16,72 ± 1,46	< 0,05	15,31 ± 2,65	-
6	42,34 ± 1,25	38,56 ± 3,38	-	43,52 ± 1,68	-	41,55 ± 1,67	-
7	34,28 ± 1,76	27,92 ± 2,01	< 0,05	41,15 ± 0,85	< 0,001	47,64 ± 1,67	< 0,01
8	35,68 ± 0,88	30,47 ± 2,05	< 0,05	45,74 ± 1,28	< 0,001	42,35 ± 2,08	-
9	33,95 ± 1,67	29,21 ± 3,52	-	39,26 ± 1,18	< 0,05	40,75 ± 1,44	-
10	29,12 ± 1,35	24,61 ± 2,67	-	33,43 ± 2,05	< 0,05	33,49 ± 1,75	-
11	29,12 ± 1,35	24,61 ± 2,67	-	33,43 ± 2,05	< 0,05	34,24 ± 1,75	-
12	29,85 ± 1,32	24,91 ± 2,87	-	36,17 ± 2,08	< 0,01	42,57 ± 1,13	< 0,05
13	80,02 ± 2,17	57,25 ± 3,84	< 0,001	69,85 ± 2,61	< 0,05	65,48 ± 3,24	-
14	29,42 ± 1,25	24,61 ± 2,67	-	33,75 ± 2,02	< 0,05	43,96± 3,11	< 0,05
15	38,97 ± 1,85	29,55 ± 3,91	-	45,24 ± 1,83	< 0,01	46,11 ± 1,94	-
16	77,25 ± 2,27	73,61 ± 6,35	-	75,43 ± 2,76	-	70,77 ± 2,95	-

Note: 1. P' - comparison of groups II and III.

2. P" - comparison of groups III and IV.

Table 4

Table of estimated values of t

	Competency	Estimated t-value
1.	Attack in the 1st minute	t ≈ 3.34
2.	Continuous attack	t ≈ 2.50
7.	Combination fights	t ≈ 2.38
8.	Attack in the prone position	t ≈ 2.34
13.	No warnings	t ≈ 5.16

The sequence of development of competitive competence was monitored by gradually comparing the average values of each individual competence by age: group I with II, II with III, III with IV. Comparisons were made using the student 1 test at a significant level of 5%.

Between groups I (11-12 years old) and II (13-14 years old) differences were found in 1 (attack in the 1st minute of the fight), 2 (continuous attack), 7 (combined fights), 8 (attack. in fights lying down), 13 (without warnings) competences. In all cases, the result was higher in group I, despite the difference in age and fighting experience. This is explained by the fact that, firstly, the duration of the meeting for athletes of group I is two minutes and there is a complete lack of competitive experience, which forces judokas of 11-12 years old to attack from the first seconds, using all suitable cases.

Detailed Analysis by Competency

A. Competencies with Statistically Significant Differences (Most Important Findings)

These are the areas where Group I demonstrates clear and measurable superiority.

Competency 1: Attack in 1 Minute ($P < 0.01$) Analysis: Group I (36.48) is significantly ahead of Group II (19.83). This indicates that the younger players start the fight with significantly more

aggression, energy, and immediate offensive intent. This is a highly significant difference (P < 0.01 probability level), making it one of the most robust findings of the study.

Competency 13: No Warnings (P < 0.001) Analysis: This is perhaps the most striking difference. Group I (80.02) is significantly more disciplined and active than Group II (57.25). A score of 80% suggests that most 11–12-year-olds avoid passivity and actions that lead to warnings. The dramatic drop in the 13–14-year-old group (below 60%) indicates that teenagers are becoming more passive, more calculated (trying to „manage" the fight) or committing more penalized tactical mistakes.

Competency 2: Continuous Attack (P < 0.05) Analysis: Group I (18.52) maintains offensive pressure better than Group II (8.54). This confirms the tendency for aggression and sustained rhythm observed in Competency 1.

Competencies 7 & 8**:** Combined Fighting & Prone Attack (P < 0.05) Analysis: In both competencies, Group I (34.28 and 35.68) significantly outperforms Group II (27.92 and 30.47). This suggests that the younger players are more fluid in the transition between feet and ground and more active when in the guard position. Group II appears to have a more compartmentalized fight.

B. Skills with Numerical Differences (no statistical significance declared)

In these skills, Group I consistently scores higher, but the difference is not marked as statistically significant in this data set (denoted by - in column P). This consistent pattern nevertheless supports the overall narrative.

Skill 5: Performance during the fight (14.73 vs 9.55): Group I shows better physical condition and concentration throughout the match.

Skill 6: Tactical plan (42.34 vs 38.56): The younger players seem to have a slightly clearer and better applied tactical idea.

Skills 9, 10, 11, 12, 14, 15 (Specific Offensive Techniques): Group I scores higher on all of these skills that measure efficiency in attack, counterattack and the application of specific techniques (combos, unbalancing, handcuffs).

C. Skills with Close Results or in Favor of Group II

Skill 3: Pulse at the End (2.73 vs 3.77): Group II scores slightly better. This may indicate an incipient tactical maturity – the understanding that the end of the fight is critical and can be the moment to recover or close a match.

Skill 4: Reception Preparation (36.34 vs 38.22): Very close scores, with a slight advantage for Group II. This is normal, as controlled landing technique improves with experience and training.

Skill 16: Controlled fall (not on the back) (77.25 vs 73.61): Both groups have high scores, which is good. The small advantage of Group I is in line with the general trend.

Their continuous attack sometimes looks like a combination of techniques; Judokas often try to gain an advantage in prone fights, where any successful technique can lead to a "shido" and end the fight early. Therefore, they have fewer "shido" penalties for passivity. Secondly, 13–14-year-old athletes have a little more experience in wrestling, and the fight lasts not two minutes, but three. Because of this, they are attentive to the attack, spend more time preparing mainly for a technique, and do not always risk continue the fight in a prone position. And the referees are forced to give "shido" for such a fight.

After 13-14 years old, the next age level is 15-17 years old. Their comparison revealed differences in the following skills: 5 (performance during a fight), 7 (combination fighting), 8 (attack in prone combat), 9 (three real attacks in a minimum period of time), 10 ("retreating the opponent from afar, so that he takes a defensive position), 11 (pushing the opponent out of the working area), 12 (thwarting the opponent's attempts to perform throws from the knee or above the head with the foot resting on the stomach), 13 (lack of warnings), 14 (handcuffing), 15 (performing a counterattack). In table 6 "P'„ shows the overwhelming advantage of athletes from the III age group. Apparently, 15-17 years is the age at which a sharp qualitative leap in the competitive competence of judokas in most individual skills occurs. Indeed, the most rapid growth of the body occurs at the age of 15-17. Bone growth slows down, muscle mass increases rapidly, several physiological indicators improve [4, 6], and athletes significantly increase their skills. Many meet the standard of a candidate for master of sports. In fact, they are already mature athletes.

This comparison between age groups II (13-14 years) and III (15-17 years) is very revealing and confirms the hypothesis that between 15 and 17 years a major qualitative leap occurs.

Summary of the Analysis (Key Takeaways)

1. Major Qualitative Leap: Group III (15-17 years) demonstrates overwhelming superiority over Group II (13-14 years) in almost all assessed skills. The advantage is so clear that the authors use the word „overwhelming".

2. The Shift from Potential to Mastery: 15–17-year-old athletes not only maintain their aggression, but also combine it with technical precision, tactical intelligence, and efficiency. They have moved beyond the "clumsy" transition phase of early adolescence.

3. Tactical Skills Consolidate: The largest jumps (with strong statistical significance, $P < 0.001$) are observed in the core skills of modern judo: combined fighting and prone attacking. This indicates a deep understanding of sport.

4. The jump is Generalized, not Isolated: The improvement is not just in one or two areas; it is visible in all aspects of fighting, from offensive attacking to competitive discipline.

Detailed Analysis by Skills

Let's group the skills together to see the pattern of development.

A. Skills with the Greatest Improvement (Maximum Qualitative Leap)

These are the areas where Group III shows the greatest competitive maturity.

Skill 7: Mixed Martial Arts ($P < 0.001$) Analysis: This is probably the most significant jump. The score increases from 27.92 to 41.15. The 15–17-year-old athletes have mastered the art of smoothly transitioning from standing to ground fighting. This is a clear sign of a wide technical range and an overall view of the fight.

Skill 8: Attacking in prone fighting ($P < 0.001$) Analysis: Another huge jump, from 30.47 to 45.74. This shows that the athletes are no longer using the ground position solely for defense, but as an active offensive platform. This creates constant scoring and victory opportunities for them.

B. Skills with Significant Improvements (Consolidated Development)

In these skills, Group III shows a clear and statistically significant improvement.

Skill 15: Counterattacking ($P < 0.01$) Analysis: Increase from 29.55 to 45.24.

This demonstrates tactical intelligence and reaction speed. They transform opponents' attacks into their own opportunities, a sign of a mature fighter.

Skill 12: Interrupting knee throws ($P < 0.01$) Analysis: Increase from 24.91 to 36.17. They became much more effective in neutralizing one of the most common offensive actions of their opponents, which denotes superior technical preparation and anticipation.

Skills 9, 10, 11, 14: Quick attacks, off-balance, pushing from the zone, handcuffing ($P < 0.05$)

Analysis: All these specific offensive skills show consistent increases (e.g. from ~24-29 to ~33-39). 15–17-year-old athletes not only attack more, but they do so with a more precise and efficient technique. They can impose their rhythm and position.

Skill 13: No warnings ($P < 0.05$) Analysis: Very important! The score increases from 57.25 to 69.85. This does not mean that they become more passive. On the contrary, it means that their offensive actions are now more effective and less risky. They have learned to avoid passivity (which brings warnings) without resorting to desperate or illegal actions.

Competency 5: Performance during the fight ($P < 0.05$) Analysis: Increase from 9.55 to 16.72. This reflects a higher physical condition, better effort management and mental focus maintained throughout the match.

C. Competencies with Modest Improvements or Stagnation

Competency 1: Attack in the 1st minute and Competency 2: Continuous attack Analysis: Group III scores (13.63 and 10.85) are lower than Group II scores (19.83 and 8.54), although the difference with Group II remains significant ($P < 0.01$ and < 0.05). This may suggest a change in tactics: more mature athletes may prefer to study their opponent in the early moments instead of throwing themselves into an all-out attack, or it may reflect a higher overall tactical level of opponents at this age.

Competency 3: Pulse at the end and Competency 4: Reception preparation Analysis: Competency 3 increases slightly (from 3.77 to 5.72), and Competency 4 remains stable (from 38.22 to 40.25). These are skills that improve with experience, and progress is constant.

Competency 16: Controlled fall Analysis: Very close and high scores (73.61 vs 75.43). Both groups master this basic technique well.

The third comparison, between Group III (15-17 years old) and Group IV (Men / Seniors), is fascinating because it shows us how the sports elites are structured. Unlike the huge leap between groups II and III, here we observe a stabilization and refinement of performance.

Summary of Analysis (Key Takeaways)

1. Elite Level Reached: The 15–17-year-old group performs at a level very close to seniors in the vast majority of skills. This confirms that the age of 15-17 is the formation period of the future elite.

2. Refinement, not Revolution: The significant differences are few, but very relevant. Seniors do not necessarily do completely different things, but they do them better, with more finesse and maximum efficiency in critical areas.

3. Focus on Maximum Efficiency: Seniors are distinguished by the ability to complete offensive actions (combination fighting, handcuffing) and defend against specific attacks (knee throws) at an expert level.

4. Significant Decrease in Initial Attack: This is the biggest difference and indicates a profound tactical shift at the senior

level. Blind aggression is replaced by careful analysis of the opponent.

Detailed Analysis by Competency. Let's group the competencies to see the pattern.

A. Competencies where Seniors (Gr. IV) have a Clear Significant Advantage

These are the key areas that differentiate an international-level athlete.

Competency 1: Attack in the 1st minute (P'' < 0.001) Analysis: This is the biggest difference between the two groups. The seniors' score drops dramatically to 5.48, compared to 13.63 for the 15–17-year-old juniors. This does not mean that the seniors are passive! On the contrary, it indicates a major tactical shift. The seniors use the first moments to study the opponent, probe them and read their intentions. They replace immediate aggression with careful preparation of a safer and more effective attack later. It is the sign of an experienced and confident fighter.

Skill 7: Combined Fighting (P'' < 0.01) and Skill 14: Grappling (P'' < 0.05) Analysis: In both skills, seniors (47.64 and 43.96) outperform juniors (41.15 and 33.75). This is essential:

Combined fighting is the lifeblood of modern judo. Seniors are more effective at finishing their attacks: a throw is not just an end, but a way to immediately move on to a winning ground fight.

Grappling is one of the most direct paths to victory. The higher score of seniors shows that they have greater precision and opportunity to apply finishing techniques. They turn the advantage into victory.

Skill 12: Interrupting knee throws (P'' < 0.05) Analysis: Seniors (42.57) are significantly better than juniors (36.17) in neutralizing this action. This indicates extensive experience and a superior ability to anticipate the intentions of top opponents.

B. Skills with Very Close Performance (Non-significant)

In most cases, juniors aged 15-17 are on par with seniors. This is remarkable and shows the quality of Group III.

Skills 2, 3, 4, 5, 6, 9, 10, 11, 15, 16: In these skills (e.g., Performance during the fight, Tactical plan, Counterattack, Controlled fall), the differences between the means are minimal and not statistically significant. Juniors have already acquired a technical and tactical level very close to that of the seniors.

C. Skills with Small Differences (no declared statistical significance)

Skill 8: Attacking from the prone position and Skill 13: No warnings

Analysis: There is a slight decrease in the scores in the seniors (from 45.74 to 42.35 and from 69.85 to 65.48). This can be explained by the much higher level of competition at the senior level. It is more difficult to be active and effective against elite opponents, who defend themselves much better. The decrease is not significant, which confirms that the seniors maintain a very high level.

3. Conclusions

1. Why are the youngest (11-12 years old) apparently more competent: Simplicity and Respect for Instructions: 11–12-year-olds apply more faithfully what they are taught in training. They are less inhibited, less concerned with consequences and, therefore, more aggressive and active. „Attack more" is an instruction he literally applies.

The Adolescent Transition Age: At 13-14, athletes enter adolescence. They become more self-aware, start to "overthink", may

become more passive for fear of making mistakes, or attempt more complex tactics that they have not yet fully mastered. Factors such as fear of failure or greater psychological pressure also appear.

Physical Developmental Burst: Athletes in Group II may be in a phase of accelerated growth, which may temporarily affect coordination, agility, and body control, making them appear clumsier and less effective in applying techniques compared to the younger, more physically stable group.

The data does not suggest that Group I is more talented, but rather that they apply a simpler, more direct, and closer to the basic principles of the sport. Group II is in a critical transition phase, where coaches must work to rebuild confidence, solidify the technical base, and channel physical and psychological development into a more mature and equally effective fighting style.

2. The leap to 15-17 years. Data suggests that this period is the “golden age” of training young judokas. Here's why:

Psychological Maturation: Athletes become more focused, disciplined, and able to understand and apply complex strategies. They have overcome the inhibitions and uncertainties of early adolescence.

Physical Consolidation: The body has developed enough to have the strength, speed, and coordination of a young adult, allowing for precise and powerful application of techniques.

Experience Accumulation: They have accumulated thousands of hours of training and hundreds of fights. Practical experience now translates into “hands-on” and efficiency.

Specialization: At this age, some specialization begins to emerge. Athletes discover their strengths and build a personal style based on the skills they have already mastered.

The comparison shows a natural progression: from the raw aggression and discipline of Group I (11-12 years), through the transition and incomplete consolidation phase of Group II (13-14 years), to the tactical mastery and superior technical efficiency of Group III (15-17 years). This progression validates the importance of a long-term and age-appropriate training program.

3. From Promising Junior to Elite Senior This comparison shows us that the path to the absolute peak of performance is no longer a dramatic leap, but an optimization of the details.

Shifting the Tactical Paradigm: The most important transition is mental. Seniors replace the initial aggression with patience, analysis and precision. I understand that the first attack is often the most dangerous... to yourself if it is not perfectly calculated.

Efficiency and Finishing: Seniors excel at “closing” their actions. Whether we are talking about going from feet to ground (combination fighting) or applying a handcuff, they are more effective at turning an opportunity into a concrete victory.

Experience vs. Strength: Juniors aged 15-17 are, from a physical and technical point of view, extremely capable. Seniors add to these qualities experience - the ability to “read” a match, anticipate the opponent and make perfect decisions under pressure.

The analysis shows that the training program is very effective, producing at the age of 15-17 athletes who possess the technical basis to compete with the seniors. The final steps to the elite are the finest and hardest: learning to use intelligence and experience to gain an advantage against those as talented as you.

4. The presented model shows that performance in competitive judo is not just a collection of isolated skills, but a dynamic and interconnected system. For example:

- First minute attack (C1) is supported by Start Preparation (C4) and Controlled Aggression (P3).
- Efficiency in Ne-waza (C8, C14) is directly related to the ability to perform Combination Fights (C7) in Tachi-waza.
- A good Fall (Ukemi - C16) supports Mental Resistance (P3) and allows for a more effective Counterattack (C15).

Therefore, the training of an elite judoka must aim not only at developing each skill separately, but also at integrating and strengthening the links between them, to create a complete and adaptable competitor.

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