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European Junior Swimming – What happens after that?

Career Turning Points in Competitive Youth Swimming

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Foto: privat



Observations from the pool deck

German swimmers can hardly compete on international elite level.



Successful junior swimmers do not transition to the elite level.

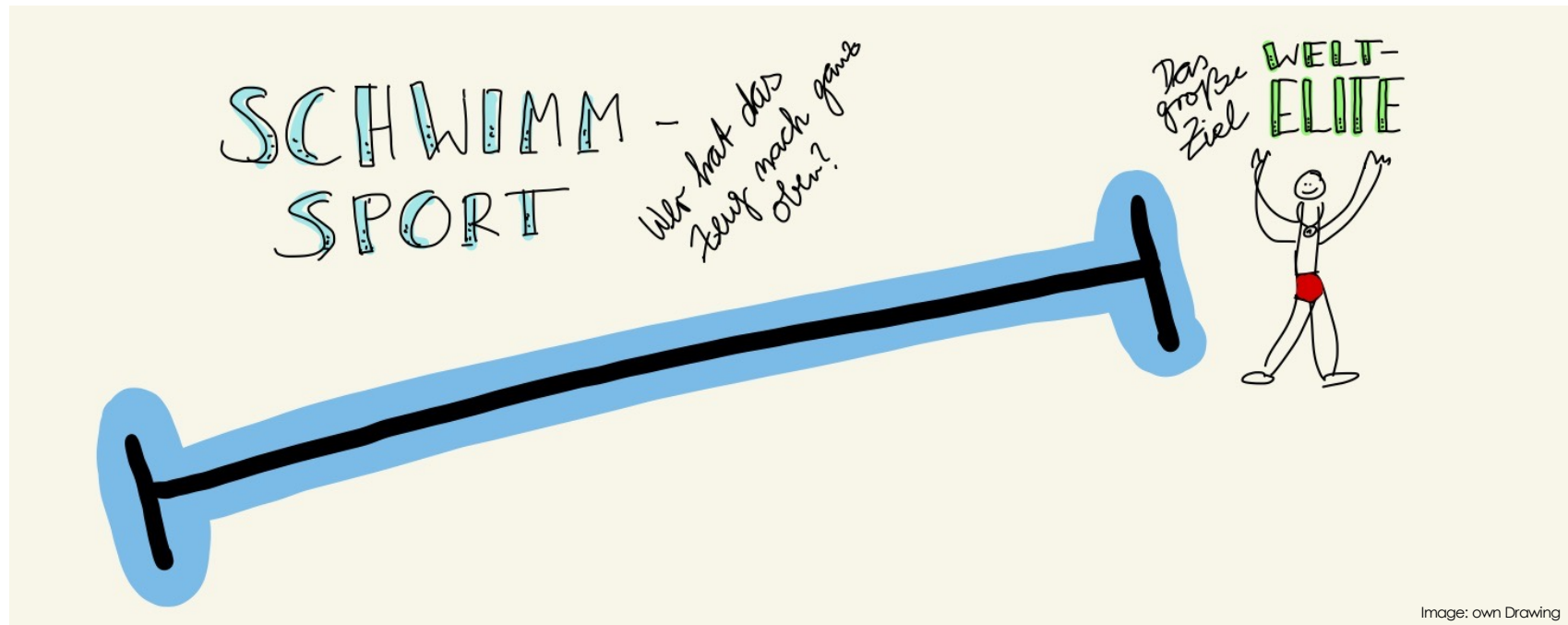


Image: own Drawing

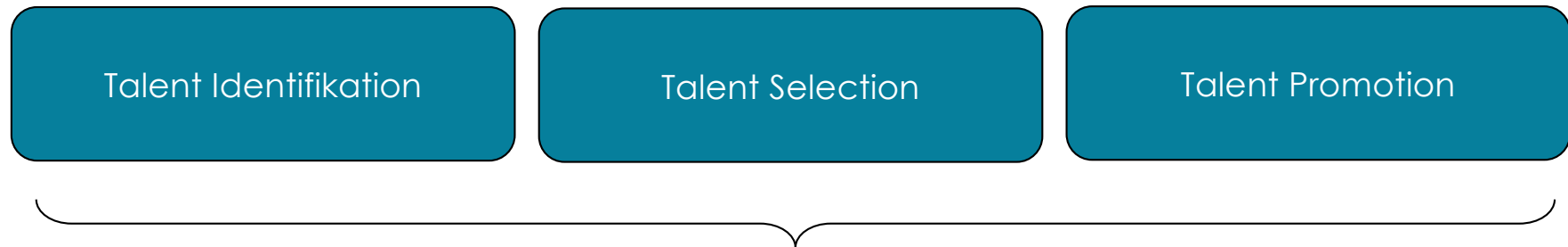
Agenda

- 1** **Basis** of long-term performance development
- 2** **Own Studies** on long-term performance development
- 3** **Interview Study** on turning points in the careers of young swimmers
- 4** **Discussion**

Basis – Talent Development



Basis – Talent Development in Sport Federations



Rahmenrichtlinien zur Förderung des Nachwuchsleistungssports (DOSB, 2010)

Nachwuchsleistungssportkonzept 2020 (DOSB, 2013)

Nachwuchskonzeption Schwimmen 2020 (DSV, 2015)

A talent is expected to achieve great success in top-level sport in the future.

(Güllich, 2013)

Selection based on qualifying times.

(DSV, 2020; SV NRW, 2020)

Basis – Can we predict future performance development?



Foto: privat

The younger the athlete, the less accurate is the prediction.

(Allen et al., 2014; Costa et al., 2011)

Competition results don't show how well an athlete can adapt or improve.

(Morris, 2000)

„Growing up“ is a non-linear process.

(Malina, 2004; Malina, 2017)

Genetic development cannot be predicted.

(Abbott et al., 2002; Aitken & Jenkins, 1998; Simmons & Paull, 2001)

Selections often happen during key transitions in an athlete's career.

(Davids et al., 2000; Helsen et al., 2000)

Talent identification should be the prediction of future performance.

(Kunst & Florescu, 1971; Simonton, 1999)

Basis – Swimming

Performance directly
measurable

Swimming is a CGS sport.
(Güllich & Krüger, 2013)

Medium Water

The usual logic of movement
on land does not apply.
(Maglischo, 2003; Reischle & Kandolf, 2015)

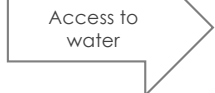
Foundational Swimming
Competence

Previously acquired motor
skills are required.
(Reischle & Kandolf, 2015)



Basis

influential
environmental factor



Requirements profile for the development of swimming

Foundational swimming competence

Feel for the water based on
foundational aquatic skills

Physical psychological and social requirements

Anthropometry, body composition,
trainability, motivation, resilience,
parental home environment

characteristic

non-linear
development

are axioms for

Swimming training

Precision

primary development requirement

Concentration despite monotony

situation requirement

Constant adaptation during growth

Characteristics in the process

Skill Acquisition

must be learned
specifically, as different
physical logic applies
than on land.

Fitness

The focus is on developing
endurance performance; in
addition, strength, flexibility, and
injury prevention.

Tactical training

Individual tactics
based on physical
and technical
abilities

Investment

Characteristics in the process

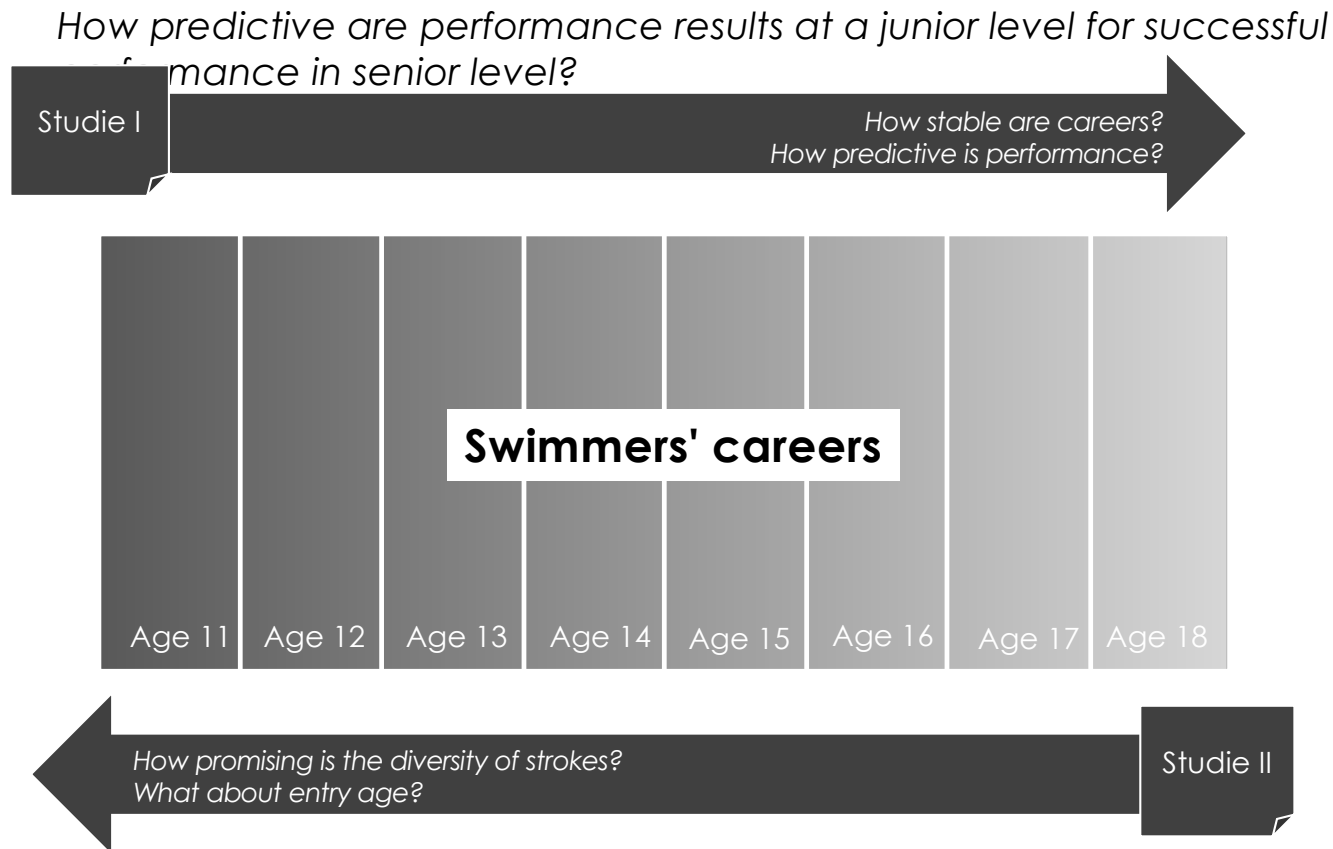
Often isolated in water

Situation requirements

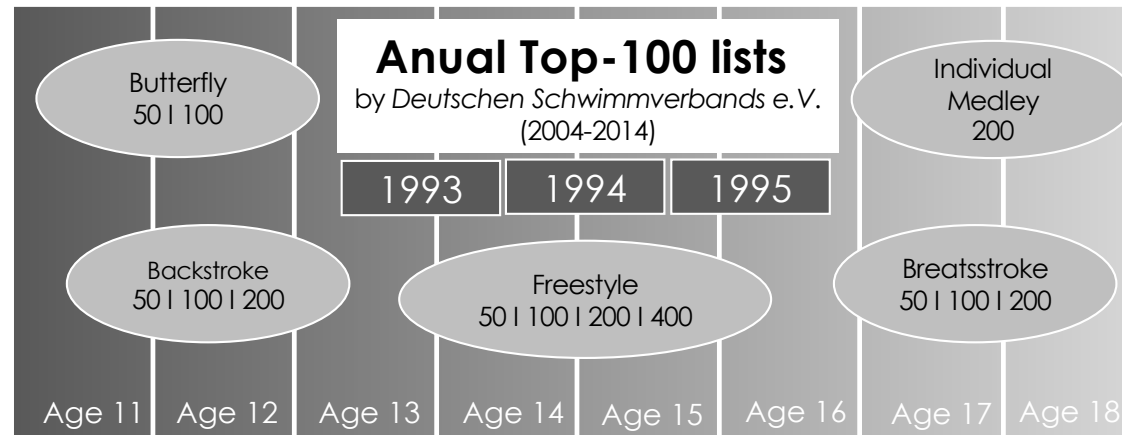
Self-motivation

Secondary or subordinate
developmental requirement

Own Studies – Research questions



Own Studies – data basis



WA-Points = $1000 \times (\text{World Record} / \text{Performance})^3$

62.400 data sets

n = 3.854; ♂ = 2.116, ♀ = 1.768

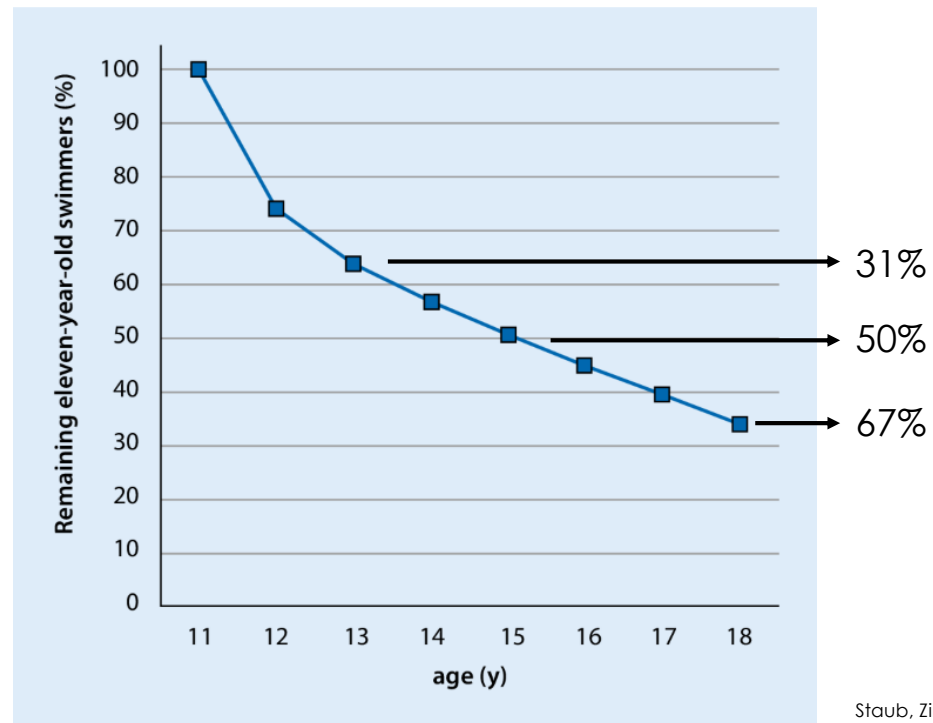
Own Studies – findings

Studie I

prospective observation
Eleven-year-old

*How stable are careers?
How predictive is performance?*

$n = 1.888$



Staub, Zinner, Stallman et al. (2020)

Own Studies – findings

$n = 1.705$

How promising is the diversity of strokes?
What about entry age?

retrospective view
18-year-old

Studie II

38%

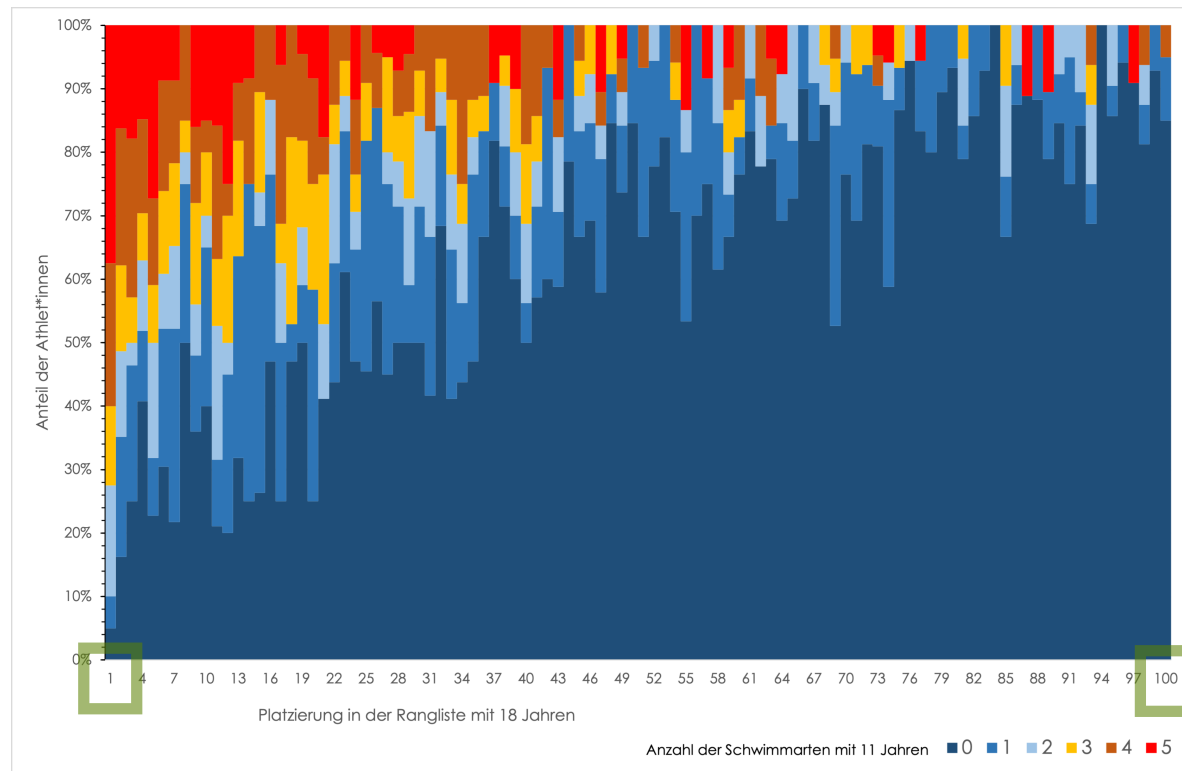
23%

13%

18%

5%

5%



5%

10%

85%

Kruskal-Wallis-Test

$p = 0,001^*$

*Signifikanz $p < 0,05$

nach Staub, Zinner, Bieder et al. (2020)

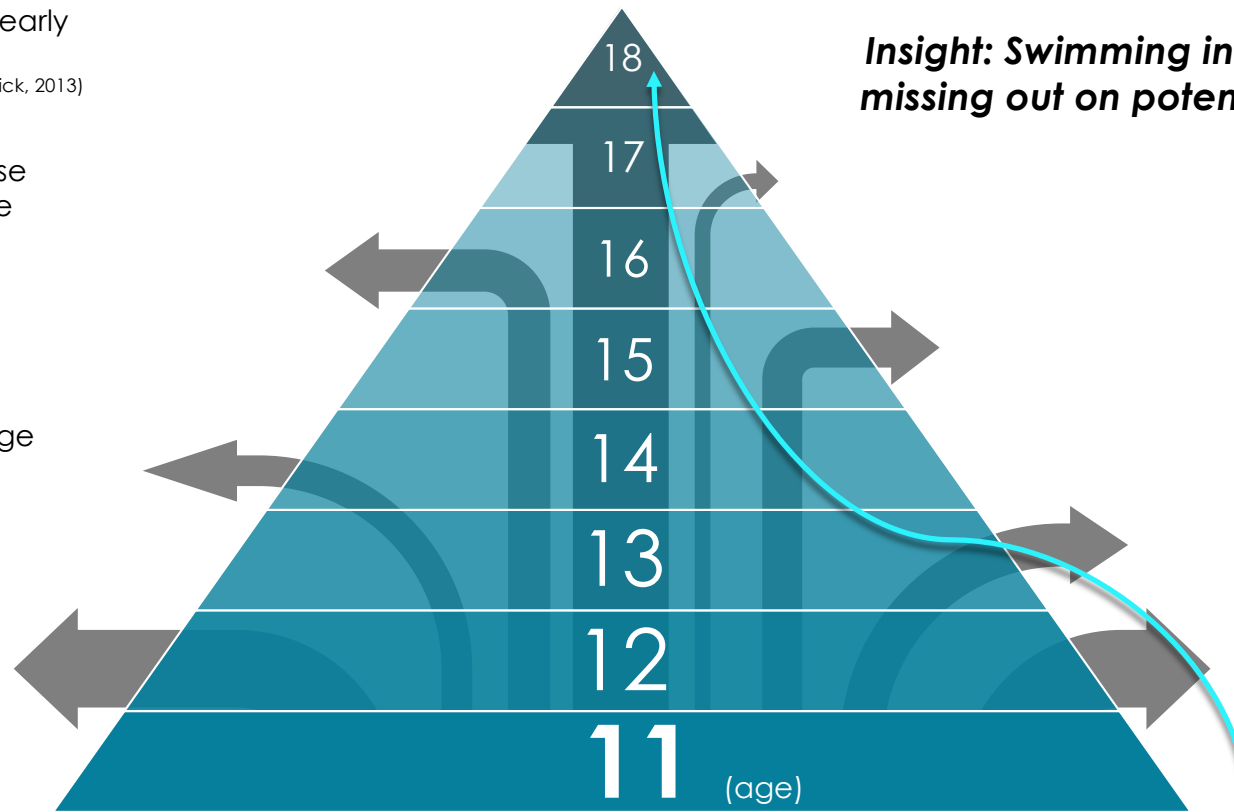
Own Studies – Implications

Low prediction based on early performance results
(Güllich & Emrich, 2006; Güllich, 2014; Wick, 2013)

One source of error in these selection procedures is the relative age effect.
(Helsen, 2018; Wattie et al., 2015)

More than half of adult swimmers were never represented in younger age groups.
(Sokolovas, 2006)

The majority of athletes follow non-linear paths (83.6%), with linear development being rare (7%).
(Gulbin et al., 2013)



Insight: Swimming in Germany is missing out on potential athletes.

Side – The career path of Léon Marchand



Foto: Daily newspaper Le Parisien

swimming family

Kind of skinny figure – frozen in water

Judo and rugby in the youth

Started swim training for als age 11/12

Late bloomer

Age-group final at 15

Medals at Junior European Champs/Worlds

College USA

Source: Swimsport News 16.08.2024

Interview Studie - Methods

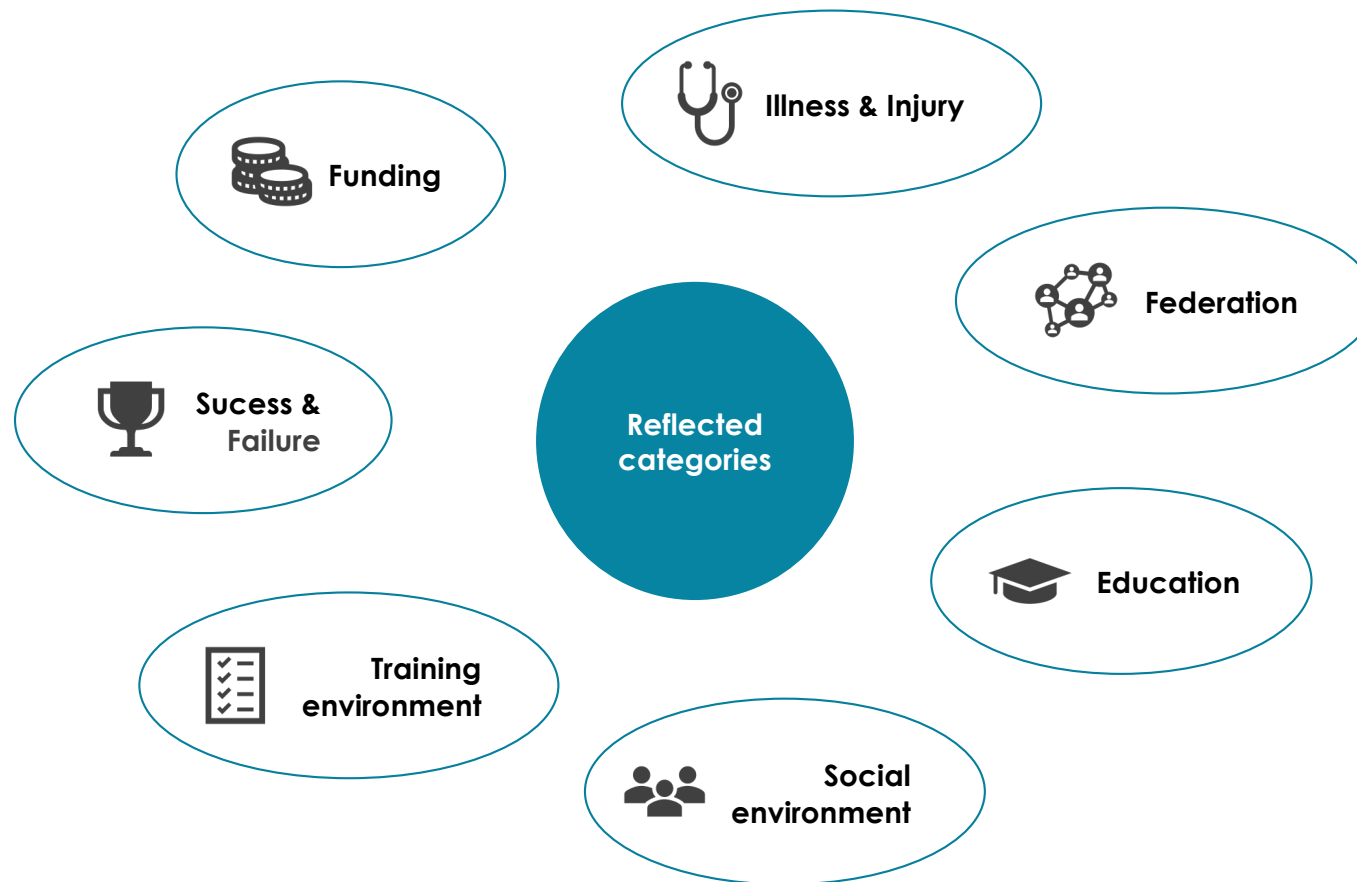
14 semi-structured interviews

Duration 1:15 - 2:30 Hours

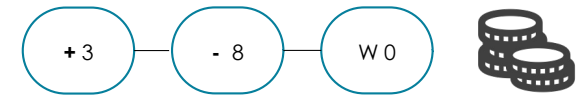
Prerequisite: junior but not senior national team

Interview method from psychology

Findings – Category system



Findings – Funding



It was also the time when my parents thought I should slowly start standing on my own two feet financially. Then the decision was actually clear. I would get a part-time job and stop swimming.

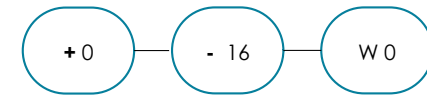


*Voices dubbed

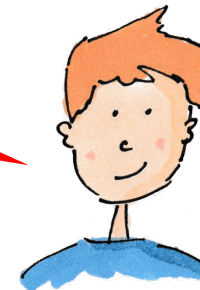
When you made the team, you simply realized what is actually possible and what you can get if you swim so well. Well, you have money from the *Sporthilfe*, and you have money from the club. [...] You felt a bit like the great swimmers, like Britta Steffen or something like that.



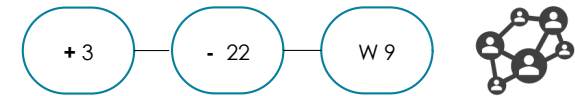
Findings – Injuries & Illnesses



For a while, I had severe problems with my left shoulder from crawl swimming and then had to swim only kicks for, I think, one and a half to two months. We were then prescribed regular physiotherapy. It never really went away. I still had problems even after I stopped competitive sport and went back to physio.



Findings – Federation



And then, the conversation turned to the fact that there was this competition in [that city]. But then, I wasn't invited; instead, someone who was slower than me was. I was very disappointed with the DSV.



I was never in a national team or anything like that, even though I was German youth champion, second in my age group for many years in a row, and second in the German championships in the senior final. I was never accepted into any national team training camps or official performance diagnostics.



Findings – Education

+ 14

- 29

W 3



The decisive reason for me to quit was definitely that I couldn't manage my studies and training anymore. It wasn't working anymore, and things weren't going well. Then I needed someone else to tell me that again - and I stopped swimming that very day.

The main purpose of the sports school was actually so that we could also have training at the school. So, everything no longer had to be planned completely around the school, but a little more was taken into account. We were also given time off for competitions and training camps.



Findings – Social environment

+ 20

- 17

W 0



No, I got all the encouragement I needed from my personal environment and, looking back, I wouldn't say that I needed a bit more support here and a bit less there. It's the trio of me and my parents and the duo of my coach and me. The environment at the sport boarding school was good, we had a very familiar relationship and supported each other a lot. [...] That's why I didn't need more encouragement, and at least today I don't have the feeling that I needed more. I felt very comfortable overall, and it worked and fit.

To my coach, who was simply the best coach of my life - to be fair, I have to say - he always managed to create a nice atmosphere, I'd say [...]. And of course, because you go to a lot of competitions and training camps, it's really just these main people you have to talk to apart from school.



Findings – Training environment

+ 23

- 23

W 13



So, really, really negative experiences [...] I once said to my coach that he was taking away my desire to do sport by training sets that I hated. [These sets I swam really slow.] Then he snapped at me and said: 'Let's start again'. I sat down on the starting block and said: 'You're taking away my desire to swim'.



That was simply the nice thing compared to my club team. You knew all the people [at the club]. You saw them once a day and that was that. At sports boarding school and at the training group there, however, it's completely different. You simply grow together as a group in a completely different way when you really see each other all day and do everything together all day. That was just the best thing. Before, you might have had loose friendships, but at boarding school, everything grew closer and closer. That was really nice.



Findings – Success & Failure

+ 70

- 28

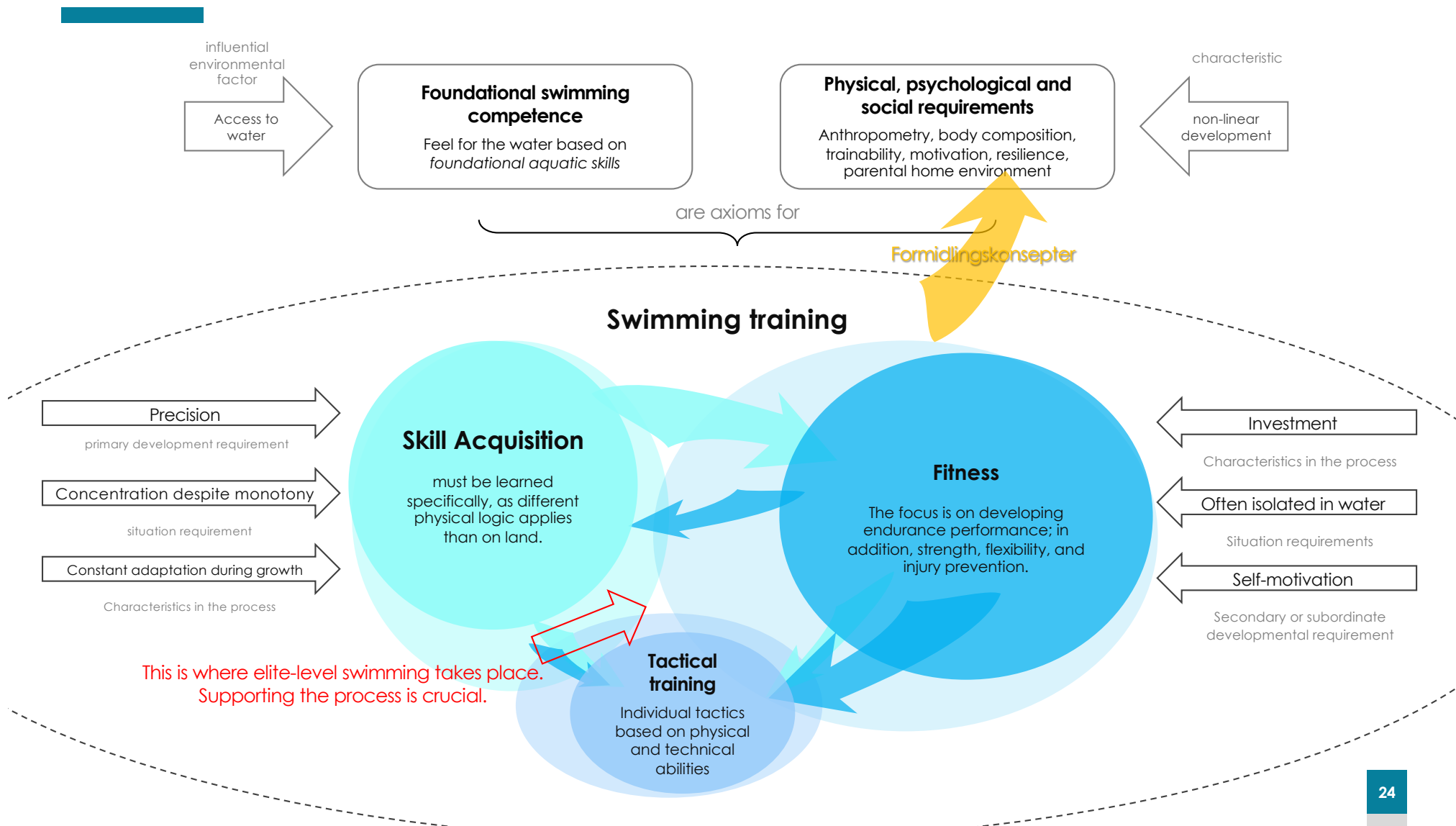
W 1



[...] swimming wasn't good for me. In the end, it just wasn't good for me mentally either. On the last day at [competition venue] during my last competition at the German Championships, I cried because I knew the message was coming: I wouldn't be going to the Olympic Games. I already knew it.

I have to say, it was by far the coolest event I have ever experienced as a swimmer. You could even say it was the most successful. I always enjoy looking back on it. I was in the pre-start area, where you had to go into a room full of mirrors. I saw myself in the mirror the whole time and just saw myself smiling. That's my favourite memory of that moment, because I thought, "Wow, it's so cool to be here." That was my highlight.







Takk for oppmerksomheten!

Further Project:



Swimming Skill
Analysis with
the „Owl's Eye“

Funded by National Government



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