



POWERED BY JOY®

Growing a new youth development model

A revolutionary approach to long term Player development

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'People often say that results are paramount, that, ten years down the line the only thing that will be remembered is the score, but that's not true. What remains in people's memories is the search for greatness and the feelings that engenders.

We remember Arrigo Saachi's AC Milan side more than we remember Fabio Capello's AC Milan, even though Capello's side was more successful and more recent. Equally, the Dutch total football teams of the 70's are legendary, far more than West Germany who beat them in the world Cup final of 1974 or Argentina who beat them in the 1978 finals.

It's about the search for perfection. We know it doesn't exist, but it's our obligation towards football and maybe, toward humanity to strive towards it. That's what we remember, that's what's special.'

--Jorge Valdano

Preface

In Brazil, where superlatives take on a life of their own, "joy of the people," is the nickname for Garrincha, the storming, unstoppable right wing that many consider more vital than Pele in bringing in the 58 and 62 world cups. He was poor, from the favelas of Rio, he was born with one leg shorter than the other, he was smallish and tricky, Garrincha means "little bird." To practice he took a ball to the local schoolyard and challenged the kids to take it from him. He was temperamental and eventually saw his career and life cut short through poor lifestyle choices. But, no one, before or since, could move with the ball like he could. Pictures of him cutting the ball, flying in from the outside toward the goal show him darting at insane angles, bypassing defenders, 2, 3, and more. He was unstoppable, his movement was memorizing, and when he played the people felt the joy.

That joy is the joy of the playground, the innocence of youth, the return to the purity of sport. It is what we all hope to see in ourselves, in our kids. Well into his forties and coaching at Barcelona, the reporters asked the great Johann Cruyff why it was he continued to participate in the 6 v 6 scrimmage at the Barcelona first team practice, "Because," he said, "sometimes, for a moment, for a brief moment, I am 25 again."

Joy of the People is about soccer development, not just kids but everyone, to adult and beyond. About learning. About joy. About making friends along the way. When all is said and done *that* is what we will remember.

What are the keys to growth in soccer? What Can these clues about soccer growth teach us ourselves and about learning in other areas? . What is it that makes us grow in sport? Learn? What can we learn from the pursuit of mastery? For over 30 years I have played, coached and studied youth, adult and now masters soccer development, how we learn, how and why we stop learning, things that help us progress, things that inhibit growth. I have seen players I would never have expected go on to National levels, I see seen players I thought would go on to national levels fall flat in the face of simple obstacles.

I have played with players from every country. I have made friends and rivals and now am working to help others do it better. The joy of the people? Can we create a better environment that produces people, players and teams that play with that Joy? What about the great players? What were the keys to their development? Is it our duty to search for perfection as Valdano suggests? Of course it's never possible, but perhaps it's our duty to try.

ELEVATOR PITCH

Remember the good old days of sand lot baseball, pick up basketball and pond hockey games? Play brought everyone together and together they learned how to play. Joy of the People is an exciting new model in soccer development capturing the power of play. (It's named after the famous Brazilian player Garrincha, who was so exciting that Brazilians called him Alegria do Povo — Joy of the People),

Joy of the People is a 501 (c)(3) that promotes the idea of soccer free play as a way to build healthy kids and communities. In 2009, JOTP partnered with the City of St. Paul to provide programming at South St. Anthony Rec center where we created an inviting environment of play. In 2012, we provided more than 1,200 hours of safe monitored Free Play soccer for kids of all ages at no cost. At JOTP, we believe that soccer should be inclusive, fun, creative, and cooperative long before it becomes competitive, growing their love of the game, discovering the Joy of play, Joy of friendship, Joy of creativity, and the Joy of the people.

Powered By Joy

Presentation of the Problem

"I didn't have my first coach until the age of 16. I believe in play early, learn late."
—Michael Jordan

Youth Soccer clubs around the US (and the world) are having difficulty developing, retaining, and inspiring kids. Right now a movement is growing that questions the current rec-developmental-travel-competitive-elite model that believes the best kids need to be brought together as soon as possible under the best coaching against the highest competition possible. This has been the dominant model in youth sports and has led to poor skills, over competition and burn out.

Best kids
+
Best coaches
+
Best competition
=
Best development

Clubs have responded to this low skill/burnout problem not by questioning the model, but by ramping up variables. More tryouts, more elite programs, specialization, more travel, more coaching.

Solution

The Powered by Joy model is a revolutionary change from the dominant youth competitive model

Kids
+
other kids
+
Free Play
+
Deliberate practice
+
leadership
=
Development

Powered by Joy (PBJ) provides a coherent, important sport model that places the child at it's center.

Many soccer and sport clubs, parents and players are ready for this functional, accessible developmental pathway that provides a better way to grow their kids, families and organizations.

Introduction (The Powered by Joy model)

"We were looking for exceptional kids and what we found were exceptional Environments" --Benjamin Bloom, Developing Talent in Young People

Today our kids are over scheduled, over coached, and overwork. Too much focus on winning stifles creativity and individual growth. With a high degree of drop out and burnout, and questions around poor player development and overall enjoyment, many have begun to look at development models to better serve our kids. There is a need for a new model.

Joy of the People presents a long term player development model called **POWERED BY JOY®**, an approach to person-centered sport that combines Free Play, skill instruction with long-term planning and an understanding of human development. It was shaped by integrating current

research on talent development and assessment, with retrospective development history of expert performers.

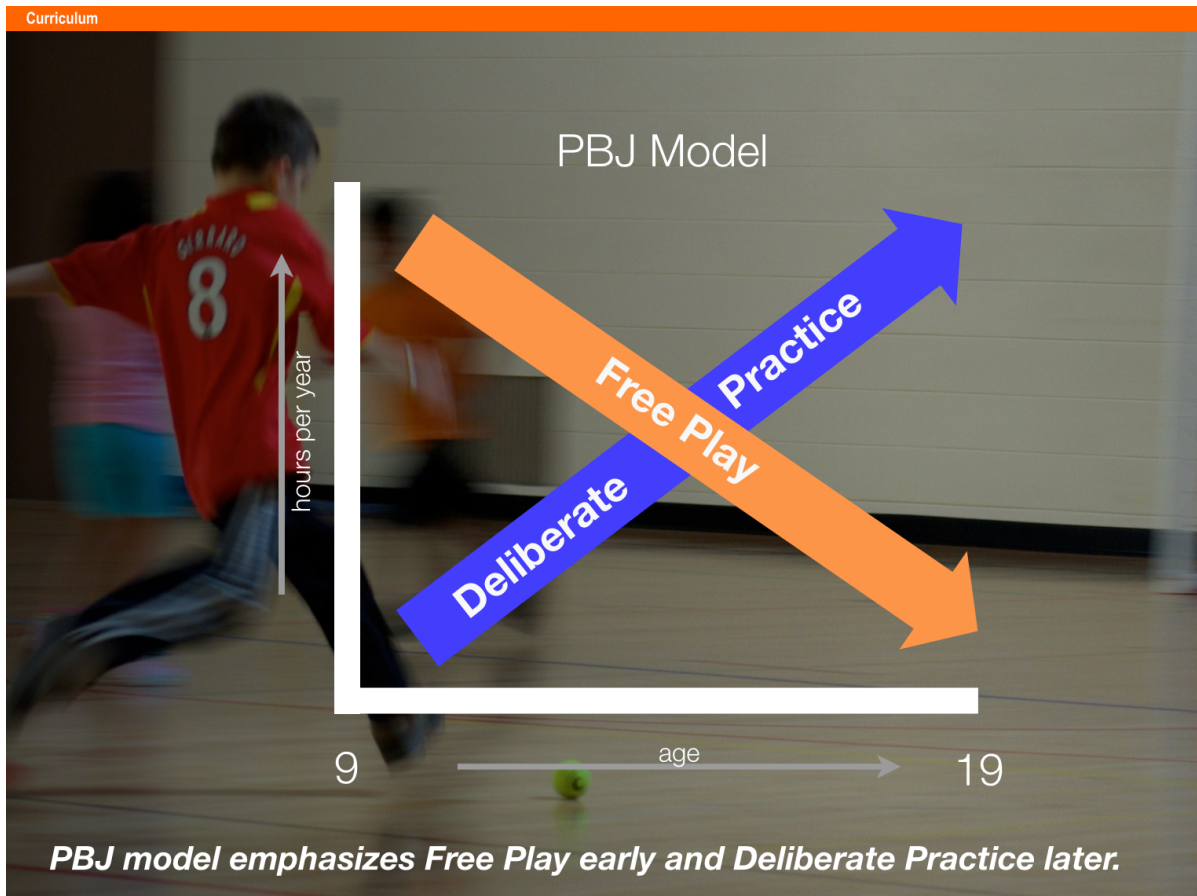
Looking expert performing players, talking to them, speaking with coaches and reviewing the literature, those players grew up are far different then they do today:

1.They played at it first, a lot, mostly without coaching

2.They worked at it second, coming to a club, academy or under mentorship later (sometimes much later) in their careers, getting serious about the sport at the age of sometimes 16!

If this is how the best players developed why not replicate it? If it's important why not place it in the curriculum? Jotp believes that BOTH play and practice are essential, and interrelated. We will show how learning happens when the PBJ model is presented correctly, how kids have fun, and how play as kids powers us for the hard work as adults.

The PBJ model is an essential guide to improving the quality of kids and communities as well developing high-performance athletes, and creating healthy, active citizens. It offers parents, coaches, and sport administrators a deeper understanding of how kids develop, helping them create an enjoyable, developmentally appropriate environment.



A Different Model

Joy of the People has developed a new long term player development model that provides a better pathway for kids, families, clubs and communities. This Powered by Joy model is based on balancing the delivery of unstructured play (Free Play) and structured practice (deliberate Practice) and has over a four year period served as a proven concept in developing healthy kids and communities.

THE 10,000 hours

Are players made? Or are they born? More and more of the emerging science of the study of expertise is pointing toward nurture. Although there is much push back and debate, the Anders Ericsson led moniker of the 10,000 rule loosely means that If you want to be world class, you don't have to work hard, you have to work incredibly hard, specifically for 10,000 hours. Accumulate enough correct practice and next step, world class.

If you speak with expert soccer players and do a little quick math, you will find that this lines up pretty much every time. And, whether it's cooking, chess, or race car driving, you need to put in a lot of time maybe 10,000 or more.

Daniel Coyle author of *The Talent Code* “*If you want a shot at high performance success, you must put in the hours. The kids who will succeed in soccer will put the balance of those 10000 hours in before they're 19.*”

So the time and effort are important, how are we doing?

How we fill up the hours—current model

Look at soccer in the US. Imagine a pyramid with competition being the highest level represented by competition. The second layer is the teams training and practices. Generally this is the limit to kid's experience today.

But there is a third layer, a "lost foundation," of free play and individual skills. This foundation, is what kids are best at. It is the the learning and socializing on the neighborhood parks in free

I had heard about the 10,000 hour rule from the youth coaches in Malmö Sweden, while visiting the academy with a youth team in 1998. They were telling me how a Swedish psychologist and Malmö fan (Ericsson) had let them know about something called the 10,000 rule. They were looking at the ages of 9-19 and how to fit in enough training sessions to hit 1,000 hours a year for ten years (10,000). "That one there," the coach was pointing to a tall, gangly, somewhat clumsy 16 year old. "That one has put in the hours."

No way, I thought, are they saying players are made not born? This kid wobbled when he ran he did not "look" like a player, he was not born to be a player. That kid was Zlatan Ibrahimović.

Years later after seeing Zlatan succeed at Ajax and Inter Milan I began to think that maybe there was something to this 10,000 hour thing.

play. And, is also perfecting that free throw all by yourself until you get it right. If you play sports, this time spent is the best of your lives. Time and time again great players cite these foundational hours as their favorite, and the key to their creative development. I like to call this the "Foundation of Joy."

If we use the Malmö method of 1000 hours a year for ten years, what would this pyramid look like:

As we can see from the above the model is top heavy with games and training. The current youth soccer model focuses on team based competition and training--top down. Our best players train hard and early under expensive coaching. And this is how the Pyramid in the US is upside down: because the competition is ramped up early, deliberate practice is ramped up early. The fun goes out the window at U12 where winning and performance is the goal, little time spent in play, often by coaches held to be a mindless waste of time.

However by the time they are 16 they have little left to give. There is not that foundation of play to draw on and the burnout begins.

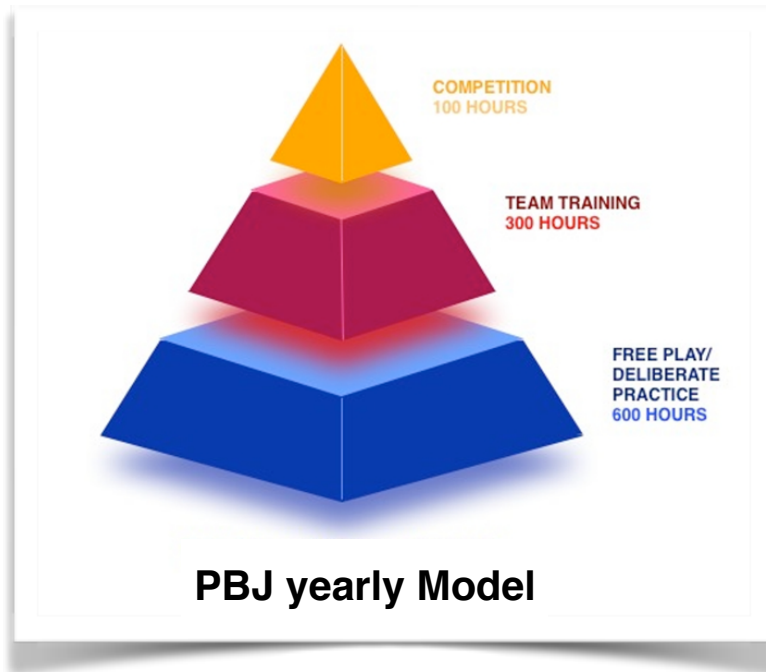


Powered by Joy yearly model

Powered by Joy model focuses on the **"lost foundation,"** free play and deliberate practice -- from the bottom up.

As you can see an optimal model places more time at the bottom. This seems to make sense as time spent outside training and competition. In a place like Brazil these hours would be filled up on the pick up and futsal courts that seem to be everywhere.

These hours are really an afterthought in youth development. But, *This foundation should be the first priority.* Without this foundation of joy, kids miss out on the most important hours of skill development, creative skills, enjoyment and learning. Yet in the US this foundation is given almost no attention.



Free Play -- Deliberate Practice continuum (Cote 2002)

So maybe we need to look at how those hours are distributed and when. Jean Cote divided up practices along a continuum. On one end is free play, unstructured, fun, immediate, intrinsic; On the other end is Deliberate Practice which is the opposite, not inherently fun, extrinsic, performance related. One is "play" the other is "work" and they are both important. When you are young, lots of free play is important. Serious preparation for the difficult competitions of life are forged not through hard work but with imagination, fun, and joy of free play. Bear cubs wrestle and play to prepare themselves for the demands of being a top of the food chain omnivore.

And it works for kids too, especially in sports. The streets have always produced the best, most nuanced, most inspirational players in all sports. In soccer Ronaldo quit his youth academy team to stay and play with his Friends in the local pick up game, he is maybe the best striker the world has ever known, Zidane brought a new level of skill honed on the streets of Marseilles, Maradona, Messi, Cruyff, there is no greatness without free play.

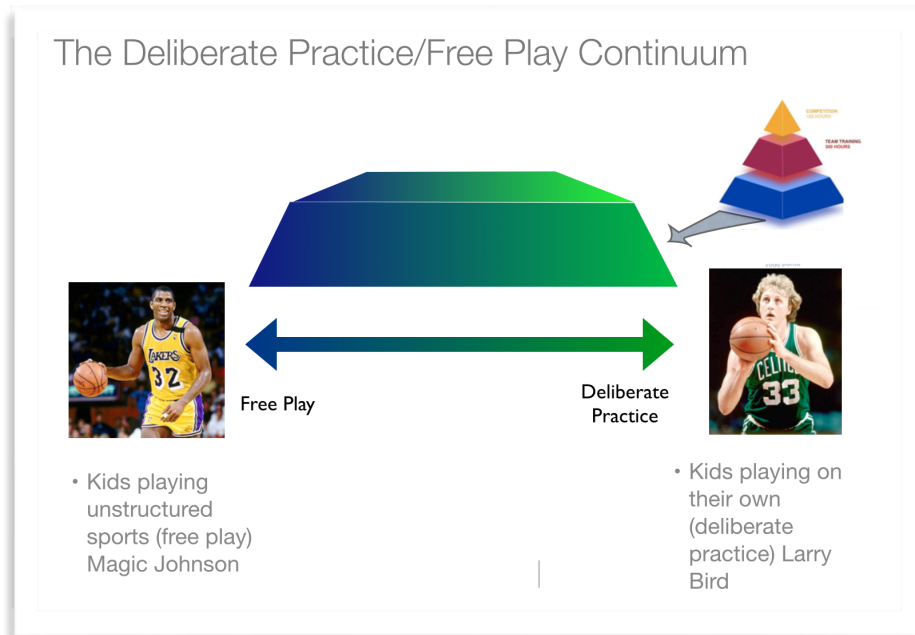
	Free Play	Deliberate Play	Structured Practice	Deliberate Practice
Goal	Fun	Fun	Improve Performance	Improve Performance
Perspective	Process (means)	Process Experimentation	Outcome (ends)	Outcome (ends)

Monitored	Not Monitored	Loosely Monitored	Monitored	Carefully Monitored
Correction	No Correction	No focus on immediate correction	Focus on correction, often by discovery	Focus on immediate correction
Gratification	Immediate	Immediate	Immediate & Delayed	Delayed
Sources of Enjoyment	Intrinsic	Predominately Intrinsic	intrinsic & Extrinsic	Extrinsic



Magic vs Bird and Play vs Work

After Zidane's fabulous goal and performance, here's what Magic had to say: "An incredible action, realized with a magnificent coordination between the eyes and the feet. Zidane is like Jordan and I put together. I have seen some matches on TV, but live, in the stadium that's another thing. It's an experience to live for everyone."



So this foundation is built up through Free Play and individual deliberate practice. Let's look at two examples, from Basketball, Larry Bird and Magic Johnson.

Larry Bird grew up in a small town in Indiana, he practiced a lot, and much of it on his own honing his skills through hours of repetitions. It was not inherently fun, it was work.

Magic Johnson on the other hand hated to practice. He liked to play in the 3 v 3 games at the local park in Lansing Michigan. . The problem was that at his home courts the games were plagued by fights, arguments, games would break up with players upset leaving Magic alone with a ball...and he hated to practice on his own.

Magic had to figure out a way to keep the game going. He would pass the ball, that made the others happy (he would go on to become one of the best passers in NBA history), he would smile (his smile became world famous). He learned how to keep the group happy and productive.

These two were shaped by this upbringing. Magic, as a rookie led his team to the NBA title, in the final game he did this playing out of position for the Injured hall of famer, Kareem Abdul Jabar. Johnson recorded 42 points, 15 rebounds, 7 assists, and 3 steals in a 123–107 win, while playing guard, forward, and center at different times during the game.[36] Johnson became the only rookie to win the NBA Finals MVP award and his clutch performance is still regarded as one of the finest in NBA history.

He still had a lot to learn. His technical skills (outside shooting, free throw shooting, for example) were not at the level of other parts of his game and needed to work on those things to improve, but, by the time he got the NBA Johnson was a social genius.

Larry Bird on the other hand was a tremendous technician honed through hours of solitary practice. No one had ever seen a 6' 11" player who could shoot threes as well as play inside. But socially he was not a leader as he came in to the league. It took him a few years before he won a title. A famous tv shot shows Bird waving a flag on the bench, tentatively waving on his teammates—it looked like Bird was doing what everyone thought he should do, but he was learning and working at it.

Magic had to work on his technical skills, Bird had to work on his social skills. So maybe maybe how we spend the hours in sport as kids shapes our abilities and hence our strengths and weaknesses in sport.

It takes both work and play

"I sent a younger (U13), but very technical, skillful player to participate in a U16 practice. I was hoping the skillful player and the team would bond. Now this kid grew up in the Refugee camps of Kenya. At this camp he spent hours just playing. barefoot, to small goals, all day and into the night under the illumination of car lights rigged overhead. He had moved to the US when he was 11. His ability to solve problems off the dribble was breathtaking.

The Team began by playing small sided in very tight space. The player scored 7 goals in 30 minutes, some of which were quite spectacular. At the end of practice the coach asked the players to run eight 200 yard repeats. The player made it through one, "Hey coach, how am I doing?" he said surprised, I think, that he had made it. On the next sprint he made it half way "Coach, I am having a heart attack," he said holding his chest.

The other players had no trouble giving effort to the sprints. The coach called me that night saying that the new player would not make his team. He did not complete his sprints. He lamented a bad attitude, a low capacity for work. Because he could not make himself run those sprints he would not be on the team.

But what about scoring goals under the pressure of three defenders in front of the goal? Doesn't matter.

My question to the coach was would you take one of your players, place him in front to goal, put three defenders on his back, pass him the ball with the instructions to score or you are off the team?

No.

Would you demand that that player finish those chances “or else?” That player has no more capacity to complete the task in front of the goal as the other player has to complete the 200m runs. **While the one kid understood “PLAY” the others understood “WORK.”** One kid had been brought up playing with no rules, or objectives, the other had been brought up under strict supervision and organization-- this player understands work. But both are incomplete.

I takes both, to move forward as we get older play morphs into work. David Beckham



does not need free play, but he needs a lot of deliberate practice to remain fit, sharp, and ready. But in the US we front load deliberate practice, asking young kids to work, fight, compete. But soccer (and all sports) should be inclusive, imaginative, cooperative long before it becomes competitive.”

To divide work and play? A clue from Linguistics

USC Linguist Steven Krashen stumbled on to something one day when he was trying to teach a young Japanese immigrant English. He was force feeding her, trying to teach her to speak through a step by step academic like method and it was not working. He knew that he was doing something wrong and began to see the overall process as a dichotomy, the two phases separate and best if one happens before the other. It led to one of the seminal theories in Linguistics, Krashen's Acquisition/Learning Hypothesis. Krashen believes that to learn a language successfully (fluently, without accent) one must go through two phases:

Krashen's Monitor Theory
(Acquisition vs. Learning)

The learner must acquire the language before they try to learn it. Acquisition is a unconscious process, while learning a language is conscious, focused on rules and correct form.

Sounds a lot like the perfect model of developing expert performance in soccer. The soccer player must “acquire” through play soccer before they “learn” it through Deliberate Practice.

1-Early “play” where learning is unconscious, invisible, autonomous—this is the Acquisition phase

2-Later “work” that requires focus, effort and feedback—this is the deliberate Practice phase

While there has been a great deal of attention paid to the “work” side of things. there has been very little understanding of play in development. We argue that the perfect developmental model will utilize both, at the correct times when the brain is most open.

At the younger ages 5-13, the brain seems averse to FOCUS and CONCENTRATION, and open to PLAY and EXPLORATION. At these ages learning takes place best in play—unknowing, the opposite of focus, unconsciously, feeding supercharged learning right into the autonomous skill bank.

Here in the US our youth soccer this acquisition period is not well understood and we tend to only focus on the learning. But, if it was handled correctly, would the acquisition phase contribute to the growth of a player?

Roberto Ayala is small. Maybe 5'9". He is soft spoken and courteous. He takes in everything and pauses to speak, and in this case he was taking a very long pause. We met at Soccer Ex in Rio. He was a dominant center back, having captained Argentina more than Maradona and leading them and his club team Valencia (Spain) through many great competitions. He has always been one of my heroes for how he can bring the ball down ("Soccer Tennis") We asked him, what was the most important time in your up bringing as a player? He said when he was 12 and he joined River Plate Academy. But wait, we asked, what about before that? What was happening when you were 7? 10? 11? “oh, I played everyday,” he said, “morning noon and night.”

Do you think that had anything to do with your development? We asked.

"I never thought of it that way...that the free play i was doing when I was 8, 9 10, 11 was important to my development...I thought I was just better than everyone else. But it must be true, because I was playing more that the others. Still, after signing with River I still played with my friends whenever I could."

Another example from an area where we do produce expert performers (at least in Minnesota) is Hockey. In a recent interview, USA Hockey Captain and Minnesota Wild star, Zach Parise was

asked a very similar question as Roberto Ayala, “What was the most important time in your development as a hockey player?” they asked “It was when I was a sophomore at Shattuck St. Mary’s.” (a famous Minnesota Hockey school where among others Sidney Crosby also attended).

I would argue (and maybe Krashen would as well) that it was not. Zach’s father was the former NHL player JP Parise, he grew up around hockey, JP Parise ran the program at Shattuck. His early environment was surrounded by hockey a love of that was around Zach since birth. The most important time I would argue, was the wonderful environment set up by his father.

Interestingly, both Ayala and Parise had an amazing acquisition phase of development and neither gave it much thought.

The 1st rule of Free Play is: *You do not talk about Free Play*

The 2nd rule of Free Play is: *You DO NOT talk about Free Play*

Roberto Ayala had no idea. Zach Parise had no idea. They very best have no idea. If they knew, if they understood, perhaps it would not have worked so well. Both are world class in their fields. Parise in hockey, Ayala in soccer. Because they had no idea, because their learning took place covertly, invisibly Playing everyday.

The real question is, did they develop so well because it was so totally unconscious, so filled with all the principles of Free Play (intrinsic, fun, immediate) that they were super charged during that acquisition phase.

There is some support to this...

Soberlak and Cote (2001) in retrospective looks at hockey players, each spoke about this phase in similar terms

“I would be at school all day and then want to hang out with my buddies. What were we going to do? We loved hockey, so why not hang out with your buddies and play at the same time. I never went out to play street hockey to polish my skills or whatever, we just played to play. We’d never go out and set pylons up



and practice because we wanted to get better- We'd just go out and have fun."

Maybe that's way it has to be, after all, Cote never mentions 'improvement' as a principle of Free Play,

Acquisition Phase

1. A must to achieve *fluency*, according to Krashen, it's more important than 'learning.'
2. To work best it must stick the the principles of free play
3. If you do it to try to get better, it will not work.

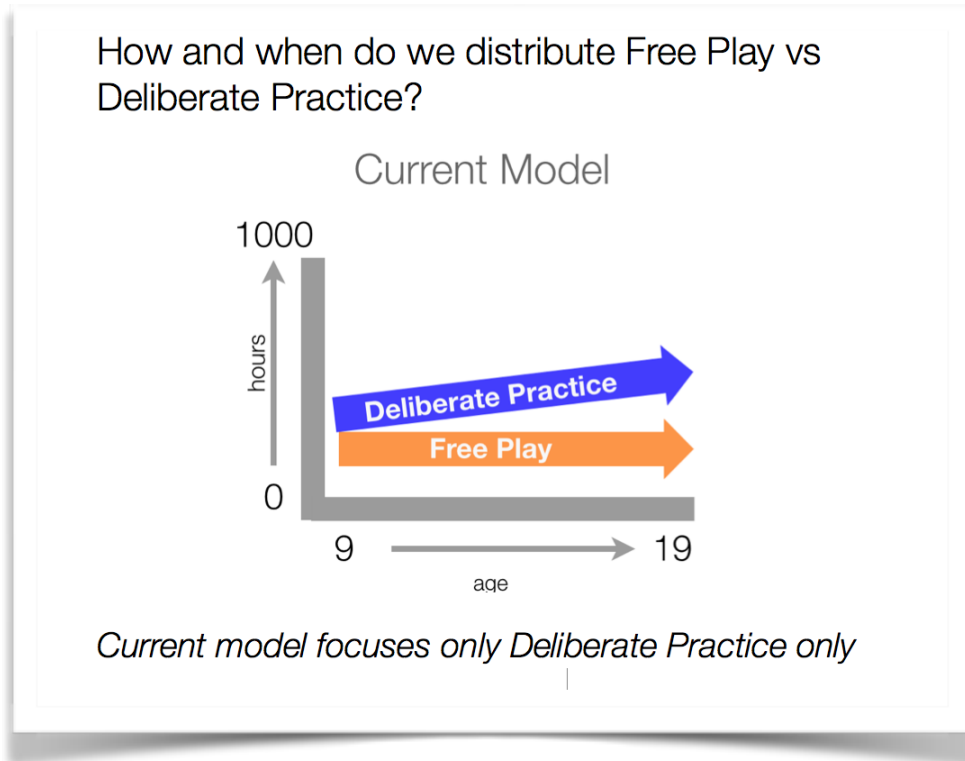
'Learning' Phase

1. Best to take place later
2. To work best it must stick the the principles of free play
3. If you do it to try to get better, it will not work.

Because the current models focus on learning and leave little time for acquisition, they are unlikely to produce fluent, nuanced soccer literacy. In the PBJ model optimal development will utilize both, at the correct times when the brain is most open.

So Acquisition (play) before learning (work), how are we doing?

Development must be carefully balanced, U10's spend much greater time at free play as they build social and technical strengths, they participate in very little Deliberate Practice, while a



U18 may have the balance of their training focused in Deliberate Practice and performance improvement.

It makes sense that kids should play and that period of fun, carefree interaction is the foundation of their development.

So using the Swedish model of 1000 hours a year between the ages of 9 and 19 and then separating Free Play and Deliberate Practice as Krashen might, what would that look like?

The current model for youth sports places heavy emphasis on the DP phase with little attention to Free Play.

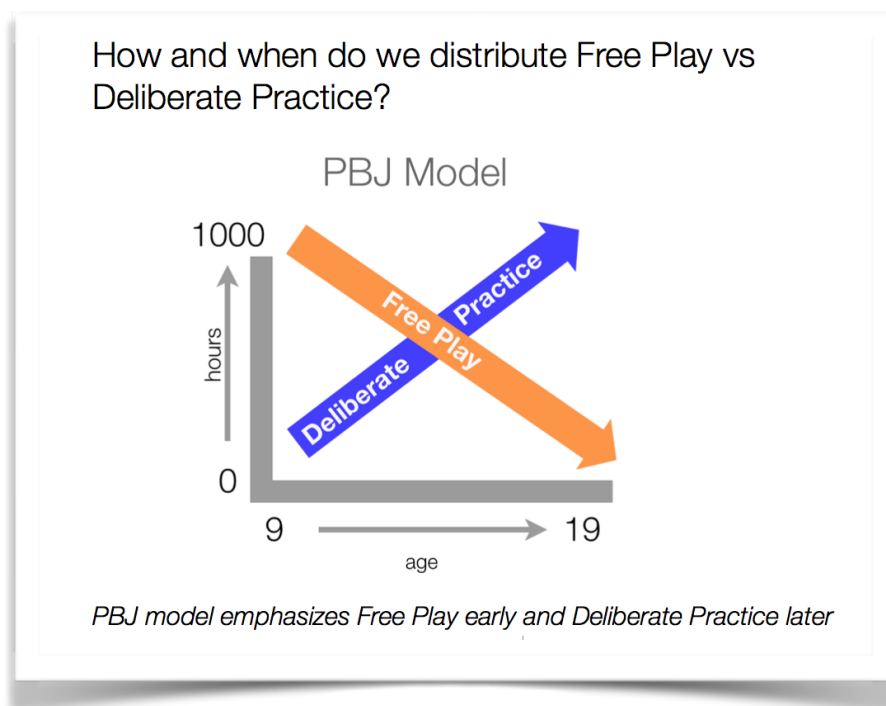
But a simple balancing of Free Play and Deliberate practice allows for acquisition then learning, play and then work.

Transitioning from work to play

“Play is the work of the child,” —Montessorri

The PBJ model includes a transition point as work overcomes play. This is interesting because it suggest a shift in curriculum, motivation, goals etc.

This switch from play to work matches much of the research in developmental research. There seems to be a switch that appears as kids leave adolescence. For instance, physical loads placed on a players transitions from pre adolescent growth spurt of play to post growth spurt where work overtakes play and there is a shift in priorities.

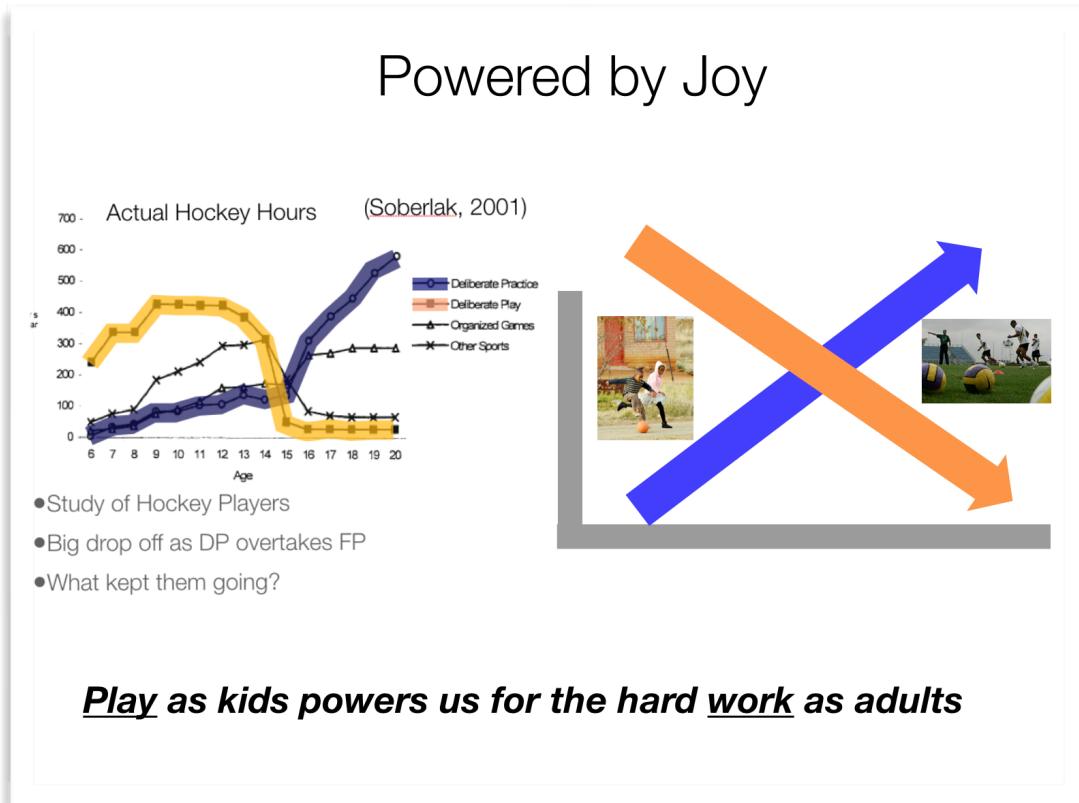


The entire process is fun. Fun as kids is immediate, fun as adults is more delayed, long term. In his book, *Vision of a Champion*, Anson Dorrance talks about the difference between kid fun and adult fun. His point is that what was fun for us as kids is not what we view fun as adults. Dorrance argues that his difficult, tough practice regime, the competitive cauldron is actually fun and he makes a good argument, as adults fun is what we have prepared our life for, it's doing. Recent studies using hockey have shown that those who participated in the most free play (pond hockey) as kids were able to handle the increasing amounts of Deliberate Practice as they became young adults. These players were least likely to burnout, more likely to continue playing and enjoy the game for life. What we are good at, it is putting off rewards until later to do the difficult thing to get the work done. Fun, he argues, is work.

The Powered by Joy model balances work and play and provides what is most effective at the time. The PBJ system is fun, as kids fun is play, unstructured and immediate. Kids don't need hard work, they don't need focus, they need the opposite. As adults fun is work.

If, as Montessori says, “*play* is the child's work,” then “*Work* is the adults Play.”

Powered By Joy



Play as kids powers us for the hard work as adults

Matching Krashen's acquisition first and learning second Soberlak (2001) found that elite hockey players but in more unstructured (he calls it Deliberate Play) time first before engaging in Deliberate practice later.

Is PLAY the secret to Motivation?

Players that sign NHL contracts as free agents have shown a tremendous amount of perseverance, dedication, and commitment to their sport, in the absence of receiving the most highly regarded form of external recognition for players in the CHL, that is, being drafted to the NHL. These individuals typically show high amounts of intrinsic motivation and continue to strive to achieve their dream of playing in the NHL. Four players from the CHL that were signed to NHL contracts as free agents were selected for inclusion in the current study. The purpose of this study was to analyze the development and motivation of these four elite hockey players through a retrospective examination of their sporting activities and social influences.
—Soberlack (2001)

What these players had in common

- High motivation—They kept working at it showing tremendous fortitude (grit)
- They played more as kids (a lot)
- They worked more as adults

WHEN TO MOVE FROM THE STREET?

In [a recent Daniel Abrahams blog](#), (author of the great book, THE SOCCER BRAIN) Abrahams post thoughts from another Author, Matthew Whitehouse (author of 'The Way Forward' Solutions to Englands Football failings). Abrahams and Whitehouse lament the lack of high soccer intelligence of Wayne Rooney. While I have no opinion as to Rooney's game intelligence I do have a strong opinion about where Abrahams places the blame:

"For me, Rooney fails to appreciate space and tactical positioning. It is not too surprising when he considers that 95% of his development came from the streets as a kid. For me Rooney is not a modern player in the sense of using his brain,

he is a street football who while effective, lacks the intricacies of the mind to achieve further greatness. Effectively he is a raw talent... never materialized... I feel the issue with Rooney and the reason why he is not on the same level of a Messi, Ronaldo or Iniesta is because he lacks the tactical nous and intelligence to dominate games.

and later

And Van Persie's development has come from his understanding of reading the game and becoming a thinking player."

This stagnation, he argues, arose from Wayne Rooney's admission that he is 95 percent a Street player. Because at the appropriate he was not given the syllabus of creating, making, and using space like Iniesta and Van Persie.

His argument is that that lack of polishing produced a player not intelligent enough to understand the game at the highest level. And that the "street" training created a good, but not great players. There needed to be a sound syllabus of movement and tactical work beginning latest at the age of 12.

What to Teach and When? The ever ongoing question. What was missing? What can we do better? what is it we are doing wrong?

"Whenever we teach our kids something we prevent them from discovering it and therefore understanding it fully." —Piaget

It is more likely that Abrahams has it backwards. That intelligence--at least how it's described by Piaget--is more likely to be developed on the street where the kids can discover and ultimately show us something new--especially at the early ages

(and I will argue until age 16) And the academy, in their efforts to hand teach systems of the past (Spanish possession or the du jour German collectivism) at ages as early as nine (now much earlier) they actually prevent kids from that discovery and therefore understand the concept fully.

Don't believe me? Let's look at some of the examples used by Abrahams

- **Rooney joined Everton at age 9.** They were not doing street play at the Everton academy. In 2008 I attended soccer ex at Wembly Stadium spending the day networking and hobnobbing with Coaches and leaders from around Europe. The club that everyone wanted to talk to was Everton. They had just produced and sold a guy named Wayne Rooney. They were selling something called "The Everton Way," an online set of Everton academy drills, videos and activities and practice plans from ages 7-19. Mostly small sided space and keep a way games. (And they we dying to talk to me and sell to a club in the USA). My thoughts at the time were that it was too much passing and possession and tactics for 11 year olds. (At the same conference was Girard Houlier saying that at Clairfontaine they only worked 3 things Skills, skills, skills).
- **Van persie played with friends everyday.** While he did attend a Dutch academy, he was more of a street kid than Rooney. Here is Nouridine Boukhari, a Dutch-Moroccan soccer player who grew up in an immigrant neighborhood of Rotterdam, recalling his childhood in a dutch magazine:

I lived more on the street than at home...And look at Robin Van Persie, Mounir El Hamdaoui and Said Boutahar. And I'm forgetting Youssef El-Akchaoui. [Like the other players Boukhari

mentions, El-Akchaoui is a current professional soccer player.] Those boys and I played on the street in Rotterdam together. We never forgot where we came from and that we used to have nothing except for one thing: the ball.... What we have in common is that we were on the street every minute playing soccer, day and night. We were always busy, games, juggling, shooting at the crossbar. The ball was everything for me, for us.

- **Iniesta was a dribbling ball hog.** At SoccerEX in Rio, Ginez Melendez, one of the leaders of the Spanish soccer armada, sat me down in front of his computer to show videos of Iniesta at age 12, (pre Barca) at Albacete, where Melendez discovered him— All the kid did was dribble and shoot (and score). Looked very street to me.

As coaches we greatly overestimate the academy and our abilities to pass on knowledge. Our systems are built to mold kids into something in the past, something we think we understand. We breakdown game intelligence into good and bad, smart and dumb all based on our experience.

Again from Piaget:

The role of education is to create men and women who are capable of doing new things, not simply repeating what other generations have done.

If we define Game intelligence on the above, then it is built on the street, not the academy.

What is the answer?

1) Believe in Play! Build Free Play in the Culture and Curriculum. Figure out to how get more play at early ages. Set up support for min neighborhood games. Build cool mini courts everywhere and let kids play on them. Keep the coaches away. Is Spain great because they have discovered how to coach Dutch style space making? Or because they adopted Futsal and small sided play in every park and club in the country creating Europe's most vibrant culture of play?

2) Let them play until the age of 16.

The greatest generation of Brazilian players, the 1960's and 70's, When brazil was so much better than everyone. What was going on? They were playing in the street until the age of 16, then transition them to deliberate practice. It's the end of adolescence, it is the time for boys to become men. The Brazilians that won three world cups out of 4 (Garrincha, Pele, Nilton Santos, Zagalo, Rivelino) joined the academy at 16 to be techni-fication. How much space training and game intelligence was needed for Carlos Alberto, Rivelino and Pele (all famous street kids)? Garrincha, he made his own space and the smartest brains on the planet were left flummoxed "Russia put a spaceship around earth, put they couldn't stop Garrincha." What our highest level coaches understand is that all the greatest players rise for the street. As Piaget said they take us to where we have never gone before (Pele, Cruyff).

3) Focus on the person. Small and smart curriculum that builds and grows with the growing creative abilities of the person first, player second and team play third. the role of the coach then changes, from passing on tactical nous to helping kids create a new to environment shaping. To his credit Abrahams gets this right:

The individual is more important than the team



The first page of Jose Morinho's coaching 'bible' is a simple statement:

"The team is more important than the individual"

This is true for adults, but for kids, my statement would be as follows:

"The individual is more important than the team"

While this seems at first almost blasphemous in our modern USA coaching culture--as we look closer we see some truths.

A great team like Barcelona is made up of great players like Messi and Iniesta (among others) both who as individuals more than team players. (Ginez Melendez, who discovered Iniesta, showed me videos of Iniesta at 12 from his computer--I never saw him pass the ball once --just dribbled score goals). Only the developed individual can contribute to the group--the groups

success depends on the highest possible inputs. Without the individual it there is no contribution to the group. Without the group receiving change and evolving there is no growth and the group fails to thrive.

And today we see the outcomes of this misunderstanding by coaches and soccer leaders across the country (and World) as kids drop out, we deal with Relative age effect, poor player development and unentertaining soccer focused on the team value of the win.

Last year I took a year long coaching course with the NSCAA "Advanced Director of Coaching Diploma," Led by Matthew Robinson of the University of Delaware it brought together some of the leading practitioners of Player Development in the US.

One of the assignments asked for us to read and review Steven Covey's Seven Habits. If you have not read it--it is an excruciating look at getting to know oneself and personal development.

As I read the book I saw unfolding an outline on personal development--but also a clear curriculum on soccer development. And a fresh look at precisely this problem of collective over the individual.

Personal development and soccer development are intertwined.

One of Covey's tenets is *First independence, then interdependence*. This is an interesting idea that flows from the inside out idea. We focus first on ourselves, sharpening our effectiveness before we seek interdependence of and efficiency of collectiveness. This applies directly to coaching development ideas where the player must first learn to stand on their own, comfortable on the ball, with the dribbling skills to declare independence on the field before they can seek to synergized, building relationships of the passing game of interdependence.

But, interdependence is a choice only independent people can make.

So how do we unleash our kids from the collectiveness that can hold them back?

1) Make the Person the Priority

Focus each of them to look inside to be true to themselves and search for excellence.

2) Player second

The best players play--the second best players compete.

'Players' with a more random and varied skill set to call upon--will always overwhelm those who compete (the trained, drilled, athletic, winning mindset, mentally tough--you name it, all of these are adult objectives projected on to young kids).

And if you want to be good at play you had better practice by playing, social, emotional, technical and physical problem solving. ***Only Play until the age of 16.*** Kids who practice this the most will have the most to offer the group.

3) Team comes next

The team and the group become important as the boy or girl become an adult. The change is overnight--kids at this age--sometime after later puberty--literally "grow up" at this age it is ok for them to lift weights--take on physical challenges. The prefrontal cortex close and executive function decision making is refined. Emotional, socially, holistically it is time for the individual to join the group. Now, at this age the team or group does take on importance.

When I was a child, I talked like a child, I thought like a child, I reasoned like a child. When I became a man, I put the ways of childhood behind me.--1 Corinthians 13:11

Kids will let you know when that time comes. And if we can wait we can maximize that individual to allow for new and better contributions. Like the Hunter and Gatherer societies that did not ask boys to contribute before the age of 16, they were allowed to play explore and create--evolutuoin has taught us that this is the most efficient learning model.

Powered by Joy—Summary

Joy of the People's new Model is a healthier and safer long term model that allows for age appropriate learning while understanding the kids are not little adults.

Principles

- We are products of our environment we need to take care of this to create optimal growth
- Development is a long term process
- We have been focusing on work and competition, we need to listen to what the kids want (hint: it's the opposite of work and winning)
- It takes both work and play, but at the right time
- To play fluently you need to acquire before you learn (But, If you do it to get better it won't work)
- Play as kids powers us for the hard work as adults.

“Alegria do Povo,” which is Portuguese for “Joy of the People,” was the nickname of the beloved Brazilian soccer player Garrincha who epitomized soccer at its best: played by everyone, played with skill, and, above all, played with joy. At Joy of the People (JOTP), we believe youth soccer should be inclusive, fun, creative, and cooperative long before it becomes competitive. JOTP uses a variety of skill-building strategies to help young people from all backgrounds meet challenges, grow their love of the game, and discover the joy of play, the joy of friendship, the joy of creativity – the Joy of the People.

RAE IN SELECTION

"Primum non nocere" (first, do no harm) --Hippocratic Oath

Since the failure of the USMNT to qualify for the World Cup, much reflection has focused on the system we are in and how we might affect change.

At the heart of that system is our player development pathway -- from the fruit snacks and fun of kids being first introduced to soccer to the hopefully World beaters at the International level. What is our plan and path?

If a ten year old boy or girl dreams of playing in the World Cup, then shouldn't we put together the best education we can think of? I think it's our first duty.

But the reality is that the system does not work--player development is as understood as string theory, with opinions and methods going in all directions. So let's dig deep to see what is happening and if we can do anything about it.

Let's begin where most clubs do--Player Identification and it most common from: the tryout (we will use the word "Tryout" to cover all aspects of player evaluation and ID --in it's many forms where kids are seperated by supposed "Levels").

If you believe players are special you go looking for them. Search the favelas of Brazil, the street courts of Amsterdam and Paris, and here in the US you hold tryouts.

Tryouts exist because it is widely believed that the first step to Player Development is to gather talented kids. It's part of an assumption (that goes unchallenged). Their math looks something like this:

$$\begin{array}{c} \text{The best kids} \\ + \\ \text{The best coaches} \\ + \\ \text{The best competition} \\ = \\ \text{Best Development} \end{array}$$

(Along the way you will see that this math is incorrect, but for now understand that this has been the working assumption for almost every organization around the world).

But as you will see our efforts to gather the "best" kids is severely flawed--and the end Tryouts deliver a diabolical side effect: *to actually eliminate those chosen early only to serve success to those that develop later.*

Numbers game

"All the world, even football, is a number."

--Valery Lobanovski (Coach of USSR 1988).

The secret may lie in the numbers. And what the numbers tell us is it is very difficult to ID the "BEST kids.

But, of course they have to try. It goes something like this. When a tryout is held, those selecting are looking at thing they can see, a dribble, a goal. That's what we want.

The issue begins when we project. If a player is ahead at age eight (See Harry Kane's difficult journey) then following the same trajectory they will be superstars at age 19.

In Player projections they are less sure so they beg to prove they are looking for something deeper, "Great vision," "Smart," "High soccer IQ." But go ahead and ask them to define in concrete terms what it means to have a "High Soccer IQ."

When coaches pick kids teams through the tryout system--it is not that they are mostly correct--they are mostly wrong. And in the end it is the kids they do not select that will rise to the elite level.

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Want to see an hilarious/scary inside look at what really goes on at a tryout?

If there is a 'best kid' --in terms of a developmental tryout--no one really knows who they are--and, here is where it gets crazy--*When coaches pick kids teams through the tryout system--it is not that they are mostly correct--they are mostly wrong. And in the end it is the kids they do not select that will rise to the elite level.*

I am going to say that again. When selecting kids the tryout system is not mostly correct--it is mostly wrong--and the numbers show it.

This is not a subjective opinion--it is a hard fact---something we have been afraid to acknowledge, instead, when development falls short clubs and leaders take the easy way out, saying things like: *"Oh well, only one percent of kids go pro, not everyone can be an elite soccer player."* Imagine if Harvard or MIT said --"well not everyone can be brain surgeon or a rocket scientist." How long do you think they would last with such a low bar of expectation?

FACT 1 -- the Tryout is not fair

Any youth team that has gone through a few years of tryouts will show signs of something called **Relative Age Effect** (RAE). RAE is basically a bias of selecting the oldest kids in an age grouping while deselecting the youngest so that the the older kids are over represented while the

youngest kids are underrepresented. A player born in early January is almost a full year older than one born in late December.

During the teens, even a few months' more or less physical, mental and emotional development and technical training can make a huge difference on a player's perceived quality. The resulting rosters will show heavy emphasis on the early part of the year--with a majority born in the first two quadrants of the year.

This is way bigger than just soccer, it has been seen in all sports and even in the classroom where early birthdate quadrants show better grades. Worse, kids born in the later parts of there year have shown higher rates of ADHD and obesity.

Why is this so important? Coaching and selection have been subjective opinion based systems that for so long that coaches have passed off as fact. It not only shows that they are wrong, but It gives us a glimpse into what those coaches are thinking. And most importantly, it reveals that their selections at early ages are being used to hold a place for others who will take their place later.

But, if you take hard honest look--it also shows us some important cues how to develop the next great player. And it's all in the numbers.

Fact 2--it follows a common pattern

Any "select" team will have a breakdown (by rule of thumb) by quadrant of 40-20-20-10 (Forty percent born in the first 3 months of the cut off Jan, Feb, Mar] and 10 percent in the last quadrant [Oct., Nov., Dec.]

- 40 percent --Jan, Feb, Mar (Q1)
- 30 percent --Apr, May, Jun (Q2)
- 20 percent--Jul, Aug, Sep (Q3)
- 10 percent--Oct, Nov, Dec (Q4)

Don't believe me? look at your premier roster (not as heavy on the girls side....yet). Years of tryouts will have secured this phenomenon. Your coaches are making the same mistakes as everyone else. It is everywhere, from US youth to Barcelona academy. to your local travel team. *Barcelona have 20 players born 2000. 17 born in first 6 months of the year 13 of whom born jan to march.*

Fact 3--The higher the level of the Youth team/Tryout the more prevalent RAE

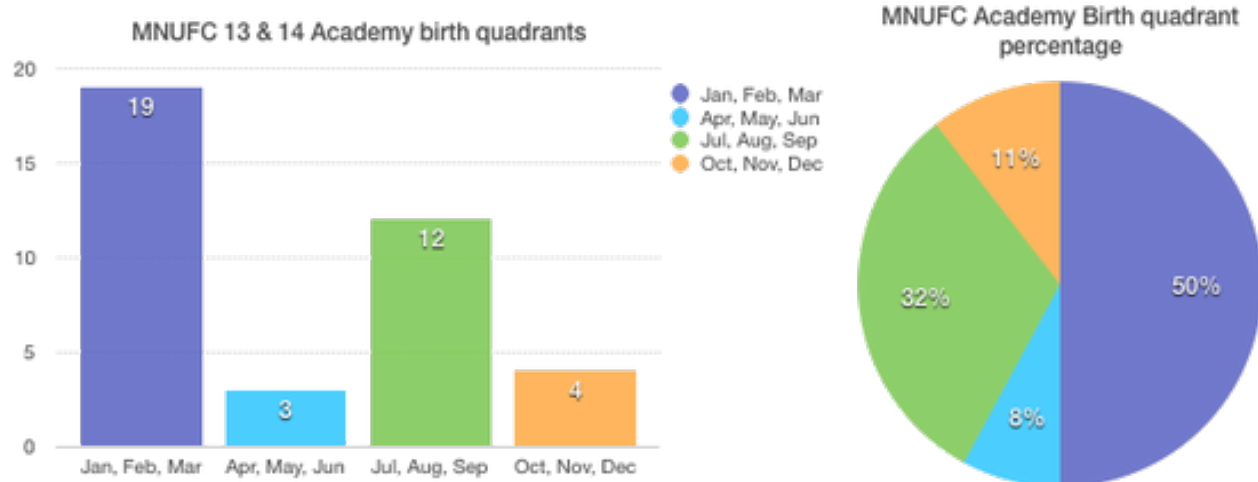
In other words the more you try to create the very best team of young soccer players (or any sport) the more biased (Or you could say inaccurate) your choosing.

Here in Minnesota we just had a new MLS academy come to town. Of course they had a huge selection of currently talented kids to choose from. It is a good example of a large sample size, the stakes involved, and the inevitable resulting RAE.

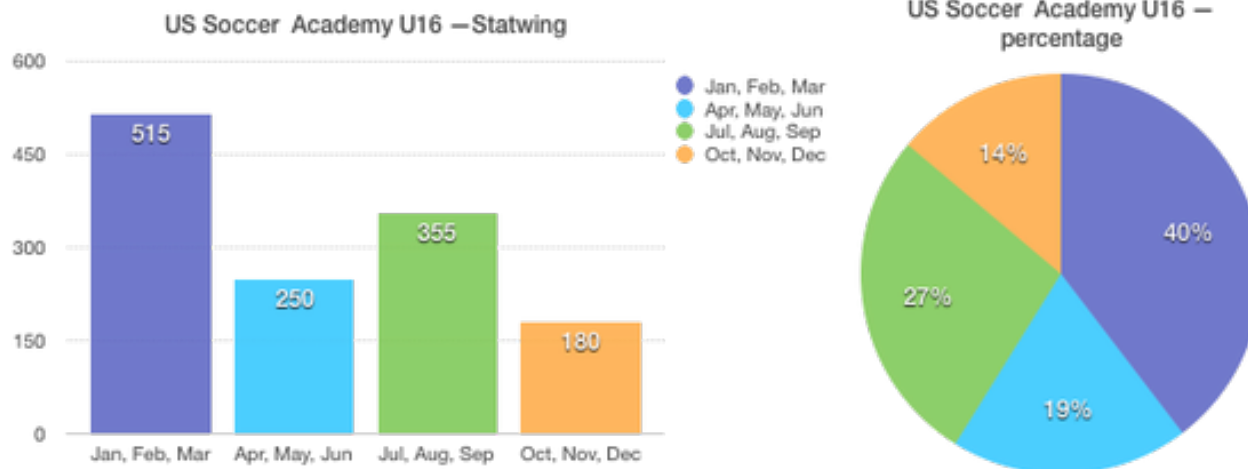
Here is their selection of the U13 and U14 MNUFC academies:

As you can see the kids selected were over represented in the first part of the year. But what is going on with the Q3 uptick? The double dip increase of Quadrant 3 representatives are simply remnants from the old RAE with the August birth cut off. (The birth cutoff was changed last year). When you mix recent cut offs you will find this phenomenon.

For instance, here is is the MNUFC Academy as compared to a Nation-wide U16 Academy representatives when the academy and US youth soccer had the two different cutoffs. See the similarities?



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Wierd, double dip is similar in both. This was caused by the dual birth cutoffs (Jan and Aug). Eventually the August, September kids will slide away and be unselected as the quota moves from 27 percent to the average of 20% --tough to be August, September.

It's not the oldest kids--it is the most mature

All kids develop at different rates. It is always possible to have and early mature child born in december and a late maturing child born 12 months earlier in January. It's not about who is older, it's about who is more mature and the need to have those kids on your team.

Therefore, the kids born in December and November on your local elite team are likely not there because they are extra "talented" more than likely they are there because they matured early.

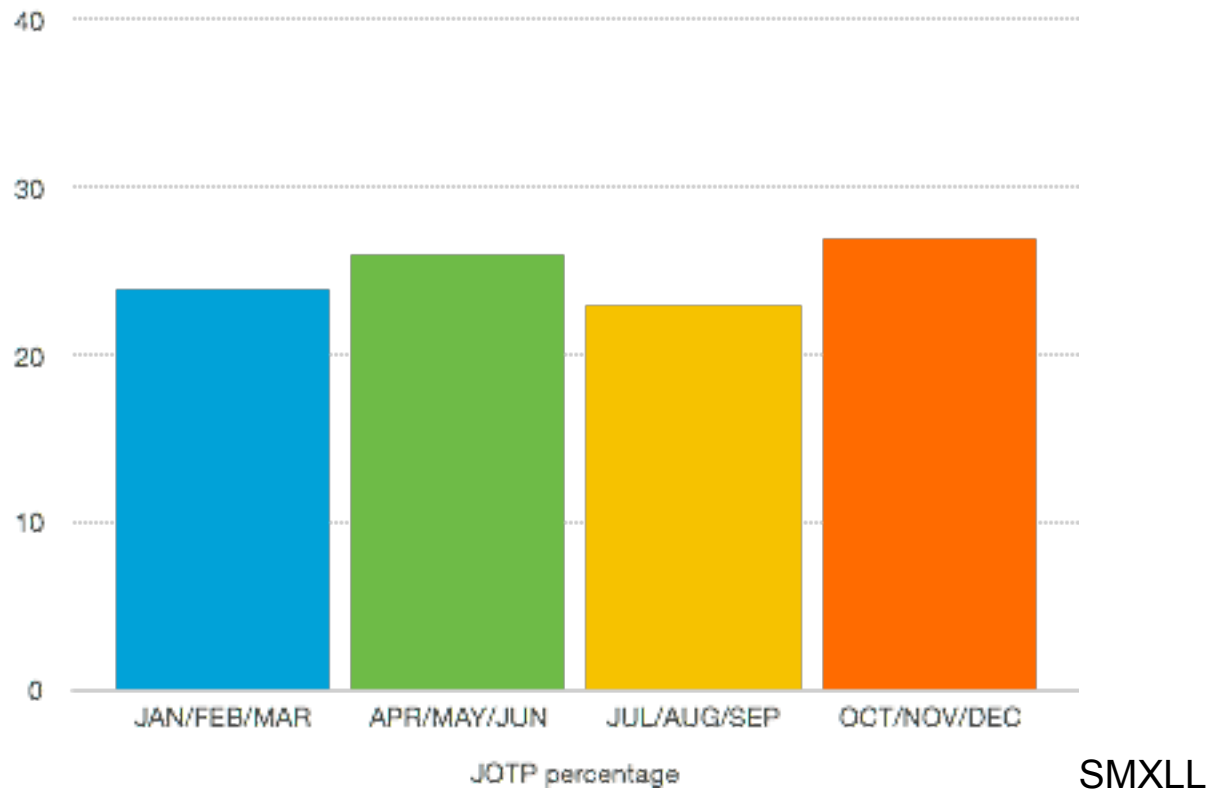
We confuse maturity with talent. And we confuse talent because we don't know what it is.

Fact 4--Where there are no tryouts--or no concerned about winning the RAE is gone.

For instance, using MNUFC as another local example. There is little or no RAE in their Pre Academy (U11/U12) . (They have since taken down their Pre Academy roster, but the breakdown is without RAE.)

So why is this? It is because of the nature of the team selected. They do not play a schedule, so no worry about selecting with a concern about winning. But next year as they trim from 40 to 20 and new kids come in to the tryout then there is no question, there will be RAE.

Here is the percentage breakdown of the full time kids at our club, Joy of the People. We do not hold tryouts.



JOTP Rice and Beans Percentages:

24 percent --Jan, Feb, Mar (Q1)

26 percent --Apr, May, Jun (Q2)

23 percent--Jul, Aug, Sep (Q3)

27 percent--Oct, Nov, Dec (Q4)

As you can see the breakdown is fairly even and without RAE.

Fact 5--It's not about your birthdate, it's about winning

The more advanced RAE the most likely they are to win. **A German study** found that records matched the appearance of Relative age effect: where it was more pronounced those teams won more game than teams with the least RAE who won less. Even if the coaches tell you otherwise, do not believe the mantra because they are lying to themselves and you.

Fact 6--Coaches are confused about "talent"

"These are not the drones your looking for" -- Obi-Wan Kenobi

Why does this happen? Coaches in evaluating players tend to look at the wrong things. Coaches are looking at the physical execution of a task and assuming it is the most important thing. But, as Denis Berkamp so elegantly said, "before every action is a thought." The decision is more important than the execution, and perhaps the perception is more important than both.

Easy as possible or fast as possible?

"The object is not to run as much as possible--it's to run as little as possible" . --Johann Cruyff

We can see the execution of a fast run with the ball, a hard curving shot, an explosive dribble, but can they see the thought (or lack of) behind it? I would argue that if there is evidence of Relative age effect--well, then no, we can't tell the difference.

Skill as defined so lyrically in the Brazilian soccer nomenclature--is *the ability to perform a task successfully in the least amount of time (as fast as possible) with the least amount of effort (easy as possible)*.

Do that over and over and that could be considered "talent."

It is sometimes easy to see as fast as possible --thus is greatly affected by physical maturity--while it is difficult if not impossible to measure easy as possible.

In other words, It is hard to see easy.

Another way to look at it...

The car or the driver?

Ayrton Senna is arguably the greatest race car driver to ever walk this planet — and neighboring planets too — but when it rained it was game over.

In formula one racing drivers have faster cars and slower cars. When the track is dry the driver with the fastest car wins. When it rains the cars must go slower and the best driver wins. Senna never lost in the rain.

Rain is the great equalizer. It makes the car less important and the driver more important. It provides a driver an opportunity to overcome

mechanical deficits. The emphasis is set on feel, awareness and adaption. This is where Senna shined.

When we select early we are more focussed on the car (speed, braking, the ability to turn). Then with a whole team of fast cars and average drivers we set up the schedule with dry tracks--competitions that emphasize speed.

If we thought the driver was important and set up to develop the driver we would push for more equal set ups (like a wet track).

And Equalization is important. Dr. Marianne Torbert identifies Equalization (along with expansion and interactive challenges) as one of three interrelated concepts that when applied to play activities enhance and increase the growth and development of children.

The game says we should focus long term on the driver (decision making, perception). The desire to win shifts that focus to the fast car and dry tracks (physical output).

We under develop the driver by assuring the dry track for our young kids.

Let's go further.

"Speed is overcompensation for lack of ability" -- Raymond Verheijen

Q1-(Jan., Feb., Mar.) does not represent Jan., Feb., Mar birthdates, it's about Physical maturity.

Raymond Verheijen's Action Model can provide some clarity here. Instead of breaking down players abilities to the traditional pillars of Technical., Tactical, Physical, Pyschological, he uses his objective model to try to see through the subjective opinions of 'talent' and instead focus on the actions of the players.

"I need players who can make plays--get a goal or a cross when need. I don't need another two touch player." --Tab Ramos

A Football Action comprises of three sequential stages: Communication (perception), Decision Making, and Decision Execution (technique). The "physical fitness." of the player is the support structure of the above three parts of the action. The "physical " attributes are the least important.

Looking at soccer this way helps makes sense of the confusion over talent. Talent is not technical, or fast players, but super communicators, social geniuses, kids who think, see and move and make plays. (BTW--"Communication" is not a bunch of shouting, it is non verbal, quiet and fast).

Of course this model does not make it easy. Kids will still make plays and actions. It is not easy to discern whether the successful action was a physical overcompensation or a genius piece of innovative decision making. But it does show us to be careful.

Fact 7 --Does Zagreb owe me money? Placeholder Theory

All this confusion about talent leads us to a scary compensation method. In highly complex sports such as soccer, the early maturers tend to solve problems with their physical advantage. Because of that they tend to lag behind in cognitive decision making. And by the time they reach 19 and the game is more complex, they just spent 10 years working on the wrong things and run out of ideas

Early academy entry, that is joining an Academy before Peak height Velocity (age 15 to 16), is more associated with dashed hopes than fulfillment. The academies around the world have a poor record of producing young talent all the way through their system. Because if their system was so strong, why would they ever cut a kid?

Is the purpose of the tryout to develop? Or is it to form a team to hold a place?

A few summers ago we brought in the youth academy coaches from GNK Dinamo Zagreb Academy of Croatia, in 2013 they were named a top 6 academy in the 2013 ECA report. You can read that [report here](#). I met their Director, Romeo Jozak at the Indianapolis convention, and he proposed bringing in some academy coaches for a week in the summer working with kids during the day and coach education in the evening.

It was a a enlightening week. You can read my [earlier blog here](#),

- Academy forms at the age of 6/7
- Single age groups through U19
- Systematic training set up and plan throughout
- Their U8 teams go around the country and mostly dominate
- Each year they bring in new kids replacing those previously in the academy
- They attract other kids who take their place making a stronger team
- Repeat each year

My takeaway was the purpose of the academy is to create a placeholder--a dominant team--to attract kids to join later, and it is those late adopters, the ones who join after the age of 15 that eventually make it.

Early adopters are just there to attract and hold a place for the kids that will eventually take their place. Ouch.

When asked about this the Dyanmo coaches simply revert. "That's because players are born, not made."

Placeholder process

1. Relative age effect exists because clubs want to develop kids through successful teams made up of "best kids."
2. This creates a tryout selection of older/more mature players that win mostly using physical advantage.
3. They create a team that dominates the landscape. Either culturally or on the record books--they are seen as the team/academy to be on.
4. Each year they add a few new kids and release some placeholder kids that have been with them for a few years.
5. The kids they add after the age of 15/16 will end up as their top players

So we have a top 6 academy in the World with beautifully structured academy from the age of 6 on. You would think that spending time in the academy all those years would give you an advantage. But only one of their top ten transfers joined the academy before the age of 15. If the academy really did work the make up of the top ten transfers would be full of kids in the academy since they were eight.

TOP 10 Biggest Transfers in Dinamo Zagreb's History:

1. Marko Pjaca – Juventus 2016 – €23 milion. **Age 19** (Q2)
2. Luka Modrić – Tottenham 2009 – €21 milion. **Age 16** (Q3)

3. Eduardo da Silva – Arsenal 2008 – €13.5 million. **Age 16** (Q4)
4. Vedran Ćorluka – Manchester City 2008 – €13 million. **Age 17** (Q1)
5. Mateo Kovačić – Inter 2011 – €11 million. **Age 16** (Q2)
6. Josip Brekalo – Wolfsburg 2016 – €10 million. (Q2) **Age 18**
7. Dejan Lovren – Lyon 2010 – €8 million **Age 15** (Q3)
8. Jozo Šimunović – Celtic 2015 – €8 million. (Q3) **Age 12**
9. Boško Balaban – Aston Villa 2001 – €7.8 million. Q4 **Age 22**
10. Mario Mandžukić – Wolfsburg 2010 – €7 million. Q2 . **Age 21**

The funny thing is that those players that were released by Zagreb (and perhaps never made nor were paid) had a large part in bringing in these players that came late and helping Zagreb sell them for a profit. They were the placeholders.

Placeholder teams are everywhere. They have vaunted, coaches, schedule, and, of course lots of RAE. Go to almost any top team, DA, Club or otherwise and you will observe as the strongest kids those who joined that team at or after the age of 15.

Weaponizing RAE

Why does this placeholder mechanism--which in all respects is abhorrent exist? First of all coaches don't mean to do this--they just

don't understand what is going on-- (hence the Dynamo coaches saying "Players are born special)

It is a way to use relative age effect-- a temporary advantage of age and maturity to win games, get better players and viola, development

It is a failure of ideas. When the only way to develop high performers is the Best kids/coaches/competition--you run out of ideas quickly--but there are always more kids.

A better system is running in the background

The heart of the problem is the best elite/academy/club system can not keep pace with the systems of development players take on when allowed chose. Kids playing basketball 3 v 3 pick up, the hockey kids playing hours of pond hockey, or the kids playing street soccer with love (not tryouts) in mind.

The science say the academy/elite club model is second best -- Implicit versus Explicit learning

The elite/academy/club system kids are coached. This is explicit. This is conscious, this is reflective, feedback based. This type of learning is ego based, specific and tends to be susceptible to pressure. The coach is in charge. They are told to "work hard" (explicit) to be the best. They are treated like professionals. And it works, and that's why coaches do it. At least until it meets implicit learners.

...compared to implicit learners do not concern themselves with being good, they just want fun, they eschew feedback, especially from adults, the kids are in charge. This type of learning is faster, more variable, and impervious to pressure. And everyone--including the coaches, academies and elite organizations--know they are the best. And they haven't even worked at it.

Want an example? Riding a bike. Implicitly you know how to ride a bike, but if I asked you how to make a left turn you would have no idea. You might even say "Push on the right handle bar and pull on the left to turn the wheel to the left." You would be wrong and crash. See Counter steering.

But it would not be possible to make this mistake if you were actually riding a bike because you understand and can make that turn *implicitly*. How is this possible when you were not coached? How is it possible that you may be a world class left turner and not even ever tried to be the best? Because you will see that the explicit method used in most soccer clubs is often more associated with crashing than success.

The good news is the explicit coaching of the elite/academy system is the the top second best development program out there--bar none.

Fact 8 --Exceptionalism

Want to play at a high level? Go to one of these tryouts (any tryout really) and NOT be selected.

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Now you may be thinking "Thank god I am not in Zagreb Academy" But this only an easy example. *The truth is if you are involved with a serious youth team, you likely have had tryouts, because you have had tryouts your team will display RAE--the presence of RAE is not a coincidence--it is proof that you are focusing on the things (physical) that will be less important later. The more you attempt to create a higher level team the more prevalent RAE.*

So the higher the level of the team, the greater the RAE, the more likely you are placeholdering--that is using current talented kids to hold a place for the kids who join late.

Why does this endure? It's due to each particular group (Academy or club) believing they are the exception, that the RAE in their group is just a coincidence. That THEY will be the ones to deliver. This exceptionalism turns a blind eye to the inequities of the roster, early and late maturation, the subsequent curriculum and methodology and finally the poor outcomes.

See the [US Soccer response](#) and then read in the same article:

Half of the 20 players on the U.S. U-17 national team squad that qualified for the 2015 U-17 World Cup -- for players born on or after Jan. 1, 1998 -- were born in the first quarter of 1998. Fifteen of the 20 were born by the end of May 1998.

We have heard it for years as an overused talking point. "Focus on winning hurts the development of the player." Well, take it seriously because your roster is proof that you are not developing. At least you are not developing who you think you are.

Fact 9 --The best players were not selected

"The first shall be last, the last shall be first.."--Matthew 19:30

Want to play at a high level? Go to one of these tryouts (any tryout really) and NOT be selected. Just as the higher the level of tryout sees greater RAE--then it is not too far of a jump of logic to assume that the harder we try to develop the less chance we have to do so. And there is some evidence too support this.

Studies in sports such as Hockey, skiing and soccer have found that the highest achievers come from those NOT involved with early selection.

Interestingly the high flyers tend to come from Q4--late birthdates, and late bloomers. Studies in Hockey and soccer have shown that RAE is

pronounced at the youth level, moderate at the professional level, and reverses at the elite level. The best players once they reach the age of their mid twenties maturity will either come from Q4, or more likely were not selected at all.

This phenomena is called Reverse Relative Age effect and predicts that the late developers rise the highest.

Reverse Relative Age Effect

From The Rise of the Underdog? The Relative Age Effect Reversal Among Canadian-born NHL Hockey Players:

"The relative age effect associated with cut-off dates. But when the National Hockey League rosters of Canadian-born players are examined, the pattern is less pronounced. RAE is moderate for the average Canadian National Hockey League player and reverses when examining the most elite professional players (i.e. All-Star and Olympic Team rosters). We also find that the average career duration is longer for players born later in the year. In sum, there is a surprising 'relative age effect reversal' that occurs from the junior leagues to the most elite level of hockey play. This supports an 'underdog' hypothesis, where the relatively younger players are thought to benefit by more competitive play with their older counterparts."

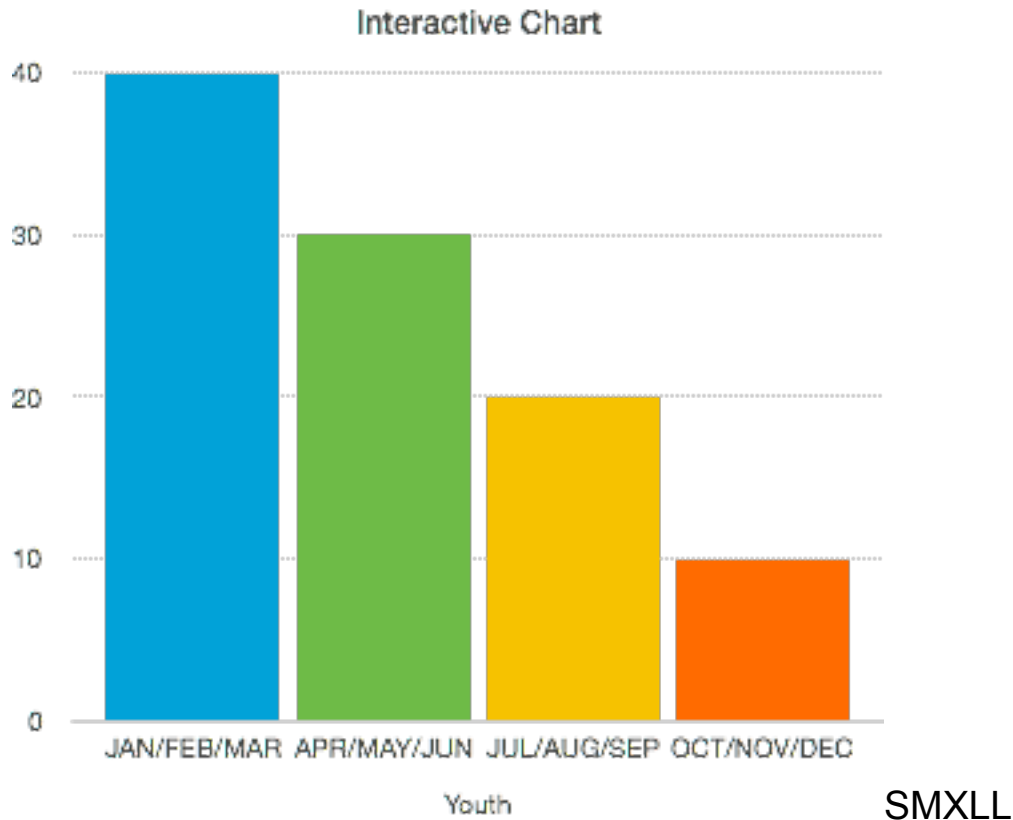
We used to see Relative Age Effect as a problem for those not selected (Gladwell). But what it appears is that this is a problem --not of those not selected but of those selected.

Sundays	age group	dates
12-1:30PM	U7 Coed	Sept. 7 Sept 14 Sept 21
9-10 AM	U11 Coed	Sept 28 Oct 5
10-11:15 AM	U12-14 Coed	Oct 12 Oct 19 Oct 26 Nov 2

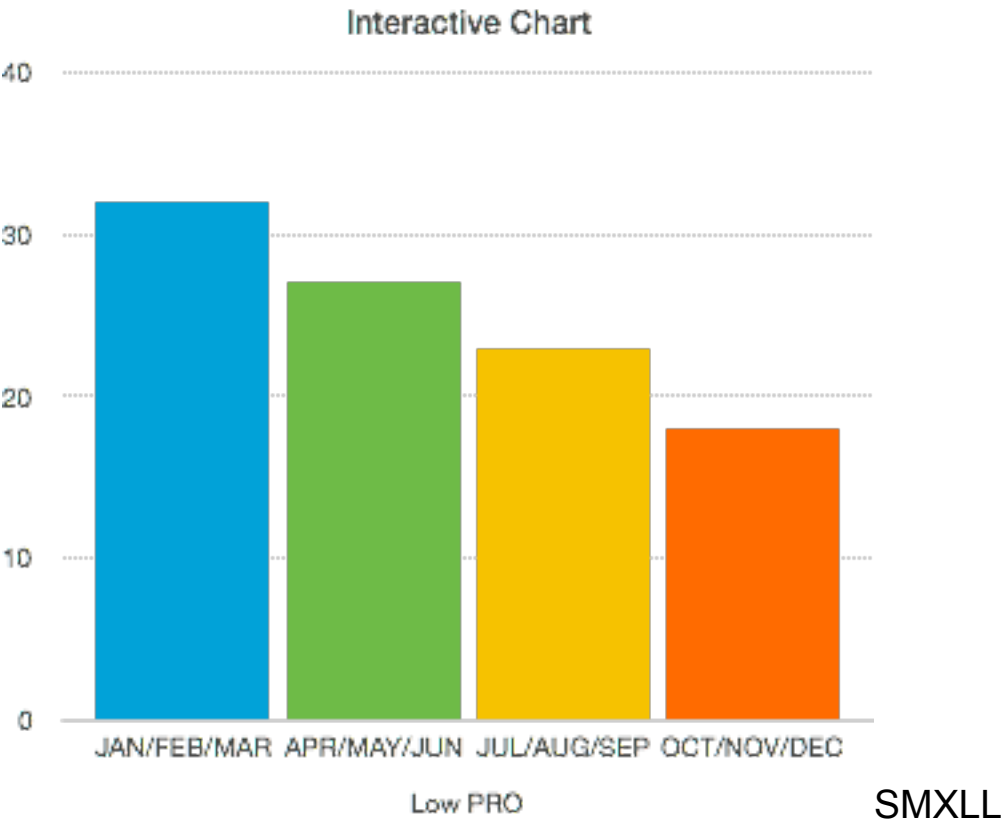
3. Player education

Player Education	U6	U7	U10	U14
Description	Deliver best practice skills development to participants in the Rec. League. General goals: <ul style="list-style-type: none"> • Begin skills development pathway • Ignite the love of play • Support exploration of play 			
General Goals	Soft introduction to learning. Everything with a ball. Build relationship with ball.	Exploration of games, social and emotional play literacy. Grow ability to play.	Understanding learning through play. Continue to encourage ability to play.	Develop indiv. style though play. Understanding learning through play. Continue to encourage ability to play.

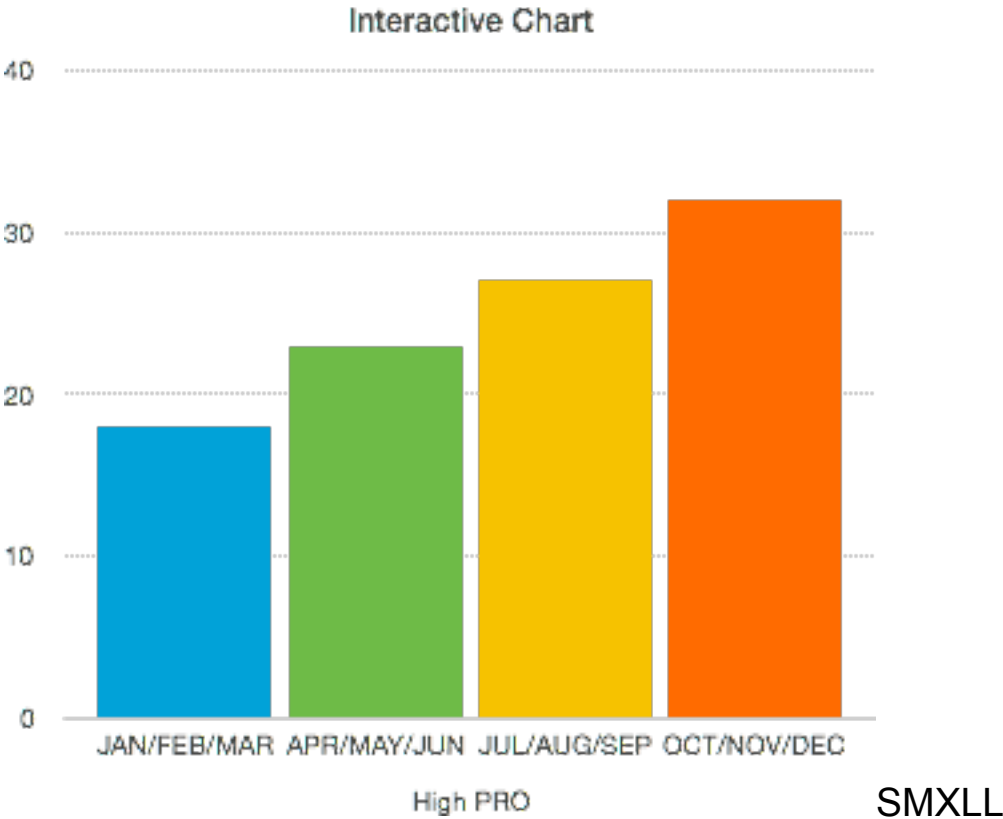
Here are the numbers by percentage of the general path of those selected. The next set of graphs are examples general rules of thumb when the number samples are large. We do know that as RAE moves from youth to Elite it reverses itself. The following charts are representative examples of what might be the case.



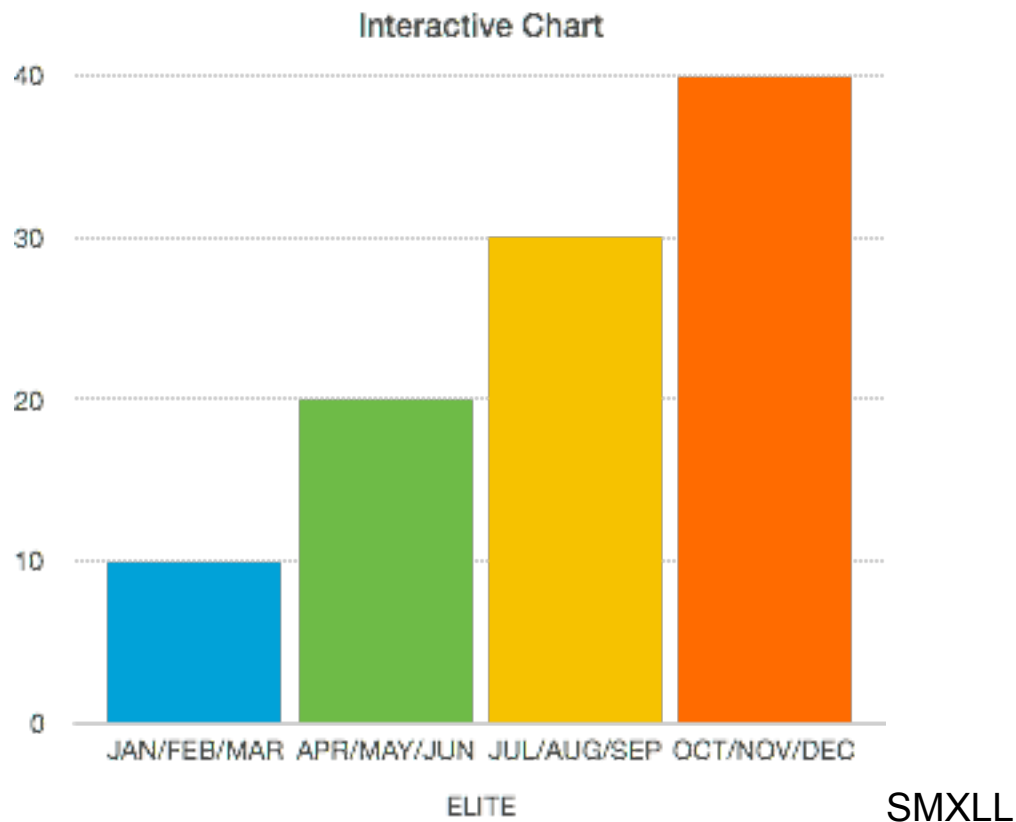
Heavy RAE in Youth



Slight RAE in Lower level Pro (NASL, USL, Lower Level MLS)



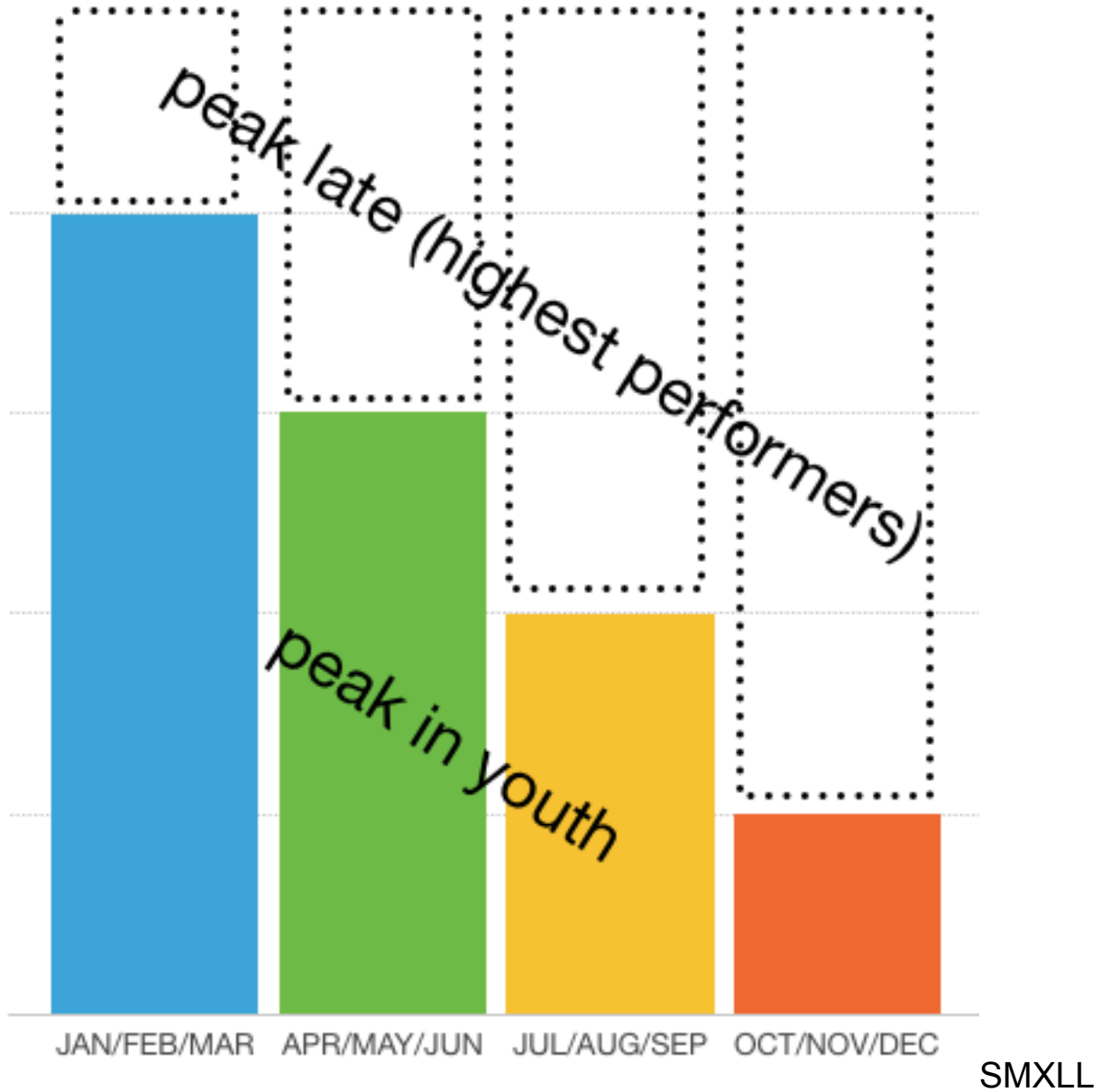
Higher Pro (Champions League) Slight RAE reversal



Elite RAE Reversal

Youth = 12-19, Low pro = NASL, some MLS, High Pro, premier league, champions league player some national teams, Elite= top 100 players. Notice the shift. It has been proposed that this is a selection issue. The problem only exists as a problem for those selected.

But lets place the elite selection and youth selection on top of each other.



It starts to present a picture and the key to that picture is in the growth of the child. Now we start to see a picture of what tryouts and player selection create.

"Quantity has a quality of it's own." --Josep Stalin

In order to grow we need challenges. Challenges for kids are different to challenges as adults. As kids we want quantity--lots of games, wins, losses, touches, decisions, successes and failures. They deal with each and grow. Most of these challenges for kids when left to choose are under loaded.

Underloading is playing at or below your current level. (see Torberts learning activities). It is poorly understood and underappreciated--it is certainly absent in the Elite/Academy/ set up. It does not require recovery.

Overloading is playing at or above your level. Mostly academy set up focus on this. Overloading requires recovery. You can not overload safely everyday.

Kids that learn to underload create more learning opportunities. They learn with younger, older, less skilled, more skilled, they are diversified, they have quantity.

Kids in academies have Quality. Or what they think is quality. See above--since no one is sure of who the best kids are how are they sure the game has "Quality?"

The truth is if you are involved with a serious youth team, you likely have had tryouts, because you have had tryouts your team will display RAE--the presence of RAE is not a coincidence--it is proof that you are focusing on the wrong things

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Quality is subjective. Quantity is objective. But I think if a coach was asked to describe "Quality" competition they would struggle to eventually describe overload.

What it teaches is Easy as possible. This is implicit play/learning.

That does not mean this is always the case. As adults we want quality challenges that overload us to grow. We want to take on the best, the boy becomes a man, the girl becomes a woman. they want overload.

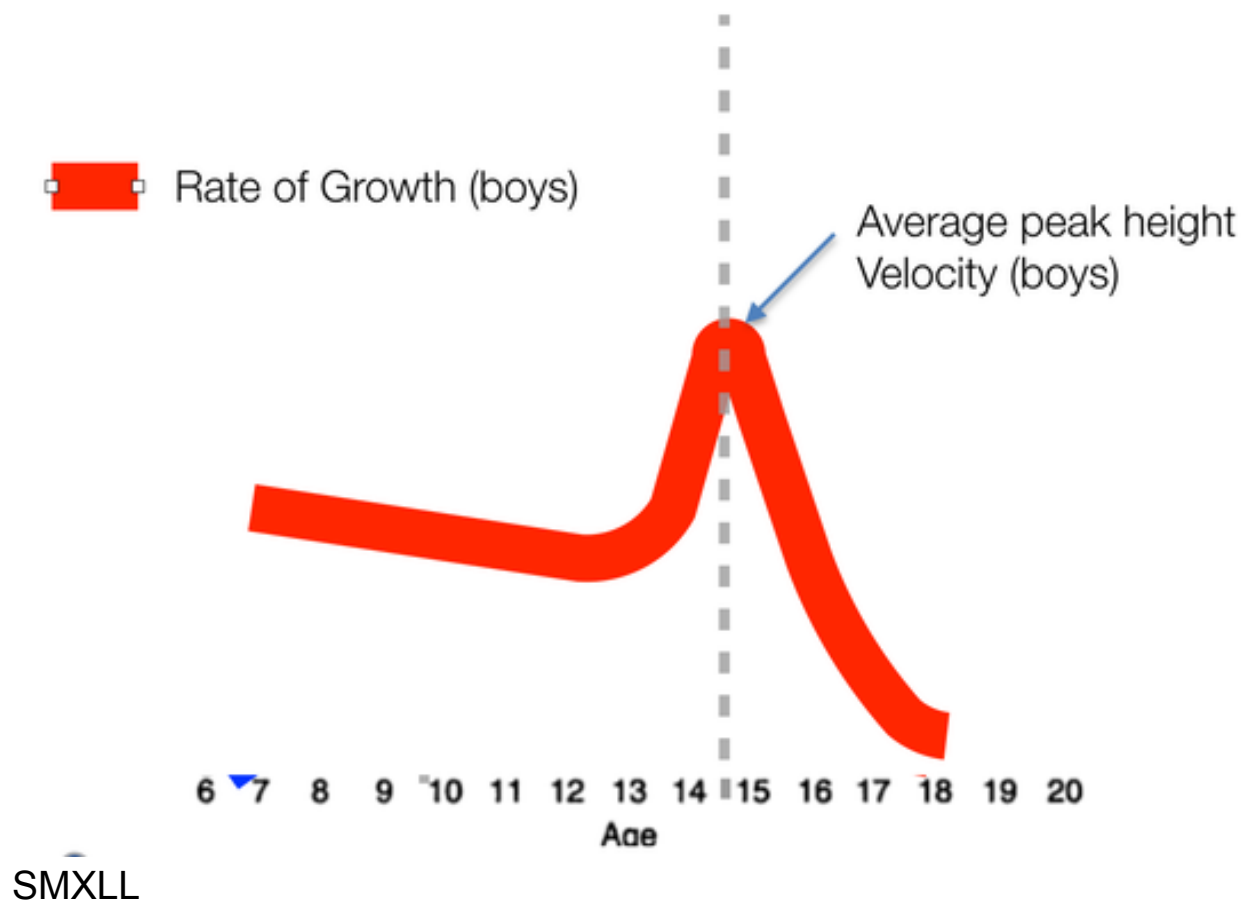
Overload refers to the amount of load or resistance, providing a greater stress, or load, on the body than it is normally accustomed to in order to increase fitness.

But it is not safe to overload a child.

Overloading physically is not safe until after the Peak Height Velocity Growth spurt. Lifting weights is now safe, the prefrontal cortex closes, they become better decision makers. This happens at different times for all kids but usually around 15 to 16 for boys.

Overloading is specific and challenging and common. It is playing above your level--an age group up, or against strong opponents.

Overload teaches 'fast as possible.' This is explicit coaching.



PEAK HEIGHT VELOCITY

Why is PHV important?

Because it appears to be a dividing line. *Joining an elite set up before PHV is associated with NOT making the highest level.* It may help explain what we are doing wrong and why kids (even at Dynamo Zagreb) who join the elite/academy set up after this age do very well.

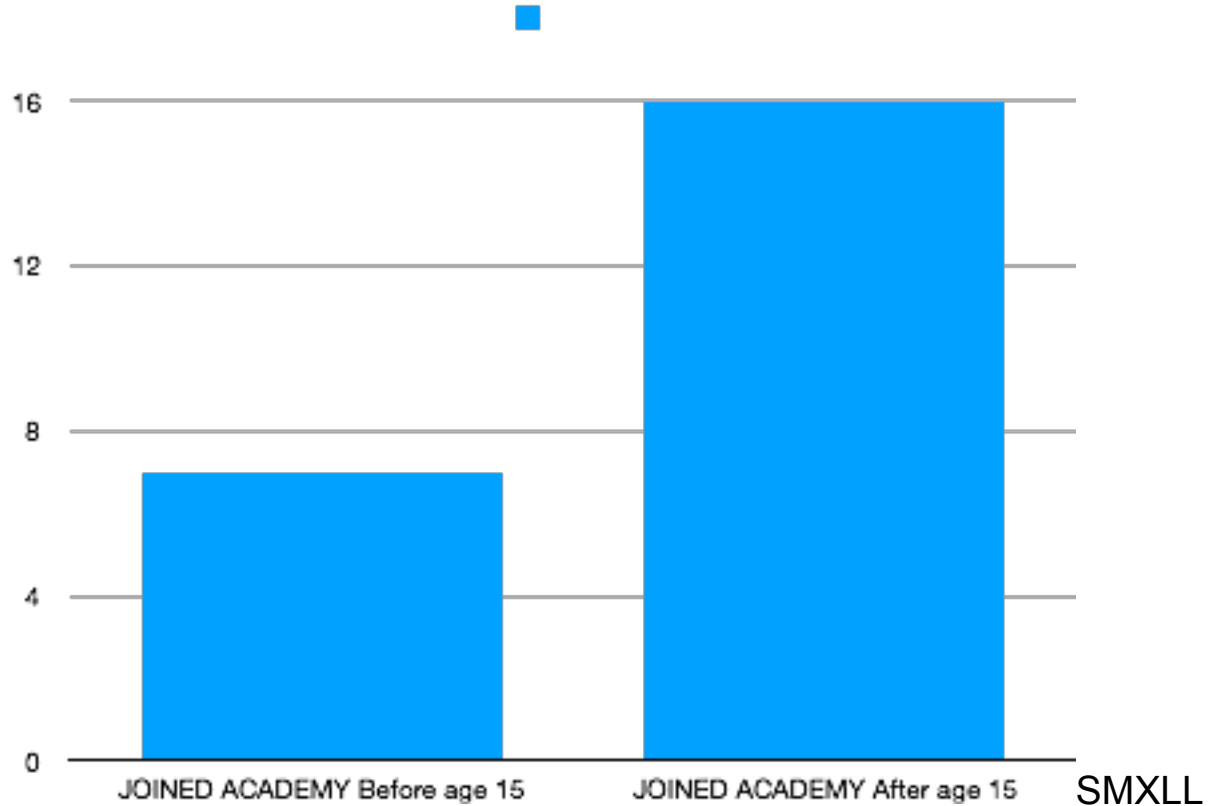
Academy/elite program before PHV

See our own US Development Academies. Here is a list from wikipedia as "Notable US Development Academy products."

Player	DA club	Current professional club	Birth Quadrant	age entered Academy
Christian Pulisic	PA Classics	Borussia Dortmund	3	10
Ethan Horvath	Real Colorado	https://en.wikipedia.org/wiki/FC_Dallas	2	12
Kellyn Acosta	FC Dallas Academy	FC Dallas	3	12
Lynden Gooch	Santa Cruz Breakers Academy	Sunderland A.F.C.	4	13
Emerson Hyndman	FC Dallas Academy	A.F.C. Bournemouth	2	14
Matt Miazga	New York Red Bulls Academy	Chelsea F.C.	3	14
DeAndre Yedlin	Crossfire Premier / Seattle Sounders	Newcastle United F.C.	3	14
Paul Arriola	Arsenal FC	Club Tijuana	1	15
Wil Trapp	Crew Academy SC	Columbus Crew SC	1	15
Caleb Stanko	Vardar	SC Freiburg	3	15
Juan Agudelo	New York Red Bulls Academy	New England Revolution	4	15
Luis Gil	IMG Academy	Orlando City SC	4	15
Steve Birnbaum	Pateadores	D.C. United	1	16
Joe Corona	Nomads SC	Club Tijuana	3	16
Kekuta Manneh	Texas Rush	Columbus Crew SC	4	16
Darlington Nagbe	Internationals	Portland Timbers	3	17
Gyasi Zardes	LA Galaxy Academy	LA Galaxy	3	17
Aron Jóhannsson	IMG Academy	SV Werder Bremen	4	17
Joshua Gatt	Crew SC Academy Wolves	Colorado Rapids	3	18
Gale Agbossoumonde	IMG Academy	Pittsburgh Riverhounds	4	18
Bill Hamid	D.C. United Academy	D.C. United	4	18
Jordan Morris	Seattle Sounders FC Academy	Seattle Sounders FC	4	18
Will Bruin	St. Louis Scott Gallagher Missouri	Seattle Sounders FC	4	19

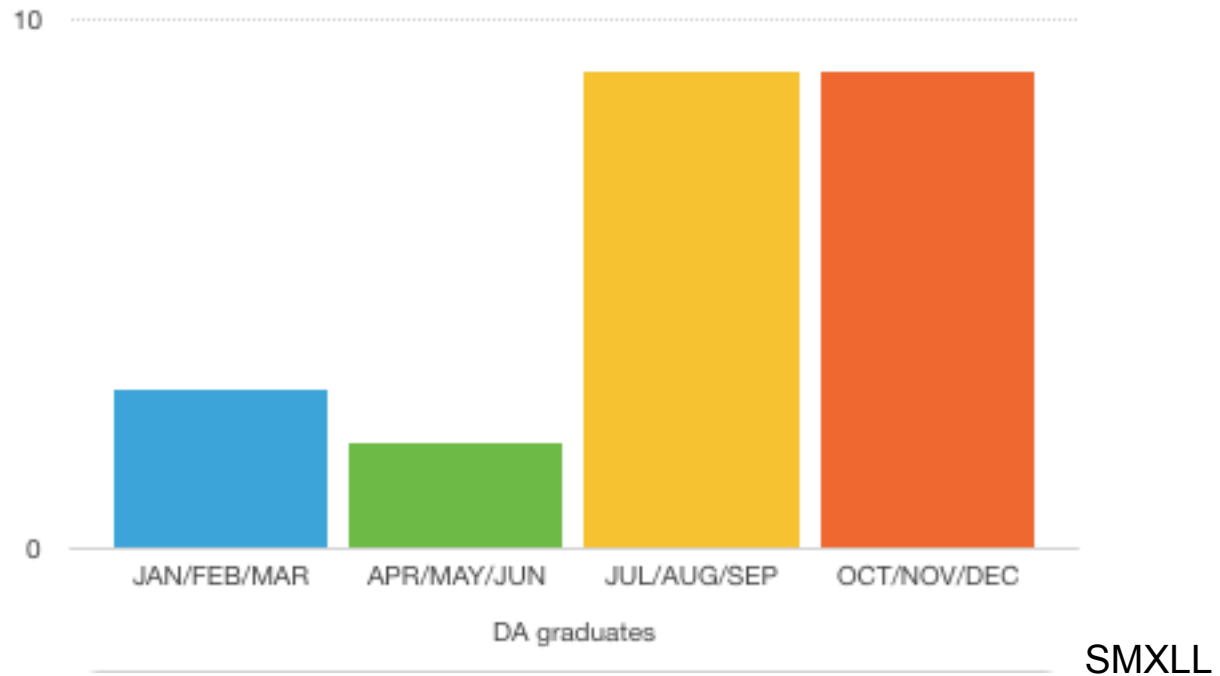
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When did they join the Academy?



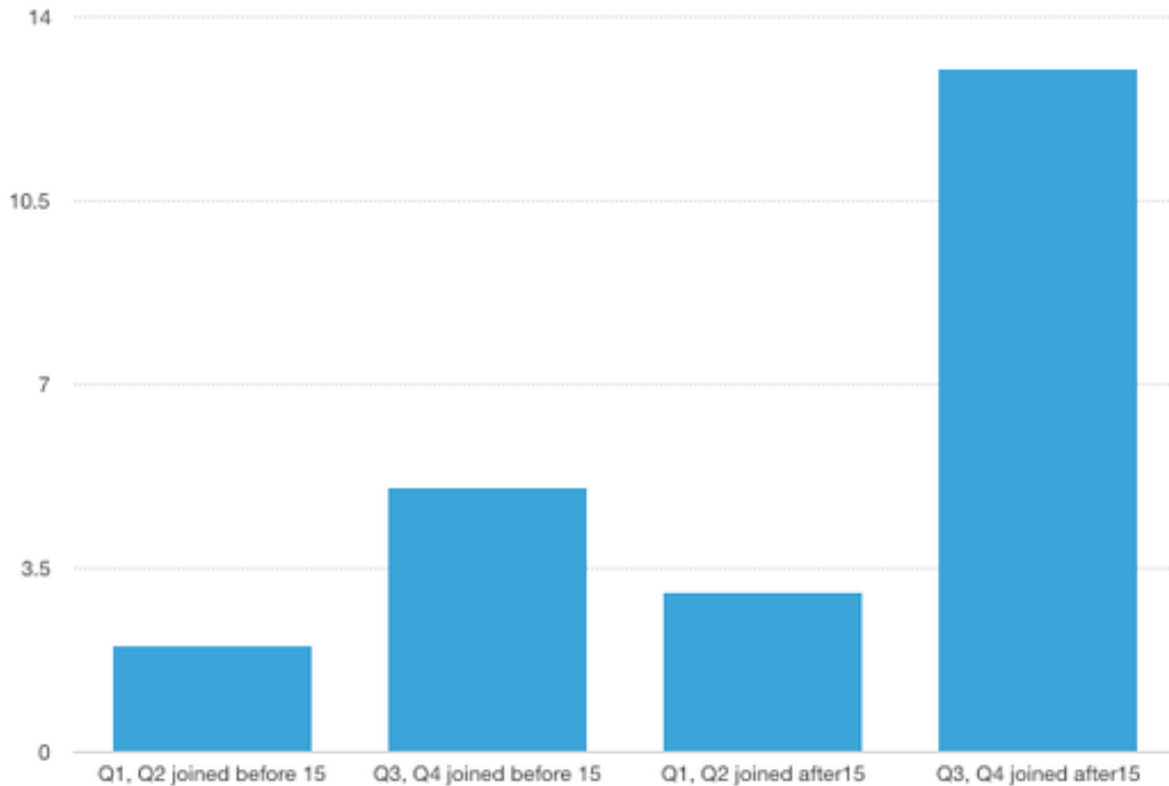
- JOINED ACADEMY Before age 15 = 7 players
- JOINED ACADEMY After age 15 = 16 players

What about the Relative Age Effect? Were they born early? (Picked for maturity?) or late (not selected).



We see that the notable DA players were late birthdates

Now, what about putting them both together:



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So the most likely to rise to the highest level came from

- Born in second half of the year, (Q3,Q4) and
- Joined the academy after 15 years of age

So what is going on here? As we have already seen the US soccer DA has many, many more kids born in Q1 where they have a maturity advantage. But those early birthdates are under represented as the the late birthdates and late joiners rise to the elite level.

If the academies are beneficial at the early ages then where are the outcomes that show that?

Late birthdates and late joiners, what do they both have in common? *Neither group was in the academy.*

The US development academy actually served to weed out kids by selecting them early and then systematically providing them second tier development--therefore securing that those kids are deselected (let go) with kids who trained in a better system.

The sobering fact is the numbers suggest that the early academy system participation (before Peak Height Velocity) in the US (and perhaps elsewhere) is not working. And worse--it is serving to eliminate those who participate early.

Could we, can we look at the academy/elite club system itself as the culprit?

The finger is pointed at all of us--anyone who holds a tryout is part of the problem here, just in different degrees. However the major culprits are at the top of the pyramid, and in the US that is the Development Academy.

Paul Caliguri uses looser, more frontal numbers:

"The DA has been a failure. Since 2008, USA men have had the Development Academy. Since then we have missed 3 Olympics and now a World Cup. Meanwhile the US women have

operated without a DA and have won 2 Olympics and 1 World Cup in that same time frame. And our idea is to now install a DA for the US women?"

The Late advantage theories

Rocky Road theory

So why do the late bloomers have the advantage? Two main theories. The most popular is the Rocky Road theory or "Ability needs adversity." It is here we get the "Push them out of their comfort zone" approach that is so prevalent today. Since these players were younger and smaller they had to scrape and fight to get to where they are. The grittiness carried them to elite levels.

"you can squeeze the lemon, or you can grow the lemon, you can't do both" --Gerard Houlier

Here is a Story of the U17 MNT and it's Director, Wilmer Cabrera. They had just lost to Brazil by a big score. The press asked Cabrera what happened.

"Their kids were just so calm and would not be rattled, while our kids were not comfortable with the ball under pressure."

"what are you going to do about it?" they asked

"We need to push them out of their comfort zone." He said.

So the idea is to get uncomfortable to get comfortable?

The idea here is "ability needs adversity." And the methodology is to overload. We just need to squeeze the lemon.

The numbers do not support this idea as represented by the failure of so many kids--especially Q1 and Q2. They were certainly "Pushed out of their comfort zone," as that is the prevailing method--with ever advancing levels of play and competition, it is almost certain that Q1 and Q2 were challenged with adversity. So why do they fail?

Self-Organized Theory

The less popular but emerging theory of this phenomenon is the self organization theory. It not only explains the emergence of the late bloomer but also explains why the Early developers are inhibited.

The idea is not to win, it is not even to learn, *it is to learn how to learn*. Learning comes from improving --improving comes from searching for failure--even in success.

Back to the race car. Imagine the race car team. First on the Poll, everything looks good, it is important to find improvement in something they can do better. Where can they find an advantage? There is the car--and there is the driver. In the end the car is finite held so by the

laws of physics. There is a little they can do, but at this point not much. Meanwhile the driver's possibilities are limitless.

The early developer pit crew works on the car. They make it faster. But there improvements are finite.

The late developer's crew works on the driver. They give him information, facilitate his safe learning. His learning possibilities are infinite.

Enabling others to "learn how to learn" is often taken to mean instructing them how to submit to being taught. The traditional coaching model of the "The expert knows best" inhibits the early developer from learning how to learn. They are learning from the coach while the late achievers -- not given as much attention are forced to learn on their own.

Self-Organized learning denies that "the expert knows best" or that there is ever "the one best method" In this theory it is the things we do not give to the kids that makes the difference. They become little problem solvers. They fall in love with the process and tend to look for problems and their solutions. Think the child playing video games without reading the manual. They enjoy the mistakes, the discovery, the solution and adapt.

The video kids find joy in the discovery, not the game. Or in other words, the game IS the discovery.

So the more we try to develop---the less we actually do so, The less we try to develop the more that development happens.

Fact 10: Why the answer will always be is a secret

So what is happening? When we try to develop, train, grow kids --how do we proceed toward a best practice?

We do know that this problem is not isolated to soccer. Almost all sports with a selection process will show similar results.

So let's step back and look for models that might better explain what's going on.

What if we look at play as a language? We can get a hint from Linguistics and something called Krashen's Hypothesis.

USC Linguist Steven Krashen stumbled on to something one day when he was trying to teach a young Japanese immigrant english. He was force feeding her, trying to teach her to speak through a step by step academic like method and it was not working. He knew that he was doing something wrong and began to see the overall process as a dichotomy, the two phases separate and best if one happens before the other. It led to one of the seminal theories in Linguistics, Krashen's Acquisition/Learning Hypothesis. Krashen believes that to learn a language successfully (fluently, without accent) one must go through two phases:

Krashen's Monitor Theory

(Acquisition vs. Learning)

The learner must

1) first **acquire** the language (This is an unconscious, immersion-like process where the joy of the language is most important--the in and around of the language, This is the child on the kitchen floor while the grandmother his cooking and Italian radio is playing. It is the unconscious joy of the language).

2) **Learn** the language--the rules laws skills and techniques.

In order to speak a language fluently the learner must "Acquire" before they "Learn" the language.

Sounds a lot like the perfect model of developing expert performance in soccer. The soccer player must “acquire” through play soccer before they “learn” it through Deliberate Practice.

At the younger ages 5-14, the brain seems adverse to FOCUS and CONCENTRATION, and open to PLAY and EXPLORATION. At these ages learning takes place best in play—unknowing, the opposite of focus, unconsciously, feeding supercharged learning right into the autonomous skill bank.

1-Early “play” where learning is unconscious, invisible, autonomous—this is the Acquisition phase

2-Later “work” that requires focus, effort and feedback—this is the deliberate Practice phase.

Acquisition-Learning Model

Before Peak Height Velocity	After Peak Height Velocity
Unconscious	Conscious
Underloading	Overloading
implicit coaching	Explicit coaching
Easy as possible	Fast as possible
focus on the driver	tune up the car
grow the lemon	squeeze the lemon

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This practice model helps explain the missing early developers. We tend to only focus on the learning phase (rules, laws, skills) especially on kids selected early or join the system early--they are not given the proper time to fully explore the acquisition phase and perhaps move out too soon.

They are asked early to join the explicit coaching. They lose their interest in listening to that acquisition phase--They can not speak the language of play and soccer fluently.

The numbers are telling us that if you are aiming at the the goals you will not reach those goals. If you try to pick the best players, you will subsequently eliminate them.

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As Berkley Psychology Professore, Alison Gopnick writes:

"The irony is that over the long term, play does lead to practical benefits. But it does this precisely because the people who play, aren't aiming at those practical benefits."

The numbers are telling us that if you are aiming at the the goals you will not reach those goals. If you try to pick the best players, you will subsequently eliminate them.

The only way to achieve those goals is to ignore them. Provide an environment for all kids for as long as you can in the best and most fun environment possible.

Then, later, after kids are ready (After PHV) you can begin with deliberate practice.

Oh, by the way. Back when Brazil was not just a little better than everyone else--but a lot better--this is the model they used. They let kids play and grow until 16, and then brought them into the academy.

If you want a great high performer in soccer you will need a great--or better than great--acquisition period where there is healthy play first at the family level then at the local, neighborhood level. It will help that this play contains the best practices, small sided, fast surface, big goals with keepers, etc.

But the main thing is that you can only, only, only do it for fun. And when you are at the elite level, and someone asks you "what was the most important part of your development?" You will talk about the hard work and dedication it takes--of course those things are important --but

they are only half the story. The other half of the story, the great acquisition phase where you played everyday, for the love of it, for the beauty of it--that you will forget that part.

And that is why it must remain a secret.

What are the alternatives to tryouts?

The physical traits at young ages are the most important in any tryout, and this is proven by the RAE where we pick the oldest-most mature.

No coach wants to pick the oldest kid, and while they care about winning, it is not their first priority. Coaches want to help produce the next Messi. They want to develop.

But it is what it represents that is so harmful because without the need to develop--then no need to win--with no need to win--no tryout and no kids left out. It is not our need to win, it is our need to develop that starts this problem.

Relative age effect is more than just a phenomena--it is an inside look at how we see kids, sport and ourselves. It says that we believe the expert knows best. It says we believe that some kids are special. It says we love to win, it points a finger at leaders, coaches and administrators it says that we are harming kids.

But if we are not afraid to look close maybe we can help. Because somewhere in the numbers of RAE and it's later reversal lies the secret to elite, high performance development.

Kids love to dream, imagine and play. They will love the game. They will be inventive and try things. They will win the world cup over and over as ten year olds all the time in their imagination.

And this is why we must look hard at ourselves. . We are not saying these systems are bad, they are just not working. Academies/ elite clubs/ your team (any team with Relative Age effect) are bad or evil. We are searching for the answers and the way to do it correctly. Kids want to be world beaters. It is our first duty.

Let's relook at our theories of how we develop kids, and if we do we will see that clubs and academies that try so hard to develop just can't do it at the young ages the way they are doing it now. They are second best to the implicit joy of learning. The happiness of the child beats the the adversity of the elite system every time.

Let's grow that.

Because in the future, the revolution will not hold tryouts.

Gladwell M. Outliers (Little, Brown. New York 2008).

Barnsley RH, Thompson AH and Legault PE. Hockey success and birthdate: The relative age effect. Canadian Ass'n of Health, Physical Ed & Recreation (CAHPER) Journal. 1985;51: 23-28. See also Nolan JE, Howell G. Hockey success and birth date: The relative age effect revisited. Int'l Review for the Sociology of Sport 2010;45(4):507-512.

Gibbs BG, Jarvis JA, Dufer MJ. The rise of the underdog? The relative age effect reversal among Canadian-born NHL hockey players: A reply to Nolan and Howell. Int'l Review for the Sociology of Sport 2011; DOI: 10.1177/101269211414343 (accessed October 5, 2012).

Ben Gibbs is a professor in the Department of Sociology at Brigham Young University. The contributions of Mikaela Dufur, Jon Jarvis, and Kevin Shafer to this article are gratefully acknowledged.

Read more: <http://www.momsteam.com/sports/relative-age-effect-reversal-found-at-elite-level-canadian-hockey#ixzz50bViQGib>

Relative Age Effect Reversal Found At Elite Level of Canadian Hockey

Evidence for RAE found far from conclusive

By BEN GIBBS

The relative age effect and success in German elite U-17 soccer teams
Claudia Augste Institute for Sport Science, Augsburg University ,
Augsburg, Germany

Read more: <http://www.momsteam.com/sports/relative-age-effect-reversal-found-at-elite-level-canadian-hockey#ixzz50bVM1cdW>

The relative age effect in youth soccer across Europe WERNER F. HELSEN¹ , JAN VAN WINCKEL¹ , & A. MARK WILLIAMS² ¹ Department of Kinesiology, Katholieke Universiteit Leuven, Leuven, Belgium and ² Research Institute for Sport and Exercise Sciences, Liverpool John Moores University, Liverpool, UK (Accepted 24 July 2004)

<https://www.mnufc.com/players/squad/u13>

Musch, J., & Hay, R. (1999). The relative age effect in soccer: Cross-cultural evidence for a systematic discrimination against children born late in the competition year. *Sociology of Sport Journal*, 16, 54-64

Rigney, D. (2010). *The Matthew effect: How advantage begets further advantage*. Columbia University Press.

Romann, M., & Fuchslocher, J. (2011). Influence of the selection level, age and playing position on relative age effects in Swiss women's soccer. *Talent Development & Excellence*, 3(2), 239-247

Vincent, J., & Glamser, F. D. (2006). Gender differences in the relative age effect among US Olympic Development Program youth soccer players. *Journal of Sports Sciences*, 24(4), 405-413

<https://psychcentral.com/blog/archives/2013/03/23/the-relative-age-effect-in-sports-its-complicated/>

Barnsley, RH, Thompson AH and Barnsley PE. (1985). Hockey success and birthdate: The relative age effect. Canadian Association of Health, Physical Education and Recreation (CAHPER) Journal 51: 23–28.

Gibbs, B.G., Jarvis, J.A., & Dufur, M.J. (2012). The rise of the underdog? The relative age effect reversal among Canadian-born NHL hockey players: A reply to Nolan and Howell. International Review for the Sociology of Sport, 47, 644-649.

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[http://taosoccer.com/TYSL%20Coaching%20Supplements,
%20Codes%20of%20Conduct%20PDF's/
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[https://www.researchgate.net/publication/
257333561_The_Rise_of_the_Underdog_The_Relative_Age_Effect_Re
versal_Among_Canadian-
born_NHL_Hockey_Players_A_Reply_to_Nolan_and_Howell](https://www.researchgate.net/publication/257333561_The_Rise_of_the_Underdog_The_Relative_Age_Effect_Reversal_Among_Canadian-born_NHL_Hockey_Players_A_Reply_to_Nolan_and_Howell)

<https://www.theatlantic.com/author/alison-gopnik/>

Bibliography

Bloom, Benjamin S., and Lauren A. Sosniak. Developing Talent in Young People. New York: Ballantine, 1985. Print.

Covey, Stephen R. The Seven Habits of Highly Effective People: Restoring the Character Ethic. New York: Simon and Schuster, 1989. Print.

Coyle, Daniel. The Talent Code: Greatness Isn't Born: It's Grown, Here's How. New York: Bantam, 2009. Print.

Dorrance, Anson, and Gloria Averbuch. The Vision of a Champion: Advice and Inspiration from the World's Most Successful Women's Soccer Coach. Chelsea, MI: Sleeping Bear, 2002. Print.

Dweck, Carol S. *Mindset: The New Psychology of Success*. New York: Random House, 2006. Print.

Gladwell, Malcolm. *Outliers*. N.p.: n.p., 2008. Print.

Kahneman, Daniel. *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux, 2011. Print.

Krashen, Stephen D. *Principles and Practice in Second Language Acquisition*. Oxford: Pergamon, 1982. Print

Lewis, Sarah Elizabeth. *The Rise: Creativity, the Gift of Failure, and the Search for Mastery*. N.p.: n.p., n.d. Print. Mischel, Walter. *The Marshmallow Test: Mastering Self-control*. N.p.: n.p., n.d. Print.

Memmert, D. (2013). Tactical Creativity. In T. McGarry, P. O'Donoghue, & J. Sampaio (Eds.), *Routledge Handbook of Sports Performance Analysis* (pp. 297–308). Abingdon: Routledge.

Côté, J., Baker, J., & Abernethy, B. (2003). From Play to Practice: A Developmental Framework For the Acquisition of Expertise in Team Sports. In K.A. Ericsson & J.L. Starks (Eds.), *Expert performance in sports: Advances in research on sport expertise*. Champaign, IL: Human Kinetics.

Côté, J., Baker, J., & Abernethy, B. (2007). Practice and Play in the Development of Sport Expertise. *Handbook of sport psychology*, 3, 184–202.

Ericsson, K. Anders. *The Cambridge Handbook of Expertise and Expert Performance*. Cambridge: Cambridge UP, 2006. Print.

Ericsson, K. A., Krampe, R. T. & Tesch-Römer, C. (1993). The Role of Deliberative Practice in the Acquisition of Expert Performance. *Psychological Review*, 100, 363–406. expertise. Champaign, IL: Human Kinetics.

Abernethy, B., Baker, J., & Côté, J. (2005). Transfer of Pattern Recall Skills May Contribute to the Development of Sport Expertise. *Applied Cognitive Psychology*, 19, 705–718.

Baker, J. (2003). Early Specialization in Youth Sport: a Requirement for Adult Expertise? *High Ability Studies*, 14, 85–94.

Clemente, F., Couceiro, M., Martins, F. M. L. & Mendes, R. (2012). The Usefulness of Small-Sided Games on Soccer Training. *Journal of Physical Education and Sport*, 12, 93–102.

Abernethy, 2003; Côté, MacDonald, Baker, &

Abernethy, 2006; Williams, Davids, & Williams,

1999; see also Starkes & Ericsson, 2003, for a review).