

HOBBIT WEEKLY

FOR YOUTH COACHES

The week in youth football, picked for coaches

Cover story

Coaching · サカイク

Stay at 8-a-side, build the scan

Through the winter window, U12s
learn by playing, not shaping

12 Oct to 18 Oct 2026

75 to 90 minutes

A step-by-step plan from benjamin to
juvenil

Three plus one

Halftime talks that help players think

U10 parent spat

Pass the facts to the coach, not the other
family

ISSUE

04

7 languages · read online · free PDF

hobbit.football/news

Price
Free



HW 2026 · 04

COVER STORY

-
- | | | |
|----|--|----|
| 01 | Is it better to do "head start" training that makes the transition to 11-a-side football easier from the autumn of sixth grade? Tell me recommended coaching up to entry into junior high school | 04 |
| | サカイク | |
-

THIS WEEK

-
- | | | |
|----|---|----|
| 02 | Efficient guide to planning youth soccer sessions: the step-by-step method for coaches | 08 |
| | Aprende Entrenando | |
| 03 | Halftime Talks: Are We Helping Players Think or Simply Adding to Their Confusion? | 11 |
| | Eastern New York Youth Soccer | |
| 04 | The problem of what to do about the troublesome parent and child who take their child's side at face value and never apologize, causing trouble with the other children | 16 |
| | サカイク | |
| 05 | Tired of stressing out about practices | 20 |
| | r/SoccerCoachResources · 21 comments | |
-

FROM THE COACHING COMMUNITY

-
- | | | |
|----|--------------------------------------|----|
| 06 | How to make 7u team more aggressive | 22 |
| | r/SoccerCoachResources · 25 comments | |
-

ON THE PITCH

-
- | | | |
|----|--|----|
| 07 | How to create a game model in youth soccer step by step | 24 |
| | Aprende Entrenando | |
| 08 | How to Grow as a Soccer Coach: From Youth Soccer to Higher Categories | 27 |
| | Aprende Entrenando | |
| 09 | Win it with the second defender's positioning and jockeying! Building "organized defending" based on 2v2 | 31 |
| | サカイク | |
| 10 | What is the "quality" of stopping, kicking, and carrying? Basic technique training usable from beginners to advanced players | 33 |
| | サカイク | |
-

RESEARCH AND DATA

-
- | | | |
|----|---|----|
| 11 | Elastic Band Training Across Competitive Levels in Female Soccer: A Randomized Controlled Trial With Follow-up | 35 |
| | Sports Health | |
| 12 | Association between environmental heat stress and 30:15 intermittent fitness test performance in youth football players: a two-season observational study | 50 |
| | Frontiers in Sports and Active Living | |
-

Every piece appears in full, translated by AI where the original is in another language. Copyright stays with each author and original publisher; every piece links to its original.

Less Talk, More Ball

A U8 coach stands at practice with a plan in hand, dreading the next hour. Across the field, a U12 coach is tempted to start size 5 heading drills in sixth grade to get ready for 11-a-side. Both are reaching for more than the players need right now.

We see the same answer across this issue. Ikegami Sei says keep 8-a-side until March and put scanning and linking first. Tim Bradbury's Rule of Three Plus One trims the halftime talk. The U7 question is answered with 1v1 duels, not lectures on aggression.



Give them the ball and a clear task.

So before your next session, check your plan: a 15 minute ball warm-up, two or three progressive tasks, a short cool-down that asks questions. Then ask yourself whether each instruction, each extra drill, each early size 5 ball, is helping them play or just adding to the confusion.

What is one thing you will take out of your next session so your players get more time with the ball?

The Hobbit editors

12

stories

6

sources

2

coaching discussions

46

replies read

8

languages

FOR COACHES

If your U12s are between the last official match and March, spend that window on scanning and combination play in 8-a-side games rather than on 11-a-side shape.

COVER STORY

Coaching ・ サカイク

01 Is it better to do "head start" training that makes the transition to 11-a-side football easier from the autumn of sixth grade? Tell me recommended coaching up to entry into junior high school

Does getting a "head start" in soccer make junior high easier? A consultation from a father coach wondering whether being used to 11-a-side gives an advantage, or whether it is better to keep playing 8-a-side throughout the elementary school years.

Consultations like this increase around the time the last official matches finish.

Osamu Ikegami, who has served as a youth coach at JEF United Ichihara Chiba and as Home Town Academy Director at Kyoto Sanga F.C., and who has coached a cumulative total of more than 600,000 children, offers advice on coaching from this period until just before junior high school entry. (Writing and composition: Yuko Shimazawa)

<Question from a father coach>

Hello, Ikegami-san.

I coach at a certain local club. That said, I am usually a company employee, not a professional coach. For the past few years I have been in charge of 6th graders, and from around this time of year I find myself unsure about something. Every year, many of the children continue playing soccer after junior high school, and my question is about preparing them for that.

When they enter junior high school, both school and soccer change greatly, and I think the stress is big. So I sometimes think that if they build the stamina to keep up even when practice intensity rises, or if they experience 11-a-side beforehand, they might be able to have a bit more room to spare.

Personally, I have mixed feelings about doing ahead of other teams' kids what others are not doing, so as to gain experience points and stand mentally superior, like some kind of head start education..... (I am not saying head start is bad, but I also do not think you can necessarily take an early lead from the start and run away with it)

Still, looking back at myself, I think the stress of the environmental change from elementary to junior high was big, so that is what makes me think this way.

Although there are practices and invitation matches until the end of March, official matches end in October and November, so is there anything you recommend for how to keep motivation after that, or how to structure training?

Or is it easier for them to adapt to 11-a-side if they properly play 8-a-side until the end of March?

<Advice from Ikegami-san>

Thank you for your consultation.

You are in charge of 6th grade elementary school students, correct?

When they enter junior high school, they shift from 8-a-side to 11-a-side, so how should they spend the autumn and winter season of 6th grade, and how should a coach respond? This is a question I often receive at this time of year.

If they experience 11-a-side so they do not struggle in junior high, perhaps they can approach it with at least a little more room to spare. To that end, it seems everyone thinks they want to "prepare something."

I understand your feelings, but here let me talk about the priorities of development according to age group.

■Rather than preparing for 11-a-side, focus on "what should be acquired by age 12"

The basic way of thinking about soccer does not change whether it is 8-a-side or 11-a-side. It should be fine to experience 11-a-side after actually becoming a junior high school student. There is no need to rush the transition to that in 6th grade.

The reason I say this is that I want coaches of children age 12 and under to focus on "what should be acquired by age 12" rather than "preparation for 11-a-side."

What should be mastered by age 12 is not responding to the number of players. It is becoming able to properly link up in the game with 8 players.

It does not have to be 8 players. It can be 6 or 7, and for example, please have them become able to do what is commonly called the third-man movement. Movement away from the ball. Being able to look for space, or fill it.

If they master that, then even if it becomes 11-a-side, or the system changes, or their position changes, or the area they move in becomes wider, they will get used to such things quickly. That is what I learned through nearly 45 years of experience teaching children.

■The disadvantages of head start education

In other words, it can be said that head start education has disadvantages. If you try out or teach 11-a-side movements, there is a possibility that you postpone the tasks that should originally be worked on at age 12.

With 8-a-side, it should be easier to confirm whether players look at their surroundings, make judgments, and understand the principles of linking from defense to midfield to the front line.

Therefore, rather than experiencing 11-a-side, I want you to spend time on becoming able to do the "perception and judgment" described above. I want that acquisition to be the priority.

■In 8-a-side, they need to learn the ability to accurately see their surroundings and the structure of soccer for linking

Let me explain why 8-a-side is easier to understand.

For example, when the ball comes out from the goalkeeper, who does the back player look at and how does he respond? He must grasp the positions of the players to his left and right and in front of him.

Suppose you ask a back player, "The ball came out from the goalkeeper. Who and who does the defender mark?" If you make this 11-a-side, the things to look at increase, so it becomes confusing.

Furthermore, because many teams switch to 11-a-side on the same size pitch as 8-a-side, with the increased number of players, even an ambiguous pass may be picked up by someone. I also see scenes like that.

To prevent that, let them play 8-a-side soccer and develop the ability to properly see what is around them.

"Connecting from defense to midfield, and from midfield to the top, that is soccer, and to do that with 8 players, it works out like this." They should learn things like this properly by the time they are 12. First, with 8-a-side soccer, they need to learn the ability to accurately see their surroundings and the structure of connecting soccer.

If they do that, you should be able to picture, at the point when the children in front of you are 12, "the kind of player these kids will be when they turn 17."

In soccer, it is considered ideal to learn many soccer-related elements by around age 17.

Coaches of players 12 and under, please coach while imagining, "When this child turns 17, what kind of player will they become?"

■The most important thing when entering junior high school is a mind and personality that can think for themselves

As I already said, I understand the parental feeling of wanting them not to struggle when they go to junior high school, but the most important thing when entering junior high school is a mind and personality that can think for themselves and respond to various things themselves. Let us place importance on polishing that.

In Europe, around age 17, players are trained again in basic techniques such as stopping and kicking. They repeat again the accurate kicking and timing needed to succeed as professionals.

In contrast, in Japan there is a tendency to teach techniques early, and learning about coordination and cooperation as a team falls behind. At the point of sixth grade in elementary school, there are not a few children who have not learned soccer in which everyone cooperates to carry the ball to the goal.

In the autumn and winter of sixth grade, tournaments and such decrease. Why not make this a time to relearn soccer? Rather than scoring by beating opponents alone, have them think about where to pass the ball in cooperation with teammates.

In junior high school, the ball also changes. It shifts from a size 4 ball to a size 5 ball. Using a size 5 ball sometimes is not a problem, but having them kick it hard from an early stage can cause sports injuries. The impact on ankles, knees and so on is not small. Especially when placing a heavy load on players whose height is growing rapidly, injuries such as lumbar spondylolysis become more likely to occur.

Source: [サカイク](http://sakaiku.jp) · Translated from Japanese sakaiku.jp

THIS WEEK

02

Coaching

U8 to U18

Efficient guide to planning youth soccer sessions: the step-by-step method for coaches

For coaches If your sessions start with a lap without the ball, the guide swaps it for rondos and small games; the 60-second rule and 'no queues' check are quick tests for your own plan.

You arrive at the field ten minutes early, you take out your phone in the car, you look for a flashy exercise on social media and you pray that the kids understand it straight away. You already know the result: endless lines, distracted players and the feeling of having thrown an hour and a half in the bin. To break this destructive habit you need a clear method of daily work without demanding endless hours in front of the screen.

Many coaches start out in youth soccer full of enthusiasm, but they crash into a lack of organization. They copy what they see online or imitate senior coaches without understanding that a nine-year-old does not learn the same way as an adult. Let's change that today.

The big mistake: coaching children as if they were small adults

The main problem in youth academies is the lack of pedagogical adaptation. We see sessions designed for first teams applied to beginner groups. Complex tactical automatisms are demanded of children who are still discovering how to orient their body when receiving a pass.

Each developmental stage requires a different approach. If you do not respect the maturational moment of your squad, the planning will blow up:

- U9 (8-9 years): Priority on constant contact with the ball, basic decision-making and small-sided games. Forget analytical tactics. They need to experience 1v1 and 2v1 situations continuously.
- U11 (10-11 years): Beginning of spatial understanding. This is the moment to introduce simple collective concepts such as width, depth and technical consolidation in dynamic contexts.
- U13 (12-13 years): The jump to 11-a-side soccer. Planning must focus on relationships between lines, positions and understanding of the different phases of the game.
- U15 (14-15 years): Development of the rhythm of play, sectoral and intersectoral tactics, and physical preparation always integrated with the ball.

- U18 (16-18 years): Youth competition. Maintaining the game model with a high degree of cognitive demand, speed of execution and tactical reading according to the demands of the match.

When you adjust the content to the real age group you coach, training sessions flow. The kids do not get frustrated and you stop shouting mistimed corrections from the sideline.

Your game model: the compass for organizing training

There is a false belief that building a game model is something complex reserved for the elite. Nothing could be further from the truth. Your game model is simply the clear answer to this question: how do you want your team to play?

Without this guide, organizing the week becomes a brainstorming session with no direction. On Tuesday you propose an isolated possession task, on Thursday you do a fitness circuit without the ball and on Saturday you ask yourself why the team does not know how to defend a cross.

To avoid complicating your life, define three or four clear intentions for your team. For example:

- We want to progress through short passes looking for the third man.
- After losing the ball, we press for three seconds in the area where the action happened.
- In organized defense, we come together in a mid block and direct the pressure toward the wings.

With these points clear, designing a session will not take you more than 15 minutes. Every task you choose must serve to feed one of those principles.

Step-by-step structure of an optimized session

A youth soccer session should last between 75 and 90 minutes. You do not need more. What is truly important is the density of the work and the players' time of motor engagement.

This is the practical structure that works best day to day:

1. Activation or warm-up (15 minutes)

Eliminate laps around the field without the ball. It is a waste of training time. Use dynamic rondos, mobility games with the ball or decision-making tasks in reduced spaces. You prepare the body and the mind from the first second.

2. Main part (45-50 minutes)

Here you work on the priority objective of the day. Ideally, structure this phase into two or three progressive tasks:

- Task 1 (Introductory): Small-sided situation (example: 3v3 + 2 floaters) where the concept you want to work on appears very frequently.
- Task 2 (Development): Positional play or sectoral situation with more space and a greater number of players (example: 6v6 with conditions).
- Task 3 (Real application): Modified match or real game with provocation rules that reward the behavior worked on previously.

3. Cool-down and feedback (10 minutes)

Active stretches, equipment collection organized by the group itself and the closing talk. Do not give a monologue. Ask your players open questions to check what they have absorbed: Why was it hard for us to find the free man in the second exercise? Make them think.

Four golden rules to maximize time on the grass

The coach's main enemy is dead time. A 90-minute training session where the kids spend 40 minutes standing in a line is a lost session. Apply these basic rules:

1. The 60-second rule: No initial explanation should exceed one minute. Brief explanation, quick visual demonstration and let's play. Individual corrections are made on the fly.
2. Zero lines in the tasks: If you see three players standing waiting their turn, the task is poorly designed. Double the spaces, add neutrals or create simultaneous stations.
3. Setting up the equipment beforehand: Arrive at the field with plenty of time to spare. Mark out the spaces with cones and organize the bibs. If you start placing cones while the kids watch you, you lose control of the group before you begin.
4. Provocation rules: Instead of constantly stopping the game to correct, modify the rules of the exercise. If you want to encourage crosses, determine that goals from a direct finish after a cross count triple. The task will teach for you.

How to distribute the content across your week

To avoid overloading yourself during microcycles, spread the work focuses across the training days you have assigned:

- Day 1 (Weekly initiation): Focus on the offensive phase and progression. Tasks with a lower contact load and a higher conceptual volume.
- Day 2 (Main load): Focus on the defensive phase and transitions. High intensity, reduced spaces and an abundance of duels.
- Day 3 (Pre-match): Reaction speed tasks, set-piece actions and short real game play to arrive with spark for the weekend.

This order allows you to analyze the previous match, correct shortcomings in the first days and adjust competitive nuances at the end of the week.

The difference between improvising and coaching with purpose

When you plan with order and judgment, the change in the group is immediate. Players respect the structure, the level of attention multiplies and collective learning accelerates.

Leave aside the unbearable academic documents and focus on giving meaning to your time and that of your footballers. Choose a clear objective, design three logical tasks and go out onto the field to enjoy teaching. That is the path to being a coach who makes a difference.

Source: [Aprende Entrenando](#) · Translated from Spanish [aprendeentrenando.com](#)

03

Coaching

Halftime Talks: Are We Helping Players Think or Simply Adding to Their Confusion?

For coaches Try setting your three team objectives and each player's one focus before kick-off, so halftime becomes a short reflection on what they already know rather than a new briefing.

By Tim Bradbury, Director of Coaching, Eastern New York Youth Soccer Association

Having spent more than 30 years coaching and educating coaches in both formal and informal environments, I can honestly say that I have witnessed many highlights and more than a few lowlights.

What frustrates me most is that so many of the mistakes I witnessed decades ago continue to appear on soccer fields today. I wish I could say that we had evolved, that we had learned from our mistakes, and that the challenges facing young players were new ones. Unfortunately, in many cases, we seem determined to repeat the same mistakes year after year.

One area that continues to cause me considerable concern is the halftime team talk.

Why is it that so many otherwise sensible coaches seem to abandon everything we know about teaching and learning the moment the halftime whistle blows?

Perhaps it is the emotion of the game. Perhaps it is an inability to manage frustration. Perhaps it is the mistaken belief that effective coaching means providing a constant stream of instructions. Or perhaps coaches simply forget that the players standing in front of them are children with limited capacities to process, remember and act upon large amounts of information.

Whatever the reason, the result is frequently the same: players return to the field with their brains scrambled, their confidence diminished and their ability to solve problems independently seriously compromised.

THE HALF-TIME PANTOMIME

You would have to search long and hard to find a weekend of youth soccer where you did not witness halftime talks displaying several of the following characteristics:

1. Information overload. Coaches deliver so many observations, corrections and instructions that players have little chance of remembering any of them. If everything is important, nothing is important.
2. Confusion disguised as coaching. The talk jumps from defending to attacking, from individual mistakes to team shape, and from one tactical issue to another, with little structure or clarity. Players return to the field more confused than when they left it.
3. Emotion replacing education. Frustration, anger and disappointment dominate the conversation. Rather than inspiring players to embrace the second half, the coach succeeds in draining their enthusiasm and enjoyment.
4. Cognitive overload. The sheer volume of words and instructions overwhelms players' working memory. Instead of helping them recognize and solve the problems they encountered in the first half, the coach makes those problems seem even more complicated.
5. Commands replacing thinking. Players are told where to stand, when to pass, when to press and what decisions to make. Little opportunity is provided for them to reflect, analyze or develop their own solutions. We claim to want intelligent, independent players and then spend halftime doing all their thinking for them.
6. Players becoming spectators in their own learning. The very people who have just experienced the game are rarely invited to share their observations. The coach talks, the players listen and the opportunity to develop understanding through reflection and discussion disappears.
7. Conflicting messages from the sidelines. As players return to the field, parents frequently add their own tactical instructions, sometimes directly contradicting what the coach has just said. Imagine being nine years old and trying to reconcile three different opinions about what you should do with the ball!
8. Too many adults, too many messages. Assistant coaches and other well-intentioned adults sometimes feel compelled to contribute their own observations without listening carefully to what has already been communicated. The result is a collection of disconnected, and occasionally contradictory, instructions.

And then we wonder why young players struggle to make decisions!

Perhaps we should spend less time questioning their soccer intelligence and more time examining the environments we create for them.

A BETTER WAY: THE RULE OF THREE PLUS ONE

If we genuinely believe that soccer is a thinking game, and that players learn through experience, reflection and problem-solving, then our halftime conversations must reflect those beliefs.

I suggest a simple approach built around what I call the Rule of Three Plus One.

The principle is straightforward: a maximum of three clear team messages, supported by meaningful observations, plus one individual development focus for each player.

However, the success of this approach depends on what happens before the game, during the first half and throughout the halftime conversation.

1. Start before the game begins

Effective halftime coaching starts with effective pregame preparation. Before kick-off, establish a maximum of three clear team objectives connected to your intended style of play. For example:

- Can we support the player on the ball by creating good passing angles?
- Can we recognize opportunities to switch the point of attack and exploit space?
- Can we get sufficient players into attacking positions when we penetrate the opponent's defensive lines?

These objectives should be communicated clearly before the game so that players understand what they are attempting to achieve.

In addition, each player should have one individual development focus. This might relate to first touch, scanning, body position, communication or another technical or tactical behavior.

The important point is that half-time should not become an opportunity to introduce a completely new collection of objectives. It should primarily be an opportunity to reflect on the challenges and successes associated with the objectives already established.

2. Observe with intention

Throughout the first half, coaches should observe the game with their agreed objectives in mind. Rather than simply reacting emotionally to every misplaced pass or missed opportunity, gather information that helps determine whether the team is making progress.

Where appropriate, substitutes can be involved in recording simple observations, such as:

- The highest number of consecutive passes completed.
- The number of occasions the team successfully switches the point of attack.
- The number of passes that break an opponent's defensive line.
- The number of occasions players create numerical overloads.
- The number of players supporting attacks in dangerous areas.

This has the added benefit of keeping substitutes engaged in the game and encouraging them to become thoughtful observers.

Statistics should never become an obsession, and numbers without context can be misleading. However, a few carefully selected observations can provide useful evidence to support a meaningful halftime discussion.

3. Let the players speak first

This is perhaps the most important part of the entire process. When the players arrive at halftime, resist the temptation to immediately launch into your observations. Give them a brief opportunity to recover, have a drink and collect their thoughts.

Then invite them to discuss the first half in small groups or within their team units. Ask questions such as:

- What were we trying to achieve, and how successful were we?
- What problems did the opposition create for us?
- What solutions have we discovered, and what might we try differently?

Allow players to share their thoughts and invite a few representatives to report back to the larger group. Listen carefully.

You may be surprised by how much the players have noticed, how accurately they can describe the challenges they face and how creative their proposed solutions can be.

After all, they are the ones playing the game. They have experienced the pressure, recognized the spaces and made the decisions. Surely their observations deserve to be heard before ours?

4. Apply the rule of three

Having listened to the players, the coach can now contribute a maximum of three clear and concise team messages. Ideally, these should reinforce the objectives established before the game.

For example: “We spoke before the game about supporting the player on the ball. Our longest sequence of passes was three. What could we do to create better passing options and help us keep possession long enough to build an attack?”

Notice the difference between this approach and simply shouting: “We need to pass the ball better!”

The first provides context, evidence, and an opportunity for thought. The second provides little more than a command.

Remember that three is a maximum, not a target. If one important point is sufficient, make one point. The aim is not to demonstrate how much the coach knows. The aim is to help the players understand what matters.

5. Add the plus one: individual development

In addition to the team messages, make every effort to provide each player with brief, meaningful feedback on the individual objective established before the game.

For example: “Your first touch has been positive, but can you make your next touch take the ball away from pressure?”

Or: “You have been finding good spaces to receive. Now see whether you can scan earlier so you know your next action before the ball arrives?”

This feedback should be specific, manageable and connected to the player’s development. It does not require a lengthy conversation. Indeed, a few well-chosen words are often considerably more valuable than a prolonged lecture.

When time is limited, these individual conversations can take place while players are resting, during substitutions or at other suitable moments throughout the game.

6. Let the players have the final word

Before returning to the field, give the players another opportunity to speak. Ask them to identify the most important things they want to carry into the second half.

Perhaps ask: “What are the two things we are going to concentrate on?” Or: “What will we do differently if we face the same problem again?”

Their answers provide an immediate indication of whether the conversation has created clarity or confusion. More importantly, they reinforce the idea that the players have ownership of their performance and responsibility for solving the challenges the game presents.

Let the players speak first and last. After all, it is their team and their game.

LESS TALKING, MORE THINKING

We frequently hear coaches talk passionately about developing intelligent players, encouraging decision-making and creating player-centered environments. Yet the behaviors displayed during halftime often contradict these ambitions.

If we want players who can think independently, we must provide opportunities for independent thought. If we want players who can solve problems, we must resist the temptation to solve every problem for them. If we want players who take ownership of their development, we must give them a genuine voice in the learning process.

There is also an important lesson here from cognitive load theory. Working memory has a limited capacity. When we bombard young players with too much information, particularly in emotionally charged environments, we risk overwhelming the very cognitive processes they need to understand and apply our messages.

The solution is not simply to speak more slowly or repeat the same instructions more loudly. The solution is to become more selective, more intentional and more thoughtful about what we say, when we say it, and why we say it.

Halftime should be a moment of clarity, reflection, encouragement and renewed purpose. Not a lecture. Not an emotional outburst. And certainly not an exercise in demonstrating the tactical brilliance of the adults.

Perhaps the ultimate test of an effective half-time talk is not how much the coach has said, but how clearly the players understand what they intend to do next.

The next time you gather your players at halftime, ask yourself one simple question:

Am I helping these players think more clearly, or am I simply scrambling their brains?

Source: Eastern New York Youth Soccer enysoccer.com

04

Safety and welfare

U10

The problem of what to do about the troublesome parent and child who take their child's side at face value and never apologize, causing trouble with the other children

For coaches When a spat between parents spills in from school, passing the facts to your coach keeps the response about the squad's behaviour rather than whose account wins.

A troubling parent and child who take their own child's side at face value and never apologize, and who even spread all sorts of things to those around them and make the conflict bigger. The child hurled abusive words at a child who had been worrying about how to help that child get along well with everyone, driving that child to stay away from both school and soccer.

Because they were close and it was such a good team, we do not want them to be missing for a reason like this. We received such a consultation.

Yuko Shimazawa, a journalist on sports and education who is also a senior soccer mom, offers advice on a worry that is heard recently not only in soccer but in other sports and at schools. (Composition and text: Yuko Shimazawa)

<Consultation from a soccer dad>

I am a father in the U-10 generation. This is not about my own child but a consultation among parents within the same team. I apologize if this is the wrong category.

Among our boys' club, which struggles with a shortage of numbers, this is the only generation with more than 10 members, but I am posting because there is a parent and child who are difficult to deal with.

Of the 12 fourth graders, 10 attend the same elementary school. While more than half of those 10 were playing soccer during school lunch break, trouble broke out between two members (let us call them A and B).

Originally A often fought with other members too, and this time it started when A hurled abusive words at B. The fact that A hurled abusive words was heard by C, who stepped in to mediate, and by other members, but A is in a state of lying, saying "I did not say any abusive words. Everyone is bullying me," and "Even though I did nothing, C spread a lie to everyone that I did it."

*It seems C had been consulting other members about what could be done for A to get along well with everyone. There are also testimonies from other members.

Then this time, it seems A told C something like "Because of you I will not be able to make friends. I will not forgive you until you retract it to everyone," and C, in shock, has been absent from both school and soccer.

Also, A's parent reported this trouble to more than half of the club's parents by long phone calls, and in the end even told the coach. However, this parent of A is also lying little by little to various parties (there are too many to grasp the details), and is in a situation of taking it at face value without confirming the facts, saying "My son says he did not say it, so he is not in the wrong."

Even when the parent of B, who was first hurled at with abusive words, conveyed "All the children around say A did hurl abusive words," the parent sticks to the single point of "My son did not do it."

I apologize for the long preface, but as another parent, what kind of response should we take toward such a parent and child?

Personally, I have the feeling that bringing something that originally happened at elementary school into the team is... But it has grown into a bigger matter than expected and has developed into talk of members quitting or not quitting.

They are children who are close and have decent ability, so we do not want them to be missing for a reason like this.....

I apologize for the long text that lacks coherence. Since it says you have long covered the education field as well, please give me any hints if you have them.

Thank you for your consultation.

There was a dispute among the children in the soccer team to which your son belongs, and it seems this has led to conflict among the parents. Even though your own son is not involved in it at all, you are hurting this much. It comes across that you are a kind father.

I also felt favorably about how you frankly wrote in the email, "They are children who are close and have decent ability, so we do not want them to be missing for a reason like this."

■A Clue to Resolution

First, I will tell you a clue to resolution.

On the soccer pitch and before and after it is time and space for only the coach and the players. This time it is an incident that happened at school, but the children belong to the same group, the soccer team.

Moreover, C, who is neither the one who hurled the abusive words nor the one who was hurled at, is absent from soccer practice because of this matter. In other words, as a soccer team, it is being affected by this trouble to no small extent.

Therefore, here you should not try to handle it alone as one father, but rather tell the coach in charge what is happening in your son's (grade's) team now.

Moreover, this time there are abusive words between teammates. Toward that, the coach has the right to know about this. Because even elementary school students are athletes who should practice fair play, and soccer is a sport in which a team helps one another.

■Relay the facts you heard calmly to the coach and have it made into a "team problem"

First, without summarizing what happened in your own words, such as "A bullied B, and on top of that spread it around that C leaked it," calmly convey the facts you heard from the children about what happened in the team. Within that, how about asking as follows.

"The place where the abusive words were said was school, but all the children involved are children of the team, so it is affecting individual soccer activities and teamwork. I think it is a good opportunity to teach fair play, so please take time after practice or at another time and have them talk it out."

Please tell the coaches that there is no need for them to hear things like "Who said what kind of abusive words to whom?"

The most important points are two.

Make sure this stays strictly a "whole team matter."

Have the children discuss what can be done for C, who is taking a break from both soccer and school, so that he can return to his normal life, and have the coach be present for that.

Do not take matters into your own hands. It is better not to try to persuade A's parents

By this point, you may be thinking, "Wait a moment? I wrote that this is 'a discussion among parents within the same team.'"

The parent of A, who is said to have made the abusive remarks, is lying. The parent of B, who was first on the receiving end of the abusive remarks, is hitting back with "All the kids around say A made the abusive remarks."

That is how the conflict between the parents is described.

But what you want to change is not A's parents, but the relationships among the children and the atmosphere of the team, right? If so, let's pour our energy into helping the children grow rather than into the adults.

That is not something you do directly; as mentioned above, it is best to leave it to the coach. Put another way, parents are already adults, so their personalities, ways of thinking and values are not easily changed. It is better not to think about trying to persuade A's parents.

Children of every era tend to carry different kinds of stress; I also want you to pay attention to the background behind abusive remarks and bullying

Next, let me say a word about the world of children.

Let's focus a little on A, who is said to have made the abusive remarks.

What kind of family environment does he have? Even if a family is financially well off, a child's heart can still be lonely. It is common for a child who has built up stress to release it on the weaker people close at hand.

For a child who makes abusive remarks or bullies others, we must look carefully at what that child is carrying.

Children in every era tend to carry different kinds of stress. Some children are nearly crushed by the expectations of their parents and those around them, whether in soccer or in studying. Some have complicated family situations and find life hard. Some suffer from being compared with their siblings. There are all kinds.

It would be good if having fun playing soccer helped them release stress, but there are also many cases in which the soccer itself has become a source of stress.

What adults can do for such children is to empathize with their feelings as thoroughly as possible. While hoping the coach will do that, try asking the coach, "What can parents do?"

For example, various things may come up, such as giving positive support at matches, or watching all the children with warm eyes.

Source: [サカイク](http://sakaiku.jp) · Translated from Japanese sakaiku.jp

05

Coaching

U7 to U9

Tired of stressing out about practices

For coaches Build every practice the same way: a short ball warm up, keep away, then small sided games or a scrimmage on small fields.

I signed my son up for soccer thinking that I'll go and watch the practices and games and then go home. Well here I am now and I signed up to be a division coordinator and I am coaching my sons team! I'm not a soccer player myself, never played soccer and don't watch soccer. I have a very basic understanding of the game.

When I was coordinating the teams my 8U division needed 1 more coach. I reached out to all parents of the division and not a single person stepped up so I did. But I hate it. I dread practice days and I hate game days. The parents have been supportive so far and I let them all know that I don't have any soccer knowledge. But I've been spending hours reading soccer material and watching videos to prepare for practice. I just feel like a fraud.

So my question to this group is can I stop worrying so much about drills and just focus on play? The kids enjoyed the warm up games like sharks and minnow and when we do scrimmages. Is that enough for 8U? They don't seem as interested in drills and honestly I don't know how to correct them if they are doing something wrong.

There are several parents who have soccer experience and have offered to help with practice but they don't want to coach even when they go to each practice and game. But when the parents help the practices feel so weird. I tell them to take control of the practice or the drill but they don't. Can my team just play at practice instead of doing drills?

Top replies, most upvoted first

- (+8) They don't really help, because they don't want the responsibility. Make it easy for yourself! Try to make the practise the same build-up each time: - technical warm-up (in other words: a sort of game with a ball). You can just each give them a ball and make them dribble or do keep ups or something similar. Just a few minutes - Then let them play keep away. 4v1 or 5v1 and the middle one has to try to win the ball. When they do, the person who lost possession goes in the middle - Then, just make 2 fields and let them play small sided games. So if you have 12 kids, make 2 fields of 3v3 - End...
- (+3) I'm going to say this as someone who's played a lot of soccer up through to men's Sunday league, watched hundreds of games on tv, studied the game, and have a grassroots license. The best coaches for that age I've seen are schoolteachers with the most rudimentary soccer knowledge. I wouldn't feel like an imposter if I were you.

- (+3) I've run most of my U7-U9 practices like this. The kids get used to the structure and it seems to keep them engaged. - Pre-practice: as they arrive, have them line up and take shots on goal. Watch them and teach them about angle kicks (i.e., approaching from an angle and striking with the laces). - Individual ball skills (tick tocks, scissors, v-pulls, etc.). Ton of videos with routines online. Line them up and have them show you they can do it. End with 60 seconds of juggling practice. Most of my kids can't juggle yet but I think it's good to introduce it, and they like it. - Dribbling back...
- (+3) I stepped up at U8 this season and had a blast. I've never played soccer. The most soccer knowledge I have is watching soccer and playing FIFA 10+ years ago. What I've tried to do: -Good Communication. I might be a little over-the-top, but I rather that than someone not know what's going on. -Positive environment. Everyone is there to have fun, play soccer, and give effort. There is no need to yell, scream, berate, and point out every little mistake. - Fun practices. Warm-up game, some kind of skill drill, a fun game focusing on that skill, and a scrimmage. Honestly, the warm-up and scrimmage...
- (+2) On the pile of kids question the pause usually isn't about kicking, they stop because there's nowhere to kick it, so the fix is teaching them to get out of the crowd first. You can make a game with almost no coaching, mark a square about ten steps wide and put four kids and one ball in it. Whoever has the ball scores by dribbling out of any side, and whoever wins it becomes the dribbler. After a few rounds they start looking for the open side before the ball even reaches them, which is the thing missing in games. For the scrimmage, try a goal counting double if the shooter hits it without...
- (+2) I replied to a different post in this subreddit about my training sessions and thought some of it might help. I say it below, but if you have any questions don't hesitate to contact me. This is typically what I do for my sessions: I'm coaching U8's for about the 4th or 5th season (coached older son, now coaching younger son). I am by no means an expert in this myself, but have a decent handle on sessions at this level. I tend to use the play-practice-play model as an outline for my sessions. I usually get there about 20 minutes early to set up the field and do small sided scrimmages as soon...
- (+2) U8 i think you can get away with a warm up and scrimmaging most of the time. Just make shure to not have too big a team side. More players means less touches per. Minigoals are great. Preferably two per team. Hybrid fields with a big goal and Mini goals on the other side: also great. Multiple fields if possible. Parents who help don't have to coach. Just be at one of the fields to motivate help with injuries and ref if necessary. If you have time to prepare something I like the play practice play format. Warm up -> scrimmage -> technical training -> scrimmage. For the technique block. 10-15...
- (+1) Did you take US Soccer 7v7? Play/practice/play. 1/3 small sided, 2 drills, scrimmage.

- (+1) Absolutely you can just play. The best coaching is disguised learning at that age anyways. Honestly, ive made an app that would help you a ton. It's free. i'm a grassroots coach for rec and built it to help me and others at my club. even if you stumbled blindly through the practice planner hat pushes to calendar, you would still have a basic practice that works. Warm ups are ball skills foundation, then practice moves into light pressure activities then to scrimmage. Also good for you is the training homework. It puts some work back on the parents! (Thats the funny way to look at it - the...
- (+1) Yes, more game play. Ditch drills. Add conditions to play like passing with left foot only, and reducing touches, no running. Fun things. You're challenging them like levels on a video game.
- (+1) Long time coach here. More play and less lines is always a good thing! And try and think about maximizing the number of touches players are getting at that young age as well. At 8U the game is the best teacher, and US Soccer's "Play-Practice-Play" model is still a good format. Kids play as soon as they show up, you run 1-2 simple activities in the middle, and they finish with a real game. When it comes to drills, plenty of free resources can be found online, but I'd include the age and some language around not involving lines in your search. I wouldn't trust AI for full curriculum, but it can...
- (+1) If they were truly supportive then they would be assistant coaches. Get some of them to help, period. They are taking advantage of you. They do not realize that affordable soccer requires volunteers.

Source: [r/SoccerCoachResources](#) · 21 comments [reddit.com](#)

FROM THE COACHING COMMUNITY

06

Coaching

U6 to U7

How to make 7u team more aggressive

For coaches Set up 1v1 duels for a 50/50 ball: the first to win it attacks a line or mini goal while the other defends.

Guys, I know this is ridiculous because I'm talking about seven-year-olds but I actually have a really good team. They just don't know how to be aggressive and go attack the ball instead of sitting back. Is there any drills that I could do to get them to be more aggressive on defense and offense?

Top replies, most upvoted first

- (+8) 1v1s helps me the most with this. I can't say I've "solved" the problem, but it seems to get most kids to go for the ball and push toward the goal.

- (+4) Yep, line kids up in both sides of the goal. Toss a ball out and they both try to score on the same goal.
- (+4) 1v1s. Lots and lots of 1v1s. You want these kids thinking of the ball as something they can seize. So, just show them how to do that. I'd start with 50/50 balls halfway between 2 cones. Maybe 20' between them. Kids in lines behind each cone. Set up enough of these so that there is 2-3 kids in each line. On your whistle, the first kid in each line sprints out to win the ball. First one to gain possession becomes the attacker, and has to dribble to a line, or shoot on a mini goal. Other kid becomes the defender, and attempts to steal the ball, deflect shots. Next, work on attacking bad touches....
- (+4) None of that is what OP described, or what you responded to.
- (+2) Confidence, competition, modelling. Games and drills in which they need to win out over someone else or some objective - and then hyping it up to make it exciting. Building confidence through repetition and making sure they have enough mastery of their own bodies and skills helps too. Tough to want to go in for the ball if you know or think you don't have the tools to win out. Also, to an extent people have their own innate levels of drive so who knows how much you can coach it up. It can also look different in different people.
- (+2) Really simple: make most drills and games a competition and reward the team that wins
- (+2) You can't and you shouldn't. They are just acting their age. Focus on fun and ball control, once they have confidence they will be more aggressive if and when they have it in them.
- (+2) My experience is vastly different from what you are describing.
- (+2) Yeah. What is this knucklehead thinking. Wanting kids to be involved in the game. Psh! /s
- (+1) They are just acting their age. Are 6yo boys different where you live? Mine, and his buddies want to compete. At everything. Always.
- (+1) Maybe I am not expressing myself well then. Point is kids that age are neither aggressive nor very interested in winning, if they even understand what that is. It's a waste of time to focus on it, OP should focus on age appropriate development. Teach them to dribble and to love the game, that is what they can learn and will give them great benefit when they learn to compete.
- (+1) You appear to be confused. What OP is describing has little to nothing to do with winning, or aggression. It is rooted in confidence. That is an easy thing to correct at this age.

Source: [r/SoccerCoachResources · 25 comments](#) reddit.com

ON THE PITCH

07

Coaching

How to create a game model in youth soccer step by step

For coaches Start from the players and training time you actually have, then let every session task repeat the same behaviours you will ask for on match day.

You arrive at training on Tuesday, you open your notebook and you don't know what drill to set so that your team isn't a chaos at the weekend. It has happened to all of us. Knowing how to create a game model in youth soccer is the only real path to stop copying isolated drills from the internet and start building a team with identity, judgment and constant progress.

Designing the way your team plays is not a luxury reserved for performance tactics boards. It is the most powerful pedagogical tool you have as a coach to structure what you teach every week.

What a game model really is in development categories

There is a mistaken idea that a game model is a static tactical drawing such as a 1-4-3-3 or a 1-4-4-2. A system is only the initial photo. The game model is the whole movie.

In youth soccer, your game model is the sum of behaviors that you want your players to repeat naturally during the match. It is the collective response to each situation in the game: having the ball, not having it and the immediate moments in which it changes owner.

Forget about imposing a rigid script that turns the kids into robots. Give them a box of tactical tools so that they learn to interpret the game and make good decisions on their own.

Step by step: how to create a game model in youth soccer from scratch

To build a solid structure without complicating your players' lives, you must follow a logical design order. Don't start with the drill; start with the idea.

1. Analyze the real context of your team

Before writing anything down in the notebook, look around you. The model must adapt to the players you have, never the other way around. Ask yourself these key questions:

- In what age group do you compete? (Don't ask for elaborate build-up from the back if your U9s still struggle to make a five-meter pass).
- What are the technical and physical strengths of the squad?
- How many days and minutes of training do you have per week?

- What dimensions are the fields where you usually play?

2. Define the principles of the offensive phase

Determine how your team will behave when it has possession of the ball. To keep it clear, divide this phase into three moments:

- Build-up: Do we play out short from the goalkeeper or do we look directly for an intermediate zone to secure possession?
- Creation: How do we progress? Do we look for numerical superiorities inside or do we pin the opponent wide to generate width?
- Finishing: Do we reach the box through crosses from the wings, shots from mid-range or through balls between the lines?

3. Design the principles of the defensive phase

Defending well is not about piling people up behind the ball; it is about knowing how and where you want to win the ball back. Establish simple guidelines:

- Pressing block: Do we press the opponent's build-up high or do we prefer to wait for them in a mid block to close interior spaces?
- Direction of the pressure: Do we direct the pressure toward the wings to trap the player on the ball or do we cut off passing lines to their central midfielder?
- Behavior in duels: Do we show the opponent toward their weaker foot? Do we provide constant cover for the teammate who has been beaten?

4. Structure the two transitions

Modern soccer is decided in the moments of switching gears. You must make it very clear to your players what to do when the ball changes team:

- Attack-Defense transition (Loss): Do we carry out an immediate counter-press after losing the ball to suffocate the opponent or do we prioritize falling back quickly to protect our goal?
- Defense-Attack transition (Recovery): Do we look for a vertical counterattack into the free space or do we play a first safety pass to reorganize and keep the ball?

Adaptation of the model according to the development stage

A common mistake is to use the same game model for U11s as for U19s. The game is the same, but the player's brain and motor capacity change completely.

U9 and U11 age groups (7-a-side soccer and 8-a-side soccer)

At these ages the absolute priority is individual technique and basic understanding of space. The model must be very simple:

- In attack: spread out to be wide and always offer passing options to the player on the ball.
- In defense: stay compact, position yourselves between the ball and our goal, and don't dive to the ground when going in.
- Golden rule: prioritize bravery with the ball over the fear of making mistakes.

U13 age group (Jump to 11-a-side soccer)

This is the stage of the great dimensional change. The model must help the player manage much larger distances:

- Incorporate concepts of rational occupation of the field.
- Introduce the notion of the third man and offensive cover.
- Synchronize the defensive line to step forward or drop back according to the pressure on the player on the ball.

U15 and U19 age groups

Here the tactical demand increases. The player already has the cognitive capacity to absorb more complex models and variants depending on the opponent:

- Analytical work on sub-principles by lines (automation mechanisms).
- Managing match rhythms: knowing when to speed up and when to slow the game down.
- Rigor in set-piece actions both in attack and in defense.

From the notebook to the grass: how to train your model

There is no point in having a perfect fifty-page PDF document if your training tasks do not reflect that idea. For the process on the field to work, apply these practical tips:

Use positional games and small-sided matches: Design tasks where game situations are constantly repeated. If your model seeks to progress out wide, create a positional game with wingers as neutral players who reward circulation from side to side.

Weekly coherence: If on Saturday you are going to ask your center-backs to take risks by playing out, do not spend the week doing analytical exercises where the ball only goes through the air. The player needs to experience in training what he will experience at the weekend.

Consistency in feedback: Correct based on your model. If a player fails a pass while trying to apply a team principle (for example, slipping an interior ball through), praise the intention. If the error comes from doing something contrary to what was agreed without sense, make him reflect.

3 typical mistakes when structuring the idea of play

If you want your soccer players to progress without getting frustrated along the way, avoid these mistakes that almost all of us make when starting out:

1. Overloading with information: Talking for ten minutes straight on the whiteboard before training only manages to disconnect the kids. Explain one key concept per session and let the exercise speak for itself.
2. Tactical inflexibility: A model of play is a flexible guide, not a prison. If a talented U15 player sees a clear dribble in an area where your notebook called for a pass, do not restrain him. Individual creativity must always come above the system.
3. Changing your idea after a defeat: If you lose a match, do not destroy your model to start from scratch the following Tuesday. Defeats in youth soccer are opportunities to adjust nuances of your plan, not to change philosophy every three weeks.

Designing a model adapted to the reality of your kids requires time for reflection, but the medium-term results pay back the investment. You will have focused training sessions, smarter players on the field and a team that knows exactly what it is playing regardless of the result.

Source: [Aprende Entrenando](#) · Translated from Spanish [aprendeentrenando.com](#)

08

Coaching

How to Grow as a Soccer Coach: From Youth Soccer to Higher Categories

For coaches If you are thinking about the next category, the licence ladder and a short methodological dossier are things you can prepare while still coaching your current team.

You start coaching the U9s at your neighborhood club to lend a hand on weekends, and after two seasons, you realize the bench has completely hooked you. If you want to know how to grow as a soccer coach from youth soccer to higher categories, you must be clear that making the jump from coaching U9s or U11s to taking on a U15 preferente, a regional U19, or a regional senior team does not depend on luck or on having been a professional player. It depends on strategy, methodology, and visibility. The short answer is that it can be achieved in a short time if you stop working with an amateur mindset and start behaving like a performance coach.

The mindset shift: from monitor to performance coach

The first brake on progress is not in the clubs or in the lack of contacts. It is in your own head. Many coaches fall into the trap of settling for the phrase "I'm only here so the kids enjoy themselves." Enjoying and developing is the foundation, but if you want to move up, you need to add competitiveness, analysis, and structure to your work.

Forget the myth of age. It doesn't matter if you are 22 or 45. Today's benches look for management ability, tactical knowledge, and leadership. To climb categories within a club's structure or to catch the attention of stronger academies, you must make three immediate adjustments in your mindset:

- Take ownership of your career proactively: Do not wait for the board to offer you a bigger team based on seniority. Prepare to ask for it with arguments.
- Accept the demand of results: In U9 or U11, the result is secondary. In U13 and U15, tactical development gains strength, and in U19 or senior, performance management marks your continuity.
- Treat your coaching staff as a professional team: Even if you coach a second regional U13, get used to dividing tasks, preparing reports, and caring for detail. Professionalism is an attitude, not a salary.

Official qualifications: your regulatory passport

To coach in higher categories, you need the regulatory license. You can be a brilliant tactician, but without the corresponding title, the federation will not let you sit on the bench. Organize your academic calendar as soon as possible.

UEFA Licenses and Training Cycles

In the current training system, you have several paths to formalize your qualifications:

- UEFA C License / Monitor: This is the first step. It qualifies you for formative youth soccer (academies, U7s, U9s, and U11s).
- UEFA B License / Level 1 Sports Technician: It allows you to coach up to U15 category and act as assistant coach in U19 categories. Here serious formative 11-a-side soccer begins.
- UEFA A License / Level 2 Sports Technician: Essential for taking U19 teams in regional/autonomous leagues and senior teams in regional divisions.
- UEFA Pro License / Higher Sports Technician (Level 3): It qualifies you to coach in any national category and the top autonomous category.

Do not wait until you need the title to enroll. Get the next license while you coach in your current category. That way you will be ready as soon as a vacancy arises at a higher level.

Create your own methodological dossier

If you want a club's sporting director to take you seriously to lead a top-category U15 or a U19, you cannot show up to a meeting empty-handed. You must demonstrate how you work.

A methodological dossier is a document where you summarize your identity as a coach. It does not need to be a hundred pages; ten or twelve well-structured pages are enough to make clear the following:

- Your game model: How you want your team to play in the offensive phase, defensive phase, transitions, and set pieces. Define your basic principles (for example: building out from the back, pressing after loss in a high block, occupying spaces).
- Typical session structure: How you organize the 90 minutes of training. Show real tasks adapted to the category you intend to coach.
- Internal rules and group management: Guidelines for punctuality, respect, commitment, and communication with the players and families.

Having this document written and laid out sets you apart from 95% of coaches in modest soccer. It shows order, rigor, and a project.

Visibility and personal brand: what is not seen does not exist

You can be the best strategist in your autonomous delegation, but if nobody sees how you work, you will stay stuck coaching in the same category year after year. Personal branding is not for showing off. It serves to share useful ideas with other coaches and give visibility to your work.

Use social media as your professional showcase. Publish training tasks designed on a digital whiteboard, analyses of tactical actions or reflections on group management at the cadet or youth stage. Networks such as LinkedIn, X (Twitter) or Instagram are excellent for connecting with methodological coordinators and sporting directors.

Video will also help you a great deal. Record your team's sessions and some matches of the season. Create a small video portfolio of how your team works on the pitch: how it plays out from the back, how it drops back or how it defends set pieces. A two-minute video says more about you than any CV on paper.

Tactical and emotional differences between youth soccer and higher categories

The jump from 8-a-side soccer to 11-a-side soccer, or from children's categories to youth/senior, demands adapting your way of leading. If you try to coach a cadet in the preferential league exactly the same as an alevín, you will lose control of the group.

1. From global play to tactical specificity

In benjamines and alevines the focus is individual technique and psychomotor skills. From infantil onwards, and above all in cadete and juvenil, collective tactical work comes to the fore. You must master reading the opponent, individual matchups, shifting across and the variants of the system depending on the moment of the match.

2. Dressing room management and the footballer's ego

In early youth soccer children want to play and have fun. From second-year cadete and in the juvenil category, playing minutes, frustration at being on the bench and pressure to get results come into play. Your communication must become more direct, transparent and firm. Learn to manage difficult one-on-one conversations and to keep the whole group switched on.

3. The weight of set pieces (ABP)

In alevines rehearsed plays are secondary. In juvenil and the regional senior category, close to 30% or 40% of goals come from set pieces. If you want to compete at the top, you must devote time to designing and training corners, wide free kicks and offensive and defensive throw-ins.

Step-by-step roadmap to make the jump in 3 seasons

If you want to chart a clear plan to move up a level, apply this step-by-step strategy over your next three years on the bench:

1. Year 1, Consolidation and documentation: Coach your current team (for example, alevín or infantil) maximising the group's performance. Record content, design your methodological dossier and enrol in the next level of coaching qualification.
2. Year 2, Jump to competitive 11-a-side soccer: Ask at your club or at a neighbouring club to take an infantil in the top category or a cadete. Put your game model into practice, perfect your analysis of the opponent and start pushing your content on social media.
3. Year 3, Positioning in juvenil or senior: With your UEFA A or Level 2 qualification in hand, look for projects in the preferential/regional juvenil category or as an assistant coach in a regional division senior team. Your methodological background and your network of contacts will give you access to interviews with sporting directors.

Growing as a coach is not a matter of luck or cronyism. Whoever works with method, prepares academically and knows how to show the fruit of their training sessions ends up finding their place on benches at a high level. Adjust your plan, prepare your sessions with the utmost rigour from this very weekend and make your work speak for you on the pitch.

Source: [Aprende Entrenando](#) · Translated from Spanish [aprendeentrenando.com](#)

09

Coaching

U8 to U12

Win it with the second defender's positioning and jockeying! Building "organized defending" based on 2v2

For coaches Run the 2v2 plus one free player, having your first defender screen one pass while the second holds cover, and let your players show a pass on purpose to bait and win it.

Continuing from last time, under the theme of "How do you win the ball from opponents you can't beat with physicality or speed? Body usage and anticipation to neutralize size differences and recover the ball," we are publishing training sessions from Coach Masaki Arano of M&A Soccer School.

In the first part, we worked on step drills to stop and move in sync with the opponent's movements, and 1v1 with two goals, training body usage and anticipation in individual defense.

In the second part, we had them practice training to recover the ball in 2v2 situations with more players, using the second defender's positioning, covering, and tactics. This is a must-see for coaches and players who want to improve defensive ability. (Text by Tomoyuki Suzuki)

Eliminate the Pass Lane While Aiming for the Intercept

The first theme is "creating the point where you win the ball." The training was 2v2 plus 1 neutral player. There is no goal to shoot at, and the objective is to keep possession of the ball for as long as possible.

Coach Arano first pointed out that simply closing down quickly does not win the ball.

"When the attacking side has one more player, if the defender closes down while using their back to eliminate the other pass lane, the opponent's options decrease. At that moment, the other player should stand in a covering position so as not to be played through the middle while aiming for an intercept. Even if that's not possible, I want them to get to the point where they can close down to the feet and crush the body"

What Coach Arano emphasized next was that the defensive side also initiates tactics. Deliberately showing an escape route and then aiming for the moment the opponent kicks the ball is one option, a "trap."

"While deliberately showing the pass lane, let them kick it, and win it there. Feints are not just for attacking; the defensive side can also deceive the opponent. If you close down quickly and try to win it with only physical strength, you won't be able to take it when the opponent's level rises"

On the other hand, closing down quickly in every situation is not always the right answer.

"If two players close down quickly, there are situations where you can eliminate the escape route, but if you dive in with everything, you'll be beaten behind in one go. Two players apply gradual pressure, and then raise the speed at the crucial moment. That contrast is important"

Passive Defense Lets the Opponent Take Control

The next training theme is "the principle of challenge and cover." In 2v2 plus 2 servers, the attacking side scores by dribbling across the goal line.

Coach Arano focused on defense that merely reacts to the opponent's movements and questioned the players.

"If you're only moving in response to the opponent's movements, from their perspective they can feint as much as they want. Try to time it to aim for an intercept, or feint your own movements; the defensive side should also add tactics"

Judge the Distance Between the Two and the Balance

In the final part of the training, he organized and communicated the patterns of failure that often occur in 2v2.

These are the pattern where two players go for the ball and bite together and are beaten the other way, the pattern where one player is too far away and the cover can't make it in time, and the pattern where the two are too close together and are beaten together by a through pass.

"I want you to find at what distance you divide challenge and cover, and when it becomes a chance if the two go together. There are situations you can win if you use tactics"

In addition, with coaching such as "If the front player does what, can the back player aim for an intercept?", he encouraged them to play while thinking.

By adding the second defender's positioning and tactics to the body usage and anticipation cultivated in the first part, individual defense connects to organized defense. Above all, by shaving away the opponent's options one by one, it should become easier to recover the ball.

【Instructor】Masaki Arano / Born June 5, 1995. Played for 1FC Kawagoe Suijo Park U-12, 1FC Kawagoe Suijo Park U-15, and Kanto Daiichi High School. Started as a coach at J-FOOT Soccer School in Saitama from 2017. Started coaching at FC Sayama Junior Youth in 2019. Established M&A Soccer School in 2021. Currently provides personal lessons and school coaching in Saitama, Chiba, Nagano, Aichi, and Osaka.

Source: [サカイク](https://sakaiku.jp) · Translated from Japanese sakaiku.jp

10

Coaching

What is the "quality" of stopping, kicking, and carrying? Basic technique training usable from beginners to advanced players

For coaches Try the three-player 90-degree set at your next session: if your players stop the ball with the sole on the side it rolls from, their first touch and next pass get cleaner.

This time's theme is "training to improve the quality of stopping, kicking, and carrying the ball." The coach teaching it is Kazuya Mori, representative of MORI FOOTBALL ACADEMY.

Mori experienced national championships at the Inter-High and the Takamado Cup during his time at Tokushima Municipal High School, then went through Keio University and played for Kawasaki Frontale.

After retiring, he was involved in launching the same club's academy, mainly in charge of the junior youth, and coached players who are now active J.Leaguers and Japan national team players. After that, he went through Kawasaki Frontale, the Nagoya Grampus top team, and Tokyo United FC, and currently serves as manager of Nankatsu SC U-15.

How does Coach Mori, highly regarded for technical instruction, teach "stopping, kicking, carrying, facing forward, and your own position," and how does he apply it to actual matches?
(Text by Tomoyuki Suzuki)

Stop the ball in the same "own position" every time

The first menu item is a "stopping and kicking" training done in groups of three arranged at 90 degrees. What Coach Mori checked was whether the ball stopped dead still.

"If your foot and the ball make contact at an angle, the ball won't stop. If you want to stop it, you touch the opposite side from where it's rolling in from. If you touch under the ball, it will pop up, so if you compare the ball to a face, the image is touching around the forehead with your big toe."

In the one-touch passing that followed, he demanded passes that let the receiver avoid moving even a single step. While demonstrating, he asked for "devising the way you contact the ball and the angle, and delivering it to the targeted spot without it shifting."

After that, he taught "the technique of carrying" and cited "moving as one with the ball without separating it from your body" as the key point.

"When the opponent closes you down and you panic, and the ball separates from your body, it turns into a contest. If the ball and your body move together, you can beat the opponent."

Here, through the movement of controlling the ball so it returns in the direction it came from, he shared the key point: "If you touch the ball after it crosses your navel, it becomes harder for the opponent to tell which way you'll go." They sharpened their feints through game-format play.

The difference between "looking forward" and "facing forward"

The second one is training in groups of three lined up in a straight vertical line, stopping a ball coming from behind, turning to face forward, and passing with the inside of the foot that stopped it.

The reason for setting up the vertical relationship is that he considers carrying and turning your body to also be technique.

"Even with your body turned sideways, you can see forward. However, facing forward means 'pointing your navel forward.' If you do that, your teammates can start running all at once, and you can create a situation where the opponent can't tell where the pass will come out from."

Since the assumption is that an opponent is behind you, if you let the ball run, you'll lose it. By stopping it firmly and facing forward, distance between you and the opponent is created.

Once they get used to it, the key point is to shorten the time from stopping the ball to passing.

Coach Mori's words, "If you panic, the ball won't stop and it actually gets slower. If you do it accurately, it gets faster," hit the essence of speed in soccer.

Kick differently from a position where you can kick either way

The third one is training where you form a triangle, point your navel to the center of the line connecting two people, and pass to whichever side raises their hand first.

As a rule, once the pivot foot is set, it cannot move. Since opening your body toward the direction you kick makes it easy to read, you kick with the inside or the outside at the last moment on the ball placed at your position.

The last part of the first half was a "two-person cone-hitting showdown." While having fun in a showdown format, they did technical training.

Coach Mori says, "Just creating drills won't raise quality; it's important for the coach to show it in a demo."

"Children are good at watching and imitating. Showing, making the quality visible, and continuing to communicate are indispensable for improving technique."

In the second half next time, he will introduce training for carrying the ball from the movement of stopping it and facing forward, and 3-on-1 ball circulation.

[Instructor] Kazuya Mori / Played for Tokushima Municipal High School, Keio University, and Kawasaki Frontale, and experienced national championships at the Inter-High and the Takamado Cup during his high school years. After retiring, he was involved from the launch of Kawasaki Frontale's academy and started his career as a coach. Mainly in charge of the junior youth, he was involved in coaching players who are still active J.Leaguers and Japan national team players. After Kawasaki Frontale's top team, Nagoya Grampus's top team, and Tokyo United, he currently manages Nankatsu SC U-15 while also coaching as representative of MORI FOOTBALL ACADEMY.

Source: [サカイク](#) · Translated from Japanese [sakaiku.jp](#)

RESEARCH AND DATA

11

Research

U15 to U19

Elastic Band Training Across Competitive Levels in Female Soccer: A Randomized Controlled Trial With Follow-up

For coaches If you have no gym, the protocol is 6 band exercises in 2 circuit sessions a week, but treat it as a strength tool only, since your players' jump and turning speed will not shift much.

Abstract

Background:. Resistance training is a fundamental component of performance in female soccer; however, conventional weight training may be impractical for teams with limited facilities and equipment. Elastic band resistance training (EBT) offers a practical alternative.

Hypothesis:. A 9-week EBT program will enhance lower-limb strength, vertical jump, and change-of-direction (COD) speed in trained and highly trained female soccer players.

Study Design:. Randomized controlled trial.

Level of Evidence:. Level 2.

Methods:. A total of 74 players were divided into Under-15 (U15; n = 25), Under-19 (U19; n = 25), and Senior (n = 24) groups. Each age group was assigned randomly to an experimental or control group. The intervention was integrated into the in-season regimen, performed twice weekly before training sessions, over 9 weeks. The training protocol included 6 resistance exercises split across 2 weekly circuit-based sessions. Isometric knee extension (KE) and knee flexion (KF) strength, countermovement jump (CMJ) height and power, and T-test performance were evaluated pre- and postintervention and after a 3-week detraining period.

Results:. Difference-in-differences ordinary least squares regression analysis revealed improvements in U19 KE strength of the dominant and nondominant leg (coefficient = 132.90 N; $P = 0.03$ and 131.59 N; $P = 0.05$, respectively). KF strength improved marginally in U15 and Senior groups. Senior players also showed a nonsignificant positive trend towards CMJ power (coefficient = 581.08 W; $P = 0.09$), with no relevant changes in CMJ height or T-test. After detraining, strength gains declined across all groups, while CMJ and T-test metrics remained stable.

Conclusion:. EBT enhances knee strength effectively, particularly in older age groups, but its influence on vertical jump and COD speed is limited. The reversal of strength gains after short-term detraining highlights the importance of consistent training for sustained athletic development.

Clinical Relevance:. EBT is a practical, low-cost method to improve lower-limb muscle strength in female soccer players and can be integrated easily into in-season training when traditional equipment is unavailable.

Soccer is an intermittent team sport that requires a combination of physical, physiological, technical and/or biomechanical, and tactical factors. 43 As the popularity and professionalism of women's soccer continues to rise globally, there is a growing interest to understand and optimize the specific athletic capacities required to perform effectively within the game's demanding physical profile. 22 Despite this trend, most of the scientific literature remains male-dominant, and research focusing on the training responses in female soccer players is still emerging. 2 Variations in anatomical structure, physiological function, and hormonal profiles underscore the fact that findings from male athletes may not be directly applicable to female players. 37 Specifically, female-specific neuromuscular recruitment patterns and the influence of estrogen on musculoskeletal stiffness requires specific loading strategies to optimize power output and mitigate injury risk. 37 This gap presents an important opportunity to investigate evidence-based training methods that are both accessible and effective for performance optimization in female players.

Resistance training has been recognized as an integral component in sports performance, with well-established benefits in muscular strength, power, and hypertrophy, while also contributing to injury prevention. 44 Although proven effective, traditional resistance training methods involving external loads (e.g., free weights or machines) may not be a practical or feasible option for all teams, particularly at youth and amateur levels where facilities and equipment are limited. In this context, elastic band resistance training (EBT) has gained considerable attention as a versatile, cost-effective, space-efficient, and portable alternative, 17 suited specifically for these resource-constrained environments. Researchers have been investigating the effectiveness and practical applications of EBT among athletes of different ages and backgrounds. A recent systematic review presented positive results from EBT on the enhancement of various physical performance metrics, such as sprint speed, change-of-direction (COD) ability, and lower- and upper-limb strength and power in male and female athletes from various age groups and type of sports. 41 However, there was no information available on female soccer players. Considering the sport's reliance on explosive movements and physical contact, understanding how female players respond to EBT is key for developing training strategies that reflect the demands of soccer and the characteristics of female players.

Youth athletes undergo rapid growth and neuromuscular adaptations that may influence how they respond to a particular resistance training stimulus compared with their senior counterparts. 30 Maturation, coordination, and previous training experience all play a role in shaping these responses, influencing how athletes adapt to a specific type of training. 28 Understanding these differences is of critical importance for designing age-appropriate training programs that optimize performance outcomes. Therefore, evaluating the impact of EBT on physical performance across these stages of development is of theoretical and practical importance. Furthermore, periods of training cessation, commonly known as detraining, can lead to a reversal of physiological adaptations, compromising athletic performance. 32 Investigating how players respond to both training and detraining phases is key to develop strategies that minimize performance loss and support long-term athletic development.

The present study aims to assess the effect of a 9-week, in-season EBT intervention on key physical performance metrics in trained and highly trained female soccer players among the Under-15 (U15), Under-19 (U19), and senior categories, followed by a 3-week postintervention follow-up evaluation (detraining). 27 The performance metrics evaluated include knee extension (KE) and knee flexion (KF) maximal isometric strength, vertical jump height and power, and COD speed performance. Given the developmental differences between age groups, it is hypothesized that the magnitude of training responses might vary across players at different stages of maturation. By studying female soccer players across 3 distinct developmental stages, this research addresses a critical gap in the literature and provides practical insights into how EBT can be adapted to meet the specific performance needs of athletes at different ages.

Methods

Study Design

The present study utilized a randomized controlled trial with parallel-group design to investigate the effects of EBT on various performance outcomes in trained and highly trained female soccer players. Participants were randomized within their age cohort to either an experimental group (EG), which received the EBT intervention in addition to their standard training regimen, or a control group (CG), which continued doing only their standard training regimen. The intervention protocol was implemented over a 9-week period during the second half of the in-season, with physical performance tests at baseline and at postintervention. A follow-up assessment was also conducted 3 weeks after the postintervention testing, to identify the possible detraining effect when the EBT intervention was withdrawn from the EG. Figure 1 illustrates the study procedures and timeline.

Participants

An a priori power analysis was conducted using G*Power (Version 3.1) to determine the minimum sample size required for each age cohort, given that the EG and CG were compared independently within each cohort. The analysis was based on a 2-tailed t test with an effect size = 1.58, alpha level = 0.05, and power = 0.95. The effect size was derived from postintervention vertical jump height mean differences reported in similar literature involving youth female athletes.¹⁶ The result indicated that a minimum of 24 participants (12 per group: experimental and control) would be required to detect a significant difference between groups. To account for potential dropouts or exclusions, a larger sample size was initially recruited. Participants were eligible for inclusion if they met the following criteria: (1) actively training and playing in an amateur female soccer club in the U15, U19, or Senior age group; (2) competing at a Tier 2 (trained/developmental) or Tier 3 (highly trained/national) level, as defined by McKay et al²⁷; (3) in good physical condition, without any injury at the time of recruitment or lingering effects from previous injuries that could compromise their performance or participation. Players were recruited from 2 amateur soccer clubs based in Portugal, competing at a similar level. All participants trained 3 times per week (~210 minutes of weekly training), with regular matches on weekends. U15 players competed at the regional level, whereas U19 and Senior players took part in national-level competitions. Following the intervention protocol, the sample selected for analysis consisted of 25 U15 players, 25 U19 players, and 24 Senior players. At follow-up, 23 U15 players, 22 U19 players, and 21 Senior players remained and were included in the final analysis. A CONSORT flowchart summarizing the recruitment, allocation and retention of participants is presented in Figure 2 and age groups descriptive statistics are exhibited in Table 1. This study was approved by the University of Maia Ethics and Deontology Board Ethics Committee (approval no. 155/2023). All participants and, when necessary, their legal guardians were informed of the study's benefits and risks and provided written informed consent. The study protocol was registered on ClinicalTrials.gov (no. NCT06800079).

Testing Procedures

All participants first completed a familiarization session to ensure proper understanding and execution of each testing protocol. Before the evaluations, players performed a standardized warm-up consisting of bodyweight squats, dynamic stretching, sprint drills, and COD exercises. Each test consisted of 2 trials; a third trial was conducted when the evaluator judged the initial results to be inconsistent. The best score from the attempts was retained for analysis. 1 A rest interval of 5 minutes was provided between each test to minimize fatigue effects.

KE and KF Strength

Maximal isometric KE and KF isometric strength were evaluated by using a handheld dynamometer (DynaMo Plus, VALD Performance). 35 Both dominant and nondominant legs were tested with measures categorized into KE dominant (KED), KE nondominant (KEND), KF dominant (KFD), and KF nondominant (KFND). KE was performed in a seated position and KF in a prone position. Using goniometry, the dynamometer chain was adjusted to position the knee at $\sim 60^\circ$ for extension and $\sim 30^\circ$ for flexion to ensure maximal torque generation. 21 Each maximal voluntary isometric contraction was sustained for 5 seconds without any compensatory body movements. Players initiated their next attempt when they felt adequately recovered, and the highest scores were used for subsequent analysis.

Countermovement Jump

Countermovement jump (CMJ) height and power were evaluated using a force platform system (ForceDecks, VALD Performance). 6 Players started from an upright position, performed a rapid downward movement to $\sim 90^\circ$ of KF, and immediately propelled themselves vertically into the air. Players performed their next attempt when they felt rested, and the best results were used for analysis.

T-Test

The Modified T-Test was applied to evaluate COD speed ability, 29 involving directional changes such as forward sprinting, left and right-side shuffling, and backpedaling. Timing was recorded using photocells (WhittyGate, Microgate). Players were instructed to complete the test as fast as possible, with a 1-minute rest between attempts. The fastest time was used for analysis.

Training Program

After the protocol familiarization and baseline measurement week, players underwent 9 weeks of EBT, with 2 sessions per week. All athletes in the EG completed all 18 EBT sessions. No participants, from either group, performed additional resistance training before the intervention and were instructed to continue doing so throughout the intervention. The training structure is presented in Table 2. The training program was performed 30 minutes before the beginning of the main practice on the pitch. Each session was preceded by a brief warm-up consisting of bodyweight squats to activate the lower-body musculature. The first weekly session (EBT1) consisted of glute bridges, hip abduction, and hip adduction, whereas the second session (EBT2) included Romanian deadlifts, hip flexion, and trunk rotation. These exercises were chosen due to their practicality and feasibility for implementation, as they require minimal equipment and can be integrated into players' regular routines, including on-field sessions. Moreover, they are relevant for soccer players, targeting key muscle groups that are essential for both performance optimization and injury prevention. 9 Each session followed a circuit format consisting of 3 sets, each comprising a series of exercises performed consecutively (Set 1: Ex1 + Ex2 + Ex3; Set 2: Ex1 + Ex2 + Ex3; Set 3: Ex1 + Ex2 + Ex3). Players rested for up to 30 seconds between exercises. All sessions were supervised directly by the investigators, who also monitored and corrected exercise technique (presented in Appendix A in the Supplementary Material, available in the online version of this article).

Elastic resistance was provided through the use of Elastibands (Sveltus). These bands feature 8 numbered loops for standardized hand or foot placement positions and adjustable resistance. Three resistance levels were used for this study: 10 kg, 15 kg, and 20 kg, each distinguished by color. Following the framework described by Fredriksen et al, 12 training intensity was determined by an 8 to 10 repetition maximum (eccentric/concentric = 3/1 seconds) with 2 repetitions in reserve (2RIR), corresponding to a rating of 8 on the rate of perceived exertion (RPE)/RIR scale. 49 This approach aligns with current evidence showing that moderate repetition ranges combined with a controlled eccentric phase maximizes the hypertrophy stimulus effectively, which consequently enhances strength gains. 3 During the familiarization session, players were instructed to select an elastic band based on this guideline and advised to increase resistance if they were able to perform >12 repetitions, with more than 2RIR. Resistance progression was individualized according to each player's subjective RIR. Players who could complete >12 repetitions with >2RIR advanced to the next resistance level, monitored by the investigators at each session. Load was increased by using a stronger resistance band (indicated by color), changing the grip or foot position using the numbered slots, or adding a second band. Immediately after each session, players rated their perceived muscle soreness using a 0 to 100 mm visual analogue scale (VAS), where 0 indicated "absolutely no soreness" and 100 represented "the most muscle soreness they could possibly bear." 24

Statistical Analyses

A difference-in-differences (DiD) framework was conducted to assess the effectiveness of EBT on several physical performance parameters.^{5,38} This method provides a reliable way to estimate causal effects by analyzing how outcomes evolve over time in the EG relative to the CG, before and after the intervention. In sports science, the DiD approach is particularly robust as it isolates the EBT intervention's effects by controlling external factors, such as natural maturation in youth athletes or the accumulated fatigue of a competitive season, that may affect both groups simultaneously. The statistical analyses were conducted in Python using the statsmodels library, with robust standard errors used to account for heteroscedasticity. Based on these estimates, 95% CIs were calculated to assess the precision of the effects. The data were modeled using the following DiD specification:

where Y_{it} represents the outcomes for participant i at time t , Treatment i is a binary indicator denoting whether the player is in the EG (1 = treatment group, 0 = CG), Post t is a binary indicator representing the post-treatment period (1 = post, 0 = pre), Treatment $i \times$ Post t is the interaction term, capturing the DiD estimator (i.e., the causal effect of the intervention), and ϵ_{it} is an error term.²⁵ Two distinct ordinary least squares (OLS) regressions were used for each of the 7 dependent variables (KEND, KED, KFND, KFD, CMJ height, CMJ power, T-test). The first model evaluated the efficacy of the EBT program by comparing pre- and postintervention results, while the second model examined the possible detraining effects by comparing the postintervention with the follow-up. These analyses provided insights into the impact of the intervention and the subsequent retention of its effects after its cessation. Test-retest reliability was assessed using the intraclass correlation coefficient (ICC) and coefficient of variation (CV).

Results

Figure 3 summarizes the key findings from the DiD OLS regression models across 4 performance metrics: KE strength, KF strength, vertical jump, and COD speed. The results are presented as forest plots, which display the estimated DiD coefficient together with 95% CIs and corresponding P values for each age group. The models evaluated the effects of a 9-week EBT protocol and a subsequent 3-week detraining period. Refer to Table S1 and Table S2 in the Supplementary Material (available online) for a more complete overview.

KE Strength

The DiD analyses showed that the U19 group experienced the largest intervention effects on KE strength, with increases of 131.59 N ($P = 0.03$) in the nondominant leg and 132.30 N ($P = 0.05$) in the dominant leg. The coefficient for the senior group (87.33 N, $P = 0.38$), while not statistically significant, suggests a potential positive effect on nondominant leg strength, with a comparable pattern in the dominant leg (95.75 N, $P = 0.35$). The U15 group showed limited improvement, with nonsignificant mean differences of 1.28 N ($P = 0.98$) in the nondominant leg and 25.92 N ($P = 0.67$) in the dominant leg. After the detraining period, reductions in KE strength were observed in all groups. Regarding the U19 players, the DiD estimates indicated decreases of -90.97 N ($P = 0.16$) in the nondominant leg and -117.70 N ($P = 0.07$) in the dominant leg. Among the senior players, extension strength declined -40.53 N ($P = 0.71$) in the nondominant leg and -63.80 N ($P = 0.57$) in the dominant leg. In the U15 group, the decreases were -52.27 N ($P = 0.47$) and -66.46 N ($P = 0.23$) for the nondominant and dominant legs, respectively.

KF Strength

For the U15 players, the intervention effects approached statistical significance, reaching 48.53 N ($P = 0.05$) in the nondominant leg and 37.74 N ($P = 0.06$) in the dominant leg. The senior group similarly showed notable gains, though not statistically significant, with increases of 61.50 N ($P = 0.07$) and 56.67 N ($P = 0.09$) for the nondominant and dominant legs, respectively. In contrast, the U19 players exhibited smaller, nonsignificant effects of 29.84 N ($P = 0.29$) in the nondominant leg and 34.38 N ($P = 0.31$) in the dominant leg. After detraining, KF strength declined in all groups. In the U15 players, decreases were shown to be -34.31 N ($P = 0.15$) in the nondominant and -24.88 N ($P = 0.31$) in the dominant leg. The senior group recorded reductions of -39.95 N ($P = 0.25$) and -34.87 N ($P = 0.30$), while the U19 players declined by -23.85 N ($P = 0.30$) and -30.80 N ($P = 0.32$) in the nondominant and dominant legs, respectively.

Vertical Jump

The coefficients for jump height were small and not statistically significant (U15, 2.07 cm; $P = 0.38$; Senior, 1.83 cm; $P = 0.43$; U19, 1.01 cm; $P = 0.53$), offering limited evidence of an intervention effect. For jump power, the senior group showed the largest point estimate, although nonsignificant, with an increase of 581.08 W ($P = 0.09$). In comparison, U19 players had nonsignificant improvements by 135.46 W ($P = 0.69$), and U15 players by 87.10 W ($P = 0.80$). After the detraining period, CMJ performance declined slightly in all groups. The U15 players registered a decrease of -1.90 cm ($P = 0.41$), U19 players declined -1.22 cm ($P = 0.42$), and senior players dropped -1.37 cm ($P = 0.58$). In terms of jump power, the most pronounced decrease occurred in the U19 group, with a reduction of -405.15 W ($P = 0.34$). U15 players showed a smaller decline of -157.60 W ($P = 0.69$), while senior players experienced only a minor decrease of -95.39 W ($P = 0.82$).

COD Speed

The postintervention analyses exhibited minimal, nonsignificant changes across all age groups. The U15 group became faster by -0.02 seconds ($P = 0.97$), U19 players by -0.13 seconds ($P = 0.70$), while senior players were 0.02 seconds slower ($P = 0.96$). After the detraining period, U15 players became slower by 0.28 seconds ($P = 0.64$), U19 players by 0.24 seconds ($P = 0.54$), and senior players by 0.05 seconds ($P = 0.93$).

Reliability Analyses

Table 3 illustrates performance data reliability outcomes for the evaluations that were conducted. ICCs showed acceptable reliability, ranging between 0.771 and 0.945 , with CVs ranging between 2.07 and 9.91 .

Discussion

This research aimed to investigate the effects of a 9-week EBT protocol on lower-limb strength, vertical jump, and COD speed performance in trained and highly trained female soccer players across 3 age groups (U15, U19, and Senior). Furthermore, it also explores how these adaptations changed after a 3-week detraining period.

In regards to KE strength, U19 players who completed the EBT program demonstrated a significant increase in KE strength compared with their control counterparts. These estimates were accompanied by relatively low standard error (Table S1, available online), which supports the consistency of the training effect and is reflected in the statistically significant outcomes. In this context, the *P* values help confirm that the observed differences are unlikely to be due to chance, given the model's assumptions. Senior players also showed increases in KE after the EBT intervention; however, the SE in this group were larger than the coefficient (Table S1, available online), indicating greater variability in individual responses. This variability is reflected in higher, statistically nonsignificant, *P* values, which suggests less certainty in the group-wide effect (Table S1, available online). Still, the magnitude of the gains observed in the EG relative to CG suggests a potentially meaningful training effect, despite the lack of statistical significance. Conversely, U15 players presented only minimal, nonsignificant improvements. These minimal changes suggest that the EBT stimulus may have been insufficient for this group. It can be hypothesized that these results are attributed to the fact that none of the exercises that were included in the training program directly targeted the quadriceps - the primary muscle group responsible for KE. 31 The positive results from the U19 and Senior players are likely due to greater neuromuscular maturity, which enhances motor unit recruitment and intermuscular coordination, thus improving the transfer of strength gains from indirectly targeted exercises.^{39,45} Beyond exercise selection, the attenuated response in U15 players may also reflect their maturity status. In pubertal athletes, rapid growth is accompanied by ongoing changes in muscle-tendon properties, motor control, and coordination, which can constrain short-term gains in maximal strength for a given training dose. 45 Consequently, while the present EBT protocol was sufficient to elicit clear KE gains in older, more mature players, younger athletes may require a longer intervention, higher volume, or more targeted quadriceps loading to achieve comparable improvements. 23

KF strength also showed positive developments. U15 players who followed the EBT protocol demonstrated larger improvements compared with the CG, which exhibited minimal change or even decline over time, as indicated by the Period coefficient (Table S1, available online). It needs to be stated, however, that there was a pre-existing difference between groups at baseline in KFD, as shown by the Treatment coefficient. Such imbalance can affect internal validity because it may bias simple between-group comparisons. However, the DiD approach helps address this issue by evaluating relative changes over time rather than absolute differences, which preserves said validity. Still, the baseline discrepancy should be considered when interpreting the magnitude of the observed effects. Nonetheless, the DiD coefficient revealed a positive development in the EG, suggesting that EBT had a reinforcing effect on KF strength in this age group. Senior players responded similarly, with improvements that exceeded those of the CG, which showed a downward trend over time, again reflected in the Period coefficient. Despite moderate variability in individual responses and *P* values slightly above conventional thresholds, the direction and magnitude of the DiD coefficients support a potentially relevant training effect. These results are in line with previous research,^{30,48} and highlight the importance of knee flexors in female soccer players, particularly in reducing the risk of hamstring and anterior cruciate ligament injuries,³⁴ although this connection is inferred from existing literature rather than measured directly in this study. Curiously, more complex outcomes were discovered in U19 players. Gains were smaller and nonsignificant, reflecting greater uncertainty; however, the Period coefficient of both KF metrics suggests that CG experienced a slight decline over time, contrasting with the positive changes in EG. This may indicate that EBT helped counteract a decline in muscle strength, possibly related to accumulated fatigue during the season,¹⁹ and can assist in neuromuscular performance preservation. This corroborates with previous research that states that resistance training may help prevent performance loss due to fatigue by improving muscle strength.^{10,13,20}

After the detraining period, strength adaptations declined in both KE and KF, with some differences between age and muscle groups (Table S2, available online), although none of these changes reached statistical significance. U19 players showed the largest point-estimate declines in KE, followed by U15 players, while Seniors showed the smallest losses. A possible explanation is that Senior players likely retained more strength due to neuromuscular consolidation, which stabilized the strength adaptations against the acute losses seen in the younger cohorts.^{14,32} Despite these reductions, the EG likely remained stronger than the CG, as the initial advantage was not fully erased. Interestingly, the Period coefficient for U15 KEND was 29.50 N, indicating that the CG improved slightly during the detraining phase. This contrasts with the general trend of decline seen in the other groups and metrics, possibly indicating natural recovery or reduced fatigue. Furthermore, KF strength appeared more resilient to detraining, with all age groups experiencing declines (Table S2, available online). Notably, the Period coefficient for U15 KFND was 29.00 N, indicating that the CG improved slightly during detraining. The slight improvements in the nondominant leg strength during the detraining phase may reflect the dissipation of cumulative fatigue and lower match or training load, allowing neuromuscular recovery and a more accurate assessment of baseline strength.⁴⁰ Nevertheless, this reduction in performance highlights the reversible nature of neuromuscular adaptations after resistance training cessation,⁴ emphasizing the importance of program consistency to maintain progress. Furthermore, training intensity seems to be a key component to ensure strength gains retention during periods of reduced training volume.⁴²

Vertical jump height showed minimal, nonsignificant improvements across all groups. This suggests a potential benefit from the training, yet the high variability limits confidence in the effect. Senior players showed the largest improvement, as reflected in the DiD coefficient (Table S1, available online). However, this gain came with a higher SE and a *P* value above conventional significance thresholds, indicating considerable variability and limited statistical certainty. These results contrast with those of Hammami et al,¹⁵ who reported significant improvements in CMJ height after a 10-week complex strength training using elastic bands in young female handball players. The discrepant results found in this study could be explained by the intervention. Although the training period was similar in both investigations, the intervention of the present study did not incorporate plyometric exercises. This type of training prepares muscles and tendons to store and release elastic energy more effectively during the stretch-shortening cycle,^{26,46} potentially explaining the differing results. Moreover, as previously mentioned, the absence of quadriceps-targeted exercises may have further attenuated improvements in vertical jump height, given its importance in generating KE torque.

18

Vertical jump power exhibited mixed results, with the most promising outcomes observed in Senior players. In both U15 and U19 groups, CMJ power increased after the intervention, as reflected in the DiD coefficients (Table S1, available online). However, the CG also showed substantial gains over time, suggesting that the training did not outperform natural development. The high standard error and lack of statistical significance further limit the interpretability of these effects. In contrast, Senior players demonstrated notable improvements, while the CG declined over time, as indicated by the Period coefficient. This pattern suggests that EBT may have helped counteract losses in explosive performance. This raises the possibility that the observed results may be attributed to age and maturity differences between groups. Previous research suggests that biological maturation in girls ends at 17 years of age and tends to plateau as athletes approach neuromuscular maturity.^{7,8,36} Therefore, Senior players may have demonstrated a more developed neuromuscular system, which possibly contributed to their marginal statistical improvements in vertical jump power despite the absence of plyometric exercises.

After the detraining period, both vertical jump metrics decline across all ages, reversing the small improvements observed during the intervention, though none of the detraining-phase changes reached statistical significance. During the follow-up, all groups experienced small declines in height (Table S2, available online). Moreover, the Period coefficients were close to zero, suggesting minimal change in the CG. Regarding vertical jump power, the U19 EG experienced a sharp decline (, 405.15 W), while CG improved (407.40 W), suggesting a complete reversal of the training effect and resulting in the EG falling below the CG by the end of the washout period. In U15 players, the EG also regressed, whereas the CG showed only a modest decline, indicating that the EG lost more than the CG and failed to retain the gains achieved during training. Among Senior players, the EG declined during detraining, while the CG showed a modest improvement (38.30 W). Despite this shift, the EG had started the detraining phase with a performance advantage (387.86 W), suggesting that they likely remained superior in absolute terms. This pattern indicates that older athletes may retain more of their explosive capacity after short-term detraining, potentially due to more consolidated neuromuscular adaptations.

COD speed performance did not show significant improvements in any of the age groups (Table S1, available online). This supports the idea that while the EBT and other types of resistance training can help develop general strength, improvements in COD speed are also highly dependent on straight sprint and technique training, where foot placement, adjustment of stride to accelerate and decelerate and body lean and posture are key physical determinants when executing rapid COD.^{33,47} In addition, multiplanar plyometric training has also been shown to be beneficial for improving COD ability,¹¹ emphasizing the need for the inclusion of this type of training in future interventions. After detraining, COD speed remained unaffected, as DiD coefficients were minimal and statistically nonsignificant across all age groups, and neither Treatment nor Period coefficients revealed meaningful trends. This reinforces the idea that COD performance is less influenced by general resistance training and more dependent on sprint-specific and technical stimuli.

Limitations

While the results of the present study offer valuable insights, several limitations must be addressed. First, the a priori sample size calculation was based on a large effect size ($d = 1.58$) derived from vertical jump height data in a comparable population, which may have resulted in an optimistic sample size estimate. The study may therefore have been underpowered to detect smaller effects, particularly for outcomes with more modest expected changes. Second, a meaningful dropout during the follow-up phase created imbalances between groups, which could potentially introduce bias and limit the assessment of the detraining effects; as reflected in some baseline imbalances in the Treatment coefficients observed in the detraining-phase analyses (Table S2, available online), which should be considered when interpreting these results. Third, while the EBT protocol was standardized, external variables such as field training and match intensity were not controlled. To address this limitation, future studies should incorporate monitoring devices, such as GPS, to assist in controlling such variables. Fourth, the training program did not include exercises that targeted the quadriceps directly, which may have limited the observed KE gains in the U15 players. Future investigations should include exercises that are more quadricep-focused, possibly enhancing training effectiveness and offer a more accurate assessment of KE strength adaptations across these age groups. Fifth, the CG was not time- or attention-matched to the EG, since players in the control condition did not receive any structured intervention during the study period. Future studies should consider incorporating these control condition to better isolate the effects of the intervention from those of increased supervision and structured engagement. Sixth, blinding of participants and the investigators delivering the intervention was not possible given the nature of the EBT protocol, which is an inherent limitation of this type of exercise-based intervention. Seventh, although randomization provided support for its plausibility, the parallel trends assumption from the DiD framework was not empirically testable given the single preintervention measurement. Future studies would benefit from incorporating multiple baseline assessments before the intervention period, which would allow empirical verification of this assumption and strengthen confidence in the causal interpretation of the observed effects. Finally, the study population only consisted of amateur female soccer players, so the findings should not be generalized to populations such as male players, elite players, or even players from different sports. Future research should attempt to replicate this protocol in different categories of players with various training backgrounds, to cross-validate and generalize the current results.

Conclusion

This study determined that a 9-week EBT program increased lower-limb strength among trained and highly trained female soccer players, particularly in KF across all age groups, and KE in U19 and Senior athletes. In contrast, vertical jump and COD speed performance showed minimal changes. After a 3-week detraining period, most strength gains declined, emphasizing the need for continuous training to preserve neuromuscular adaptations. The findings of this study offer useful practical applications for coaches and strength and conditioning professionals working in female soccer. EBT offers an effective and accessible way of lower-limb strength development, particularly in settings where there is limited access to traditional gym equipment.

Supplemental Material

Sousa et al., Sports Health, 2026, doi:10.1177/19417381261490002. Published under CC BY 4.0: <https://creativecommons.org/licenses/by/4.0/>.

Source: [Sports Health](#) pubmed.ncbi.nlm.nih.gov

12

Research

U14 to U19

Association between environmental heat stress and 30:15 intermittent fitness test performance in youth football players: a two-season observational study

For coaches When you test your players on a hot day, their lower score may reflect the heat rather than lost fitness, so compare results within similar conditions or shift testing to cooler hours.

Abstract

Intermittent field tests in football are commonly conducted outdoors, exposing players to environmental heat stress. This study examined the influence of environmental heat stress on the 30:15 Intermittent Fitness Test (VIFT) performance in highly trained young football players. A total of 642 VIFT assessments were collected from 312 male players (U14 to U19) across two seasons. Environmental conditions were obtained from an open-source service. Heat stress was quantified via the wet-bulb globe temperature (WBGT) and categorized into unrestricted ($<22^{\circ}\text{C}$), low-risk (22°C to 28°C) and high-risk ($>28^{\circ}\text{C}$) conditions. Linear mixed models were used to analyze the associations between anthropometric, neuromuscular, and environmental factors on VIFT performance. VIFT decreased by ~ 0.4 km/h in low-risk and ~ 1.5 km/h in high-risk heat conditions ($d = 0.12$ to 0.45 ; $P < 0.01$) compared to unrestricted. These differences persisted after adjusting for anthropometric characteristics and CMJ performance, except in U19 players, where the VIFT decrement in low-risk conditions disappeared ($P = 0.183$). The VIFT declined by 0.09 to 0.15 km/h for every 1°C increase in WBGT ($r = -0.74$ to -0.28 ; $P < 0.05$). Our findings suggest the VIFT performance might decrease by one running stage (0.5 km/h) for every $\sim 5^{\circ}\text{C}$ increase in WBGT. Practitioners should account for environmental conditions when profiling players and prescribing training based on the VIFT.

Introduction

Young football (soccer) players (aged 12 to 19 years) need a combination of physical capacities stemming from strength, power, speed and endurance to be successful (1). Specifically, intermittent exercise capacity is considered a key performance indicator based on its strong correlation with match physical outputs in young football players (2, 3). As intermittent field tests in football are typically conducted outdoors, there is growing concern around their repeatability and sensitivity (4, 5). This concern is based on the solid knowledge that heat stress can affect endurance performance in different sports (6), including football (5, 7, 8). This is particularly important in youth athletes, who are more susceptible to heat stress due to their immature thermoregulatory systems, including lower sweat rates, greater surface-area-to-mass ratio, and less effective cardiovascular responses, leading to decreased heat tolerance compared to adults (6, 9).

Depending on the geographical areas, young football players compete across a wide range of environmental conditions, with match temperatures reported from $\sim 9.2^{\circ}\text{C}$ in Under-14 boys from the UK (10) to $\sim 36^{\circ}\text{C}$ with 25% relative humidity in Under-17 players in Australia (11). Playing football in the heat imposes substantial physiological strain, as the combination of exercise-induced metabolic heat production and high ambient temperatures challenges the body's ability to maintain thermal homeostasis (6). To quantify this environmental heat stress, air temperature alone is insufficient, as it does not account for the combined effects of humidity, wind speed, and solar radiation on the body. The wet-bulb globe temperature (WBGT) integrates these factors into a single composite index and has been adopted as the standard tool for assessing heat stress in football (7, 8) among other Olympic sports (12, 13). Although direct on-site measurement represents the gold standard, WBGT can be reliably estimated from meteorological data available through open-source services (14).

Compared to match-derived physical outputs, standardized physical tests offer a more controlled approach by eliminating match-related confounders (e.g., opponent quality, tactical decisions) thereby allowing the effects of environmental conditions on performance to be more directly attributed to heat stress. According to a recent survey, the most adopted field-based intermittent endurance protocol among practitioners involved with testing football players is the 30:15 intermittent fitness test (30:15IFT) (15). This is probably due to the fact that the final outcome of 30:15IFT (final velocity; *VIFT*) can be confidently adopted based on its reliability (16) and sensitivity to training (17) to measure a combination of relevant capacities, namely maximal cardiorespiratory function, anaerobic capacity (18), neuromuscular qualities (19), and inter-effort recovery abilities (20). However, testing in the heat might introduce a meaningful bias into test outcomes, thereby affecting player profiling and training prescriptions. Therefore, estimates of the association between environmental conditions might be applied to the test score to profile players and calibrate running conditioning.

Beyond the influence of environmental conditions, it is important to consider individual characteristics that may affect performance in intermittent field tests. Indeed, intermittent exercise is associated with a combination of primarily endurance (based on a moderate to large correlation with laboratory-based maximal oxygen uptake) (21) and to a lesser extent, strength and power capacities (based on a small to moderate correlation with strength and power tests) (19, 22). A recent study revealed that taller and heavier young football players presented a greater VIFT performance ($r = 0.59$ to 0.88), whilst no relation was found with body fat (22). In the same study, players who scored higher in the countermovement jump (CMJ) test reported greater VIFT performance (22). Taking together, those findings suggest that taller, heavier and more powerful players may perform better on intermittent endurance tests. However, inferring a superior heat tolerance in youth populations should be approached with caution as heat dissipation and tolerance are influenced by several interrelated factors, including body surface area-to-mass ratio, lean mass, fat mass, and metabolic heat production (6) which are not fully captured by gross anthropometric or power-related metrics. Therefore, while physical stature and power may support intermittent test performance, it remains uncertain whether these characteristics offer a physiological advantage under heat stress. This could be of importance as children traditionally displayed less effective thermoregulatory capacity and inferior thermal tolerance during exercise under heat stress compared to adults (6).

In summary, the influence of environmental heat stress on intermittent running performance has not been examined in young football players. In this context, practitioners might benefit from estimates between environmental conditions and test outcomes, which could inform adjustments to VIFT results when testing is conducted under heat stress. Thus, the study aimed to examine the influence of environmental heat stress on the 30:15IFT performance in young football players and to identify individual characteristics associated with heat-induced performance decrements.

Materials and methods

Design

Fitness tests data were collected as part of routine team monitoring across 2022/23 and 2023/24 seasons at a football academy in the Middle-East. The last running velocity of 30:15IFT (VIFT) was the outcome variable, environmental heat conditions were the independent variables, and individual characteristics (age, height, body mass, percentage of body fat and CMJ height) were the covariates. The VIFT performance in the heat was compared to a control (unrestricted) condition based on a WBGT-based heat stress classification. Then, the association between continuous WBGT and VIFT was computed to generate an VIFT estimate based on 1 °C increase in WBGT. Individual characteristics were entered as covariates to examine whether anthropometric characteristics and CMJ would affect the expected WBGT-induced changes in VIFT performance.

The 30:15IFT was planned four times per season [pre-season (July), $n = 222$; early season (September), $n = 80$, mid-season (January), $n = 188$; end-season (April), $n = 123$]. A total of 642 VIFT records were available from 312 participants who were tested at least once [Median = 2 assessments per player; Min-Max = 1 to 9] over the course of the two full seasons. During the VIFT testing sessions, temperature ranged from 24.3 to 43.5 °C, whereas relative humidity ranged from 8.0 to 67.0%. Assessments were conducted in different time slots in the afternoon depending on the season, starting at 4 p.m. (December and January; $n = 94$), 5 p.m. (November and February; $n = 27$), 6 p.m. (September, October, March and April; $n = 65$) and 7 p.m. (July, August and May; $n = 416$). Exceptions were made for players who had missed their scheduled session and were tested within one week in the morning between 8 and 9 a.m. ($n = 42$; 6.5% of total observations). Since WBGT was recorded individually for each testing session and linked retrospectively to each VIFT observation, any environmental differences between morning and afternoon/evening sessions were captured within the WBGT variable. These data were derived from regular player monitoring over the course of the season, during which coaching staff and participants received a testing report. The team coaches and players did not receive any input from the research team. Neither anthropometric measurements nor performance tests were conducted during the two Ramadan Fasting periods observed in both seasons.

Participants

312 young football players classified as tier 4 (competing at elite/international level with a training frequency of 4 or 5 sessions per week, depending on weekly fixtures) according to the participant classification framework, took part in this study (23). The players were grouped according to their age as under-14 (U14; $n = 50$), under-15 (U15; $n = 64$), under-16 (U16; $n = 76$), under-17 (U17; $n = 83$), and under-19 (U19; $n = 88$). The 2022/23 and 2023/24 national leagues did not include the U19 and Under-18 (U18), respectively. Thus, to avoid considering single-season data, U18 players from the 2022/23 season were classified as U19. Sixty-six players participated in both seasons. Participants were assessed from the 1st of July 2022 to the 30th of May 2024. As data were derived from routine player monitoring, written informed consent was not required. The requirement for written consent was waived by the Institutional Ethics Committee of Faculty for Human and Business Sciences of Saarland University (Ref No.: 25-11). Players and their guardians were verbally informed upon club registration, and coaching staff and participants received a testing report at the end of each assessment period. A detailed description of the participants' characteristics is reported in Table 1.

Environmental conditions

Environmental conditions, in the form of dry-bulb temperature and WBGT (a heat index that considers air temperature, relative humidity, wind, and solar radiation), were retrospectively linked to all 30-15IFT endurance performance tests. The advantages and disadvantages of using WBGT have been previously described (24 to 26). The environmental data were obtained from an open-source service (Meteostat.net), which provides hourly meteorological data for specified geographic locations. The service estimates temperature, relative humidity, dew point, wind speed, and air pressure based on a weighted interpolation of up to four weather stations, considering their distances and elevation differences relative to the actual location. Solar radiation was also estimated using the solar angle at the time and location of the test. Finally, the WBGT was estimated based on the method developed by Liljegren et al. (24), which is an acceptable alternative to direct WBGT measurements (14). Data were based on the nearest weather station, located 5.6 km from the study location. Environmental conditions were classified based on the WBGT as “unrestricted” (<22 °C), “low risk” (22 °C to 28 °C), “high risk” (28 °C to 30 °C) “very high risk” (>30 °C) and “stop play” (WBGT >32 °C), as previously adopted in football research (7, 8).

Testing

Anthropometric measurements

The chronological age on the test date was calculated for each VIFT session by subtracting the players' birth dates from the test dates. Standing height was measured using a portable stadiometer (Seca 213, Seca GmbH, Hamburg, Germany) to the nearest 0.1 cm. Players stood barefoot, upright, with heels together and head in the Frankfurt plane. The measurement was taken at the end of a deep breath, with the headpiece gently lowered to touch the top of the head. All measurements were performed by the same trained assessor to avoid inter-rater error. Body mass and body fat percentage were assessed using bioelectrical impedance analysis (BIA) technology with integrated body composition analysis software (InBody Co., South Korea). Players were measured barefoot and in light clothing, standing upright in a standardized position following the manufacturer's instructions. They were instructed to avoid food and fluid intake for at least two hours before measurement, refrain from intense exercise on the day of assessment, and empty their bladder prior to testing. Standing height, body mass and fat mass were collected once a month over the course of the two seasons and matched to the nearest seasonal VIFT. Thus, four out of 10 seasonal anthropometric assessments were considered for analysis.

Countermovement jump

The CMJ performance was assessed using a 1000-Hz dual force plate system (ForceDecks FD Lite, VALD Performance, Brisbane, Australia). CMJ was assessed either on the same day as the 30:15IFT, in which case it was always performed before the fitness test, or on a separate day based on the coaches' scheduling, always at the beginning of the training session. To minimize measurement error, only CMJ assessments conducted within a maximum of two weeks before or after the corresponding 30:15IFT session were retained for analysis. After being positioned in an upright stance with their feet shoulder-width apart in the center of the force plates, the players performed a no-arm swing CMJ, placing the arms on the hips, by flexing their knees to a position they perceived to be comfortable. At least a 30-second recovery was allowed between three jump trials. Force-time data derived from the CMJ were uploaded instantaneously to the manufacturer's data administration platform (VALD Hub, VALD Performance, Brisbane, Australia). The final CMJ was retained from the best of three attempts (highest jump height), computed using the impulse-momentum method (27). Each player contributed a median of 2 assessments (Min-Max: 1 to 9) over the two seasons. Our test-retest reliability was assessed in a subsample of 22 participants using a test-retest approach and was excellent [intraclass correlation coefficient (ICC) ranging from 0.97 to 1.00; unpublished observations].

30:15 intermittent fitness test

Intermittent fitness performance was assessed through the 30-15IFT as described by Buchheit (17). The test consisted of 30-s shuttle runs interspersed with 15-s passive recovery periods. Velocity was set at 8 km·h⁻¹ for the first 30-s run and was increased by 0.5 km·h⁻¹ every 45-s stage thereafter. Players had to run back and forth between two lines set 40-m apart at a pace governed by a prerecorded audio signal played at appropriate intervals that guided them to adjust their running speed by entering the 3-m zones at each extremity and in the middle of the field while the short beep sounds. During the 15-s recovery period, the subjects walked forward to join the closest line (at the middle or one end of the running area, depending on where the previous run ended) from which they started the next run stage. The aim of the test was to complete as many stages as possible, ending when a player could no longer sustain the imposed running speed or when he was unable to reach the 3-m zone around each line when the audio signal was consecutively sounded 3 times. The speed attained during the last completed stage (VIFT) was retained as the intermittent exercise capacity. The results of this test have shown strong associations with directly measured aerobic capacity and excellent reliability in athletes across different team sports (ICC = 0.80 to 0.99) (16, 21). All tests were conducted on an artificial turf surface. Testing time varied by seasonal period, as described previously. Players were instructed to refrain from strenuous exercise in the 24 h preceding the test and to arrive adequately hydrated. A standardized 6-min warm-up including light dynamic stretching and running technique exercises was completed prior to each testing session.

Statistical analysis

Shapiro to Wilk tests revealed that VIFT within specific age groups was non-normally distributed under unrestricted conditions ($P < 0.05$) but was normally distributed under both low- and high-risk heat stress conditions ($P > 0.05$). Although the original WBGT classification includes a “very high-risk” category ($>30^{\circ}\text{C}$), the limited number of observations in this range (WBGT 30°C to 32°C ; U16: $n = 3$, U17: $n = 3$, U19: $n = 7$) precluded its inclusion as a separate category. These cases were instead reclassified into high-risk condition. No observations were recorded under “stop play” conditions (WBGT $>32^{\circ}\text{C}$).

To examine whether environmental heat stress was associated with VIFT performance, different linear mixed models were conducted. Environmental stress condition (unrestricted, low risk, and high risk) was treated as a fixed effect, individual subjects as random effects, and VIFT as the dependent variable. The models accounted for unequal participation across players (i.e., varying number of testing sessions) (28). An unstructured covariance structure was applied. The unrestricted condition was used as the reference category to compare observed changes in VIFT under low- and high-risk conditions. Individual characteristics (chronological age, standing height, body mass, body fat percentage, and CMJ height) were entered into the models both separately and simultaneously as covariates. As a sensitivity analysis, seasonal moment (pre-, early-, mid-, end-season) was added as an additional fixed effect to the models including heat stress condition (categorical and continuous WBGT), to evaluate whether the observed heat stress effects on VIFT performance were robust to seasonal variation in fitness. Seasonal moment was not included as an individual covariate with individual characteristics, as it was found to be strongly overlapping with heat stress condition, reflecting the seasonal climate pattern at the study location; its effect was therefore reported separately. The normality of residuals between VIFT and continuous WBGT were checked using histograms and Q-Q plots.

To interpret the magnitude of differences and relationships, an estimate with 95% confidence interval (95% CI) and standardized coefficient (β) with 95% CIs, were determined. Significant associations between VIFT and WBGT are presented per 1°C increase in WBGT. Depending on β , effects were categorized into small ($\beta = 0.10$ to 0.29), medium ($\beta = 0.30$ to 0.49) and large ($\beta = >0.50$). Repeated-measures correlations and associated 95% CIs were calculated between continuous WBGT and VIFT within each specific group, by modelling the longitudinal dataset as a whole, considering whether the same individual players participated in multiple measurements (29). The magnitudes of correlation were qualitatively interpreted as: trivial ($r \leq 0.1$), small ($r = 0.1$ to 0.3), moderate ($r = 0.3$ to 0.5), large ($r = 0.5$ to 0.7), very large ($r = 0.7$ to 0.9) and almost perfect ($r \geq 0.9$) (30).

Descriptive statistics were reported as estimated marginal means $\pm$ 95% CIs unless otherwise described. The significance level was set at $P < 0.05$. Data were analyzed in R Studio (Version 4.3.3) using the packages *performance*, *emmeans*, *lme4*, *rmdcorr*, and *lmerTest*.

Results

Differences in intermittent fitness performance between environmental conditions

A description of VIFT performance values by environmental stress category is reported in Figure 1. Regardless of the age groups, VIFT performance was reduced by ~ 0.4 km/h in low-risk conditions and by ~ 1.5 km/h in high-risk conditions [$\beta = 0.12$ (0.03 to 0.21) and 0.45 (0.37 to 0.51); $P < 0.01$] compared to unrestricted conditions. When adjusted for single anthropometric characteristics and CMJ performance, those differences were maintained when considering all players or separate age groups. However, when all covariates were entered simultaneously, the differences in VIFT performance during low-risk conditions disappeared for U19 players (lower VIFT by ~ 0.23 instead of ~ 0.35 km/h; $P = 0.183$). A detailed description of the VIFT estimates under low- and high-stress conditions, compared with unrestricted conditions, is reported in Table 2.

Relationship between wet-bulb globe temperature and intermittent fitness performance

WBGT was negatively associated with VIFT performance ($P < 0.05$). The magnitude of correlations was small in U19 [r (95% CIs) = -0.28 (-0.52 to -0.01); $P = 0.015$], moderate in U14, U15 and U16 ($r = -0.50$ to -0.31 ; $P < 0.05$) and large in U17 [r (95% CIs) = -0.61 (-0.74 to -0.43); $P < 0.001$]. A representation of the correlation between WBGT and VIFT is reported in Figure 2.

For every increase in 1°C in WBGT, VIFT performance was reduced by 0.09 to 0.15 km/h depending on the age-group ($r = -0.48$ to -0.30 ; $P < 0.01$). When adjusted to single anthropometric characteristics and CMJ performance, those relationships were maintained in all age-groups ($P < 0.05$). When all covariates were entered simultaneously, the relationship disappeared for the U19 age-group ($P = 0.205$). A detailed description of the relationship between WBGT and VIFT performance is presented in Table 3.

Association between seasonal moment, environmental conditions and intermittent fitness performance

The distribution of heat stress conditions varied across seasonal moments: 83.1% of pre-season testing sessions occurred under high-risk conditions, whereas 0.5% of mid-season sessions. Despite, the reduction in VIFT performance during high-risk conditions remained significant after adjusting for seasonal moment for all players (-1.01 km/h vs. -1.54 km/h unadjusted; $P < 0.001$). Seasonal moment was itself significantly associated with VIFT performance ($P < 0.001$), with the lowest values observed in pre-season and the highest in mid-season. Similarly, the negative relationship between WBGT and VIFT performance remained significant for all players after adjustment for seasonal moment (-0.095 km/h per 1°C vs. -0.132 km/h per 1°C unadjusted; $P < 0.001$).

Discussion

The key finding of this study is that the intermittent running performance of highly trained youth football players, assessed using the 30:15 IFT, was negatively affected by environmental heat stress, independent of anthropometric characteristics and CMJ. The performance decrement ranged from ~0.09 to 0.15 km/h for every 1 °C increase in WBGT. The observed heat-induced performance decrements likely stem from multiple interrelated physiological mechanisms. Elevated environmental temperature substantially increases core and muscle temperatures, and these changes may impair neuromuscular function and reduce the capacity for high-intensity intermittent exercise (31). Heat stress also increases cardiovascular strain by redirecting blood flow to the skin for thermoregulation, thereby reducing oxygen delivery to working muscles and decreasing maximal aerobic capacity (6). Additionally, the 30:15IFT requires repeated high-intensity accelerations and decelerations, which generate substantial metabolic heat production that compounds the thermal stress imposed by environmental conditions. Youth athletes may be particularly vulnerable to these effects due to their lower sweating capacity, higher surface-area-to-mass ratio, and less mature cardiovascular responses compared to adults (9). The finding that U19 players showed attenuated heat effects in low-risk conditions suggests that age-related improvements in thermoregulatory capacity and/or heat acclimatization may partially offset environmental thermal stress, although this warrants further investigation.

Compared to unrestricted thermal conditions ($<22^{\circ}\text{C}$ WBGT), VIFT performance decreased by ~ 0.4 km/h under low-risk conditions (22°C to 28°C WBGT) and by ~ 1.5 km/h under high-risk conditions (28°C to 30°C WBGT). This is consistent with international recommendations for safe sport participation in the heat issued by the International Olympic Committee (13), suggesting that the performance decrements observed in the present study become practically meaningful precisely at the environmental boundaries beyond which governing bodies advise caution. These results remained significant even after adjusting for anthropometric and neuromuscular function. Previous studies have shown that endurance capacity (32) and repeated sprints performance (31) are lower in the heat compared to thermo-neutral environment conditions (31). The linear relationship between WBGT and VIFT (~ 0.09 to 0.15 km/h reduction per 1°C -WBGT increase) supports the argument that higher heat loads impair performance, particularly in younger age-groups. The strength of the WBGT-performance association varied across age-groups, with U17 players showing the highest correlation ($r = -0.61$). This could be because younger athletes (~ 16 to 17 years old) have lower sweat rates, higher core temperatures, and reduced cardiovascular stability in the heat, leading to diminished tolerance and greater performance decrements (6). In contrast, U19 players showed minimal performance reduction in low-risk conditions after adjustment for all covariates, potentially reflecting greater age-related improvements in thermoregulatory capacity or accumulated heat acclimatization resulting from prolonged exposure to hot training environments over multiple seasons. When adjusted for individual anthropometric and neuromuscular characteristics (e.g., height, body mass, fat mass, and CMJ), differences in VIFT performance under heat stress remained consistent across age-groups. However, when all covariates were entered simultaneously, the performance decrement under low-risk conditions disappeared in U19 players (~ 0.23 vs. ~ 0.35 km/h). This suggests that older adolescents might be able to better tolerate environmental stress. Such findings align with prior literature indicating enhanced thermoregulatory efficiency, cardiovascular stability, and accumulated heat exposure experience in late-adolescent players (17 to 19 years) (6, 9) highlighting the importance of interpreting environmental effects in light of player age and physical development.

Our results are particularly relevant given that the 30:15IFT is often administered outdoors in youth football contexts. While the test is known for its high reliability and training sensitivity (17), our findings highlight that environmental conditions can substantially bias test outcomes. This is especially important in hot and humid regions, where test results may underestimate a player's actual aerobic capacity. As noted by Asimakidis et al. (15), the 30:15IFT is the most widely used intermittent fitness test among football practitioners, making environmental control or adjustment critical when interpreting performance. The present data aligns with growing evidence supporting the implementation of heat mitigation strategies in football environments, emphasizing the urgent need for better mitigation strategies and environmental monitoring during training and testing, especially for youth athletes (4, 5).

The findings of the present study can also help in individualizing training based on 30:15IFT. As an example, if a player's VIFT was 18 km/h, the strength and conditioning coach can use this value to estimate the maximal oxygen uptake based on the 80%, 85% of the VIFT, which in this case would be 14.4 to 15.3 km/h. However, when the 30:15 IFT is conducted at elevated temperatures, adjustments to the final speed might be needed to prescribe endurance training under unrestricted conditions. Depending on how much higher the WBGT on the test day was compared to the training day, VIFT may be estimated to increase by approximately one running stage (0.5 km/h) for every $\sim 5^{\circ}\text{C}$ increase in WBGT. In this case, the player's test score can be corrected from 18 to 18.5 or 19 km/h, resulting in a higher maximal oxygen uptake (14.8 to 16.1 km/h instead of 14.4 to 15.3 km/h) estimated for unrestricted environmental conditions, and prescribe endurance training accordingly.

This study is not exempt from limitations. The major criticism is the lack of control over the varying times at which testing took place throughout the year. Indeed, performance fluctuations are expected throughout the year due to detraining (testing after summer break and/or long breaks) and training. Additionally, biological maturation (e.g., peak height velocity) was not assessed, despite its known influence on both performance and heat tolerance (6, 33). Internal physiological responses during the 30:15IFT, such as heart rate, rating of perceived exertion, or thermal comfort, were not collected. In this context, submaximal heart rate responses to the 30:15IFT based on the first 4- and 6-min of the test (included as a warm-up protocol) have shown good reliability in professional football players (34). Including such measures would provide insight into the mechanisms (e.g., cardiovascular strain, perceived exertion) underlying heat-induced performance decline. Future studies might consider standardized testing windows or incorporate training load data for more precise modeling. Body composition measurements were conducted in the afternoon and in a non-fasted state, which may have introduced variability due to recent food or fluid intake. Non-standardized measurement timing can affect hydration status and gastrointestinal content, potentially leading to overestimation of body mass and fat mass, particularly when using field-based methods. The absence of individual data on players' hydration status, prior heat acclimatization, sleep quality, and biological maturation represents a notable limitation, as each of these factors may independently influence the observed performance responses to heat stress (35, 36). Importantly, WBGT values were estimated using meteorological data from a weather station located 5.6 km from the test site, rather than measured *in situ* during testing sessions. While this approach has been validated against direct measurements (14), it may not fully capture the microclimate conditions experienced by players during testing, particularly variations in solar radiation, wind patterns, or surface heat. Future studies should incorporate on-site WBGT monitoring to improve measurement precision. Finally, VIFT performance varied significantly across seasonal periods, independent of heat-stress conditions. Reassuringly, the heat stress effect on VIFT remained significant in both magnitude and direction after adjusting for seasonal moment, indicating that our main findings are not solely attributable to seasonal variation in players' fitness. However, given that heat stress conditions in our dataset were closely tied to the time of year, with high-risk conditions concentrated in pre-season and unrestricted conditions predominantly observed in mid-season, it was not possible to fully separate the independent contributions of environmental heat stress and seasonal variation in fitness to the observed performance changes. Future studies conducted across more climatically homogeneous regions, or using experimentally controlled heat exposure, would help isolate these effects more clearly.

In summary, this study provides novel evidence that both individual characteristics and environmental heat stress significantly affect performance in the 30:15IFT among highly trained youth football players. Environmental heat stress was associated with clear reductions in VIFT performance, independently of anthropometric characteristics and CMJ. The performance decrement ranged from ~ 0.09 to 0.15 km/h for every 1°C increase in WBGT. These findings emphasize that field testing under hot conditions can lead to underestimated fitness outcomes, particularly in younger athletes who are more vulnerable to heat due to their less developed thermoregulatory systems (6). As the 30:15IFT is increasingly used for training prescription and performance monitoring in youth football (15), these findings reinforce the importance of contextualizing test results by both individual developmental status and environmental conditions.

Conclusions

Our findings provide observations for practitioners using the 30:15IFT to profile young football players and prescribe training intensities. Based on the observed relationship between WBGT and VIFT performance (~ 0.5 km/h decline per 5°C WBGT increase), we recommend standardizing testing conditions whenever possible by conducting assessments during cooler periods (WBGT $< 22^\circ\text{C}$) to minimize environmental confounding and ensure reliability. When testing in heat is unavoidable, practitioners may adjust VIFT results by adding approximately $+0.5$ km/h for low-risk conditions (WBGT 22°C to 28°C) or $+1.5$ km/h for high-risk conditions (WBGT $\geq 28^\circ\text{C}$) to facilitate longitudinal comparisons and approximate the performance expected under unrestricted conditions. Similarly, when prescribing training intensities based on VIFT obtained in heat, coaches should reduce target velocities by the same magnitude to avoid overloading players during hot training sessions. We recommend using accessible WBGT estimation tools (e.g., Meteostat.net, weather station data) to document thermal conditions during both testing and training, enabling more informed decision-making regarding player assessment and load management. Finally, practitioners should consider age-specific responses, as younger players (U14-U17) showed consistent heat-related performance decrements while U19 players demonstrated greater resilience in low-risk conditions, possibly reflecting thermoregulatory maturation. Given the observational nature of this study, the proposed estimates are based on observed associations and should be interpreted cautiously, as they do not imply causal relationships between heat stress and performance decrements. Future prospective studies incorporating direct on-site WBGT measurements and physiological monitoring are needed to confirm and refine these recommendations.

Rago et al., Frontiers in Sports and Active Living, 2026, doi:10.3389/fspor.2026.1896010.

Published under CC BY 4.0: <https://creativecommons.org/licenses/by/4.0/>.

Source: [Frontiers in Sports and Active Living](#) [pubmed.ncbi.nlm.nih.gov](#)

HOBBIT WEEKLY

Ideas you read, used in your next session.

Tell Hobbit your team's age and what you want to work on this week, and it writes a complete session from one sentence, with a diagram for every drill.



Scan for the web edition
and every past issue