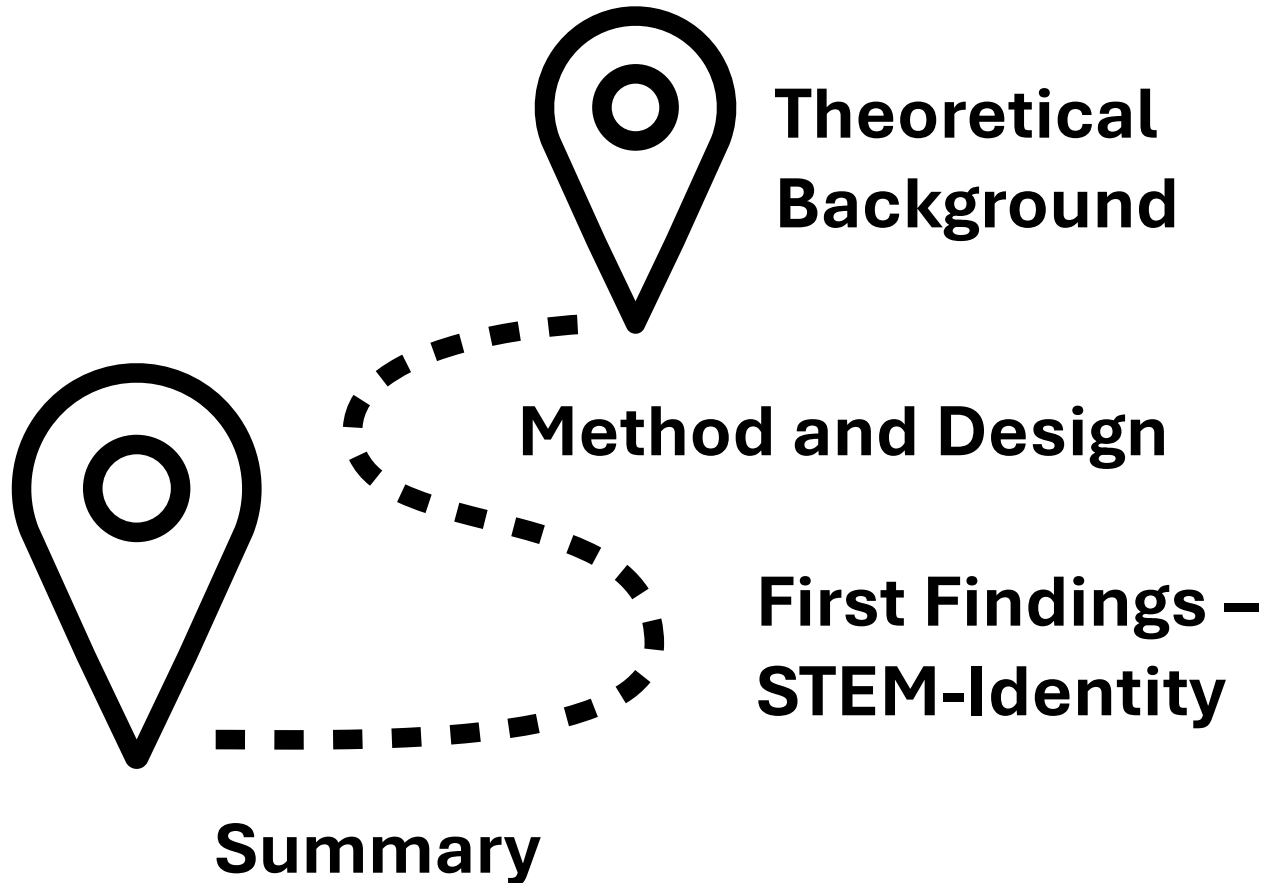


Identifying and Understanding Factors Influencing Student's Decisions Regarding STEM Education Pathways – First Findings

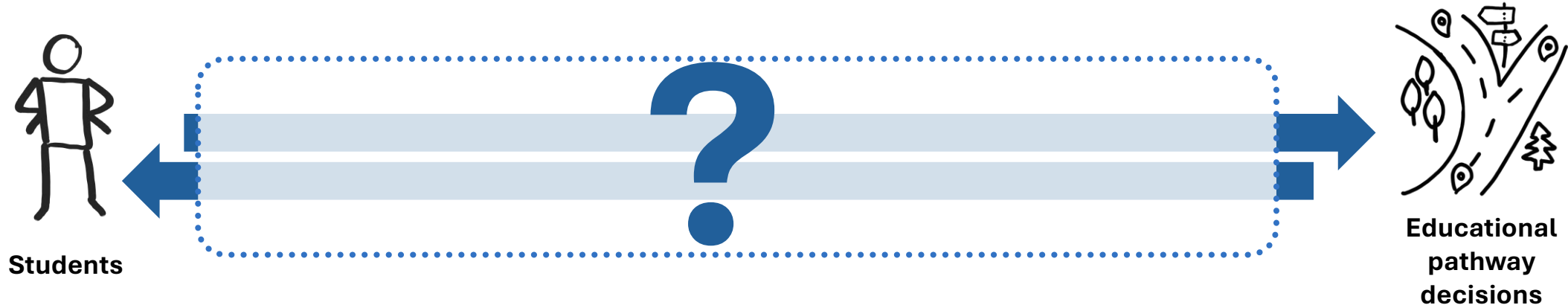
Perspectives of the Project DynaMINT^A

Agnes Birner, Florian Frank, Dr. Markus Elsholz, Prof. Dr. Thomas Trefzger (M!ND, Universität Würzburg)

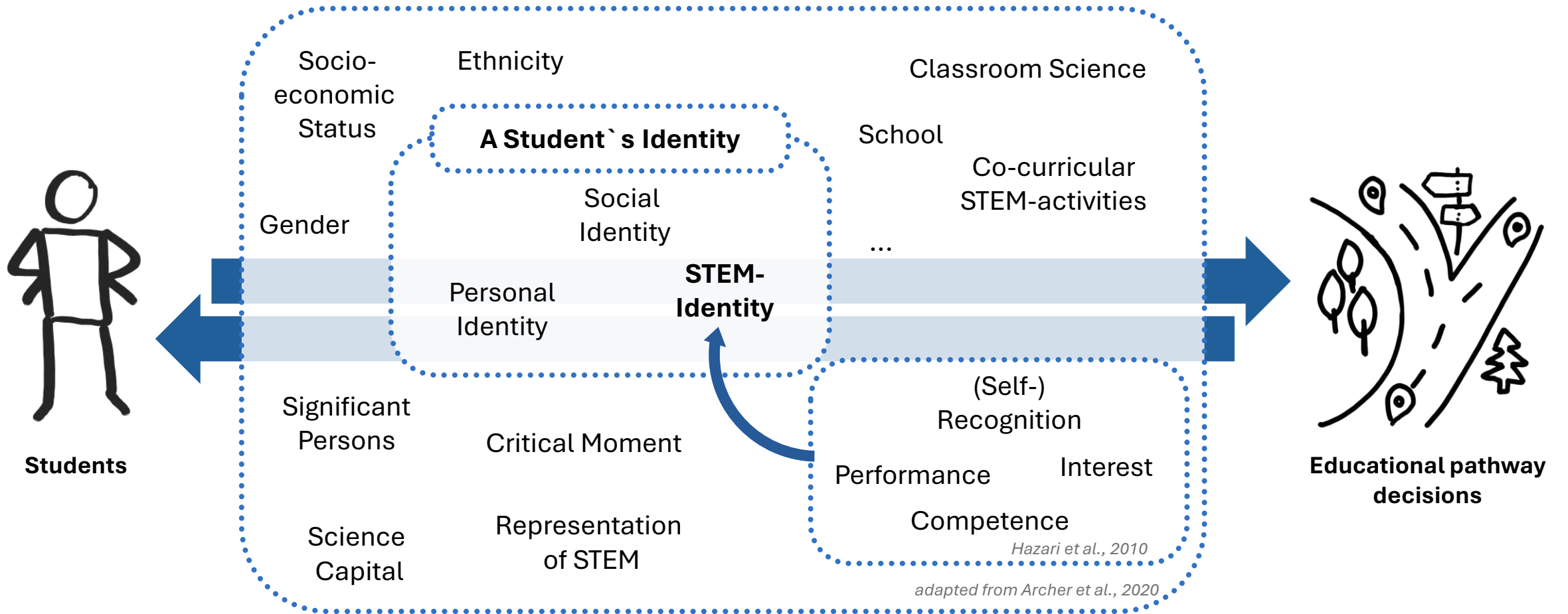
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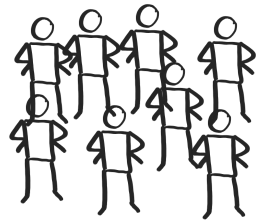


How do students make educational pathway decisions in relation to STEM?

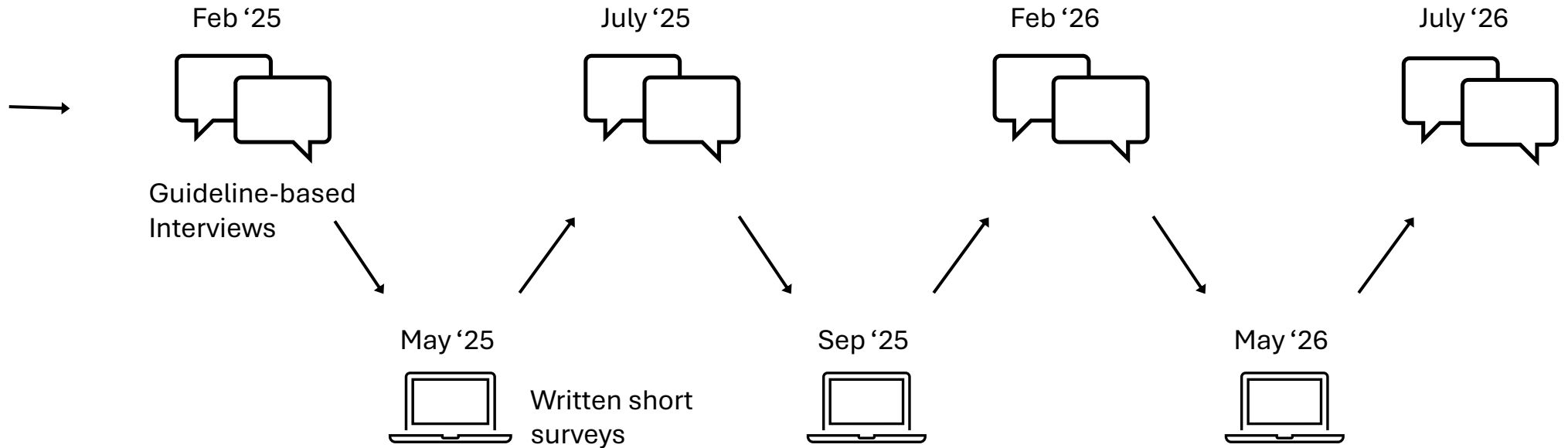


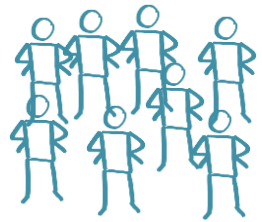
- What factors do students perceive as influential on their educational choices regarding STEM?
- How do students develop their **STEM Identity** during grade nine and ten of schooling?



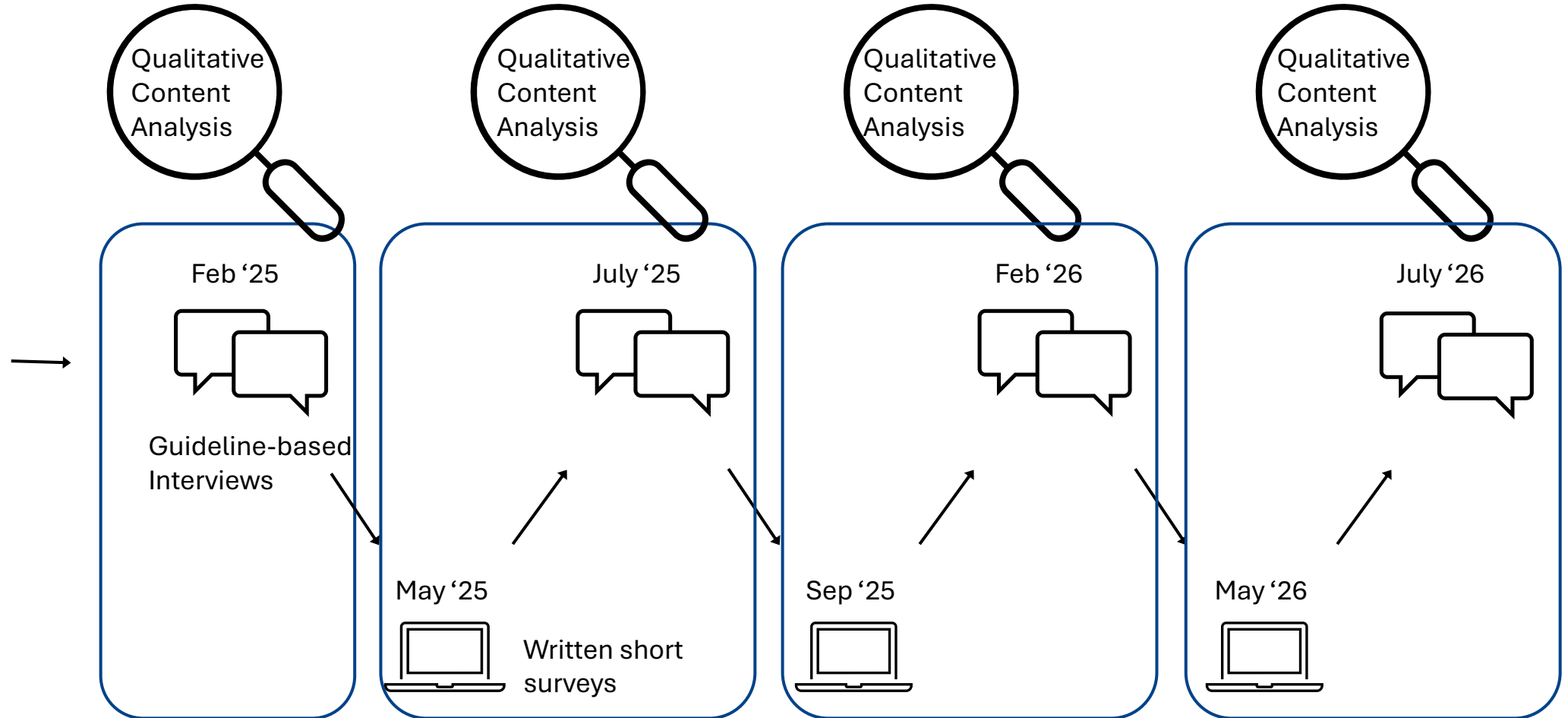


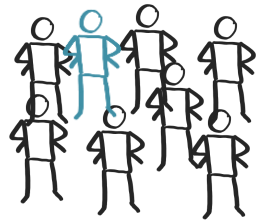
24 students
6 schools
9th grade



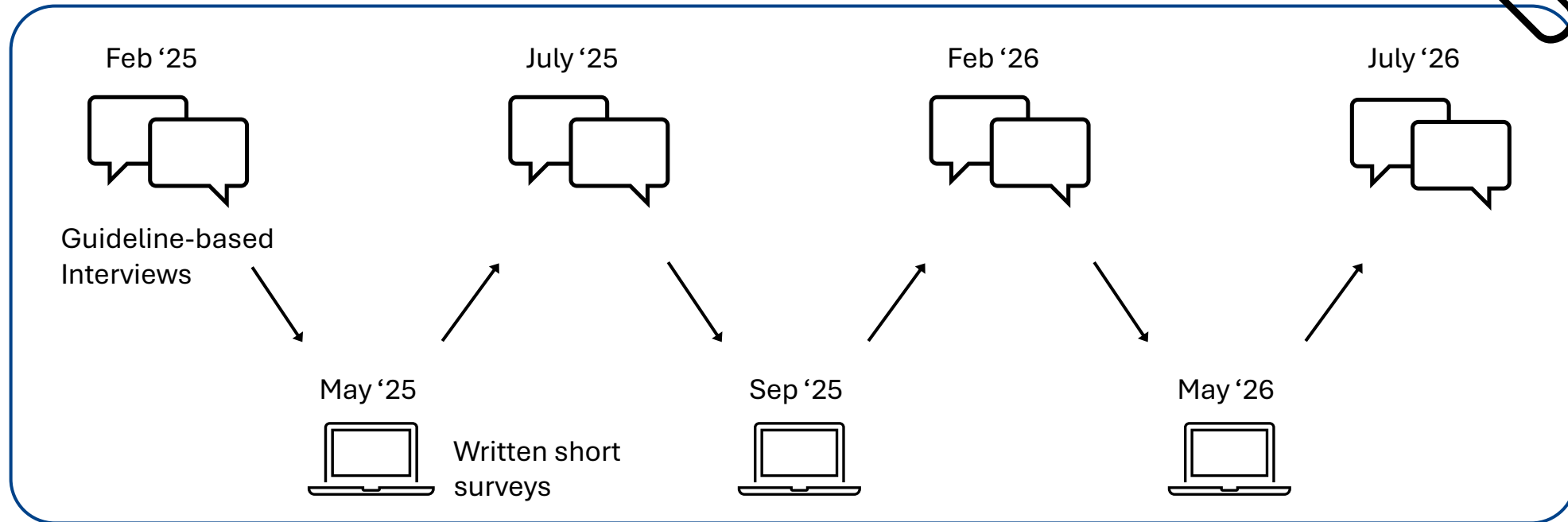


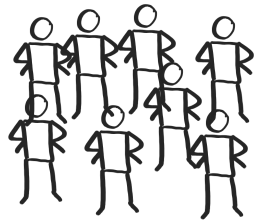
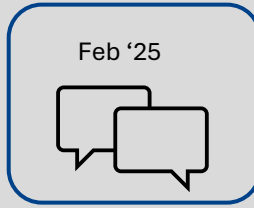
24 students
6 schools
9th grade



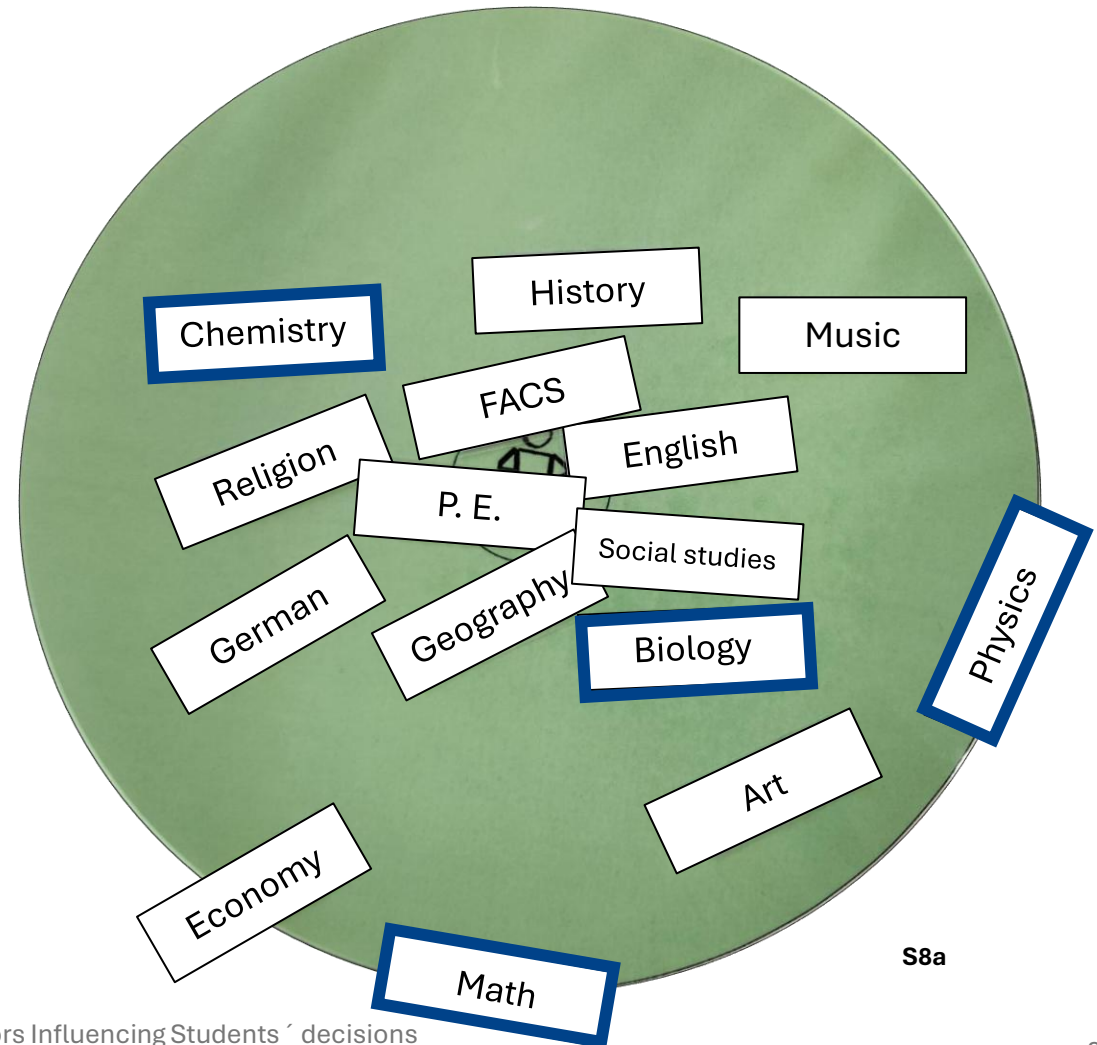


24 students
6 schools
9th grade

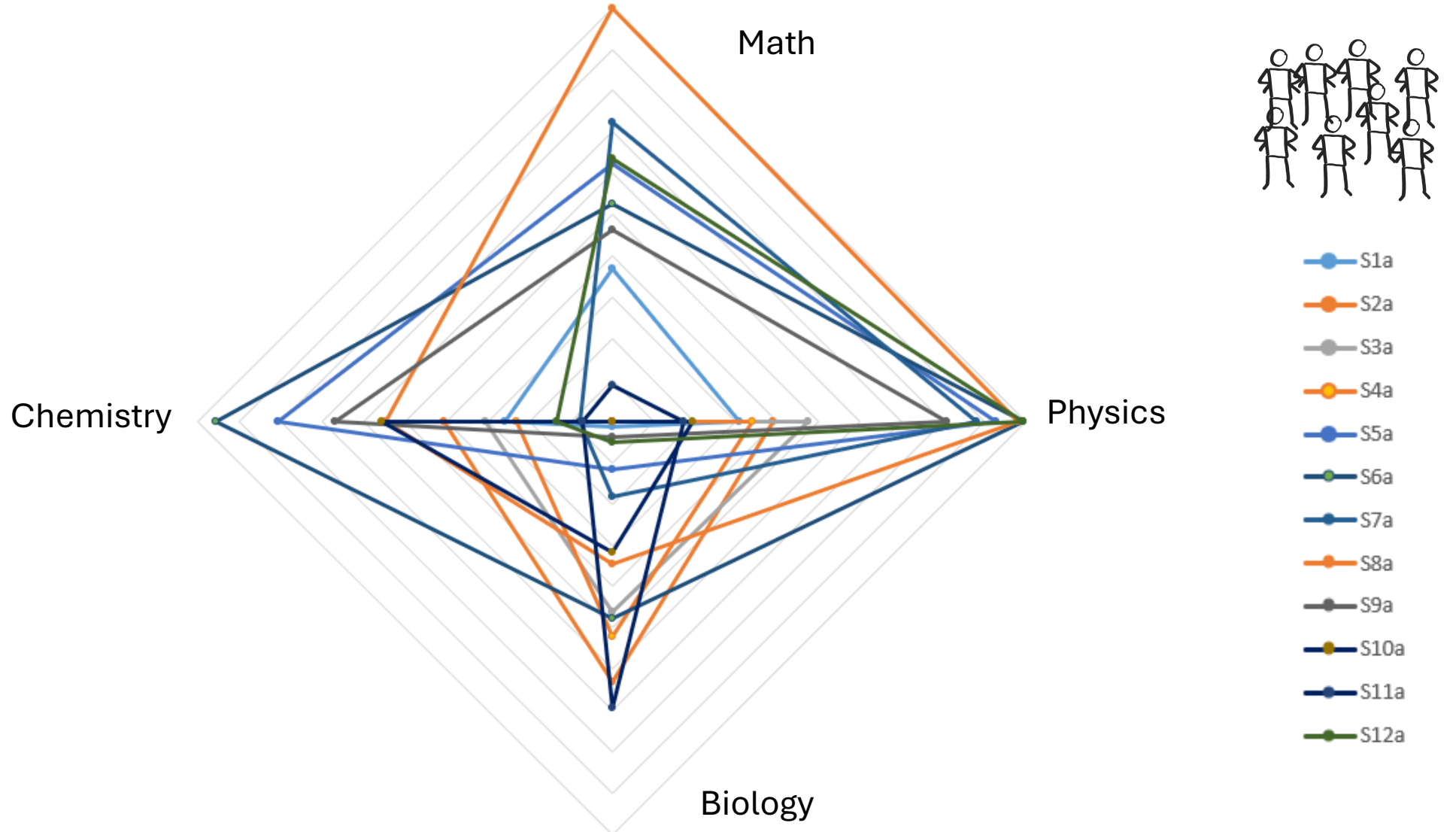




- **Sample:** 7 female and 5 male 9th grade students, at 3 schools
- **Selection Criteria:** Participation in DynaMINT^B, motivation for STEM (high/low)



S8a

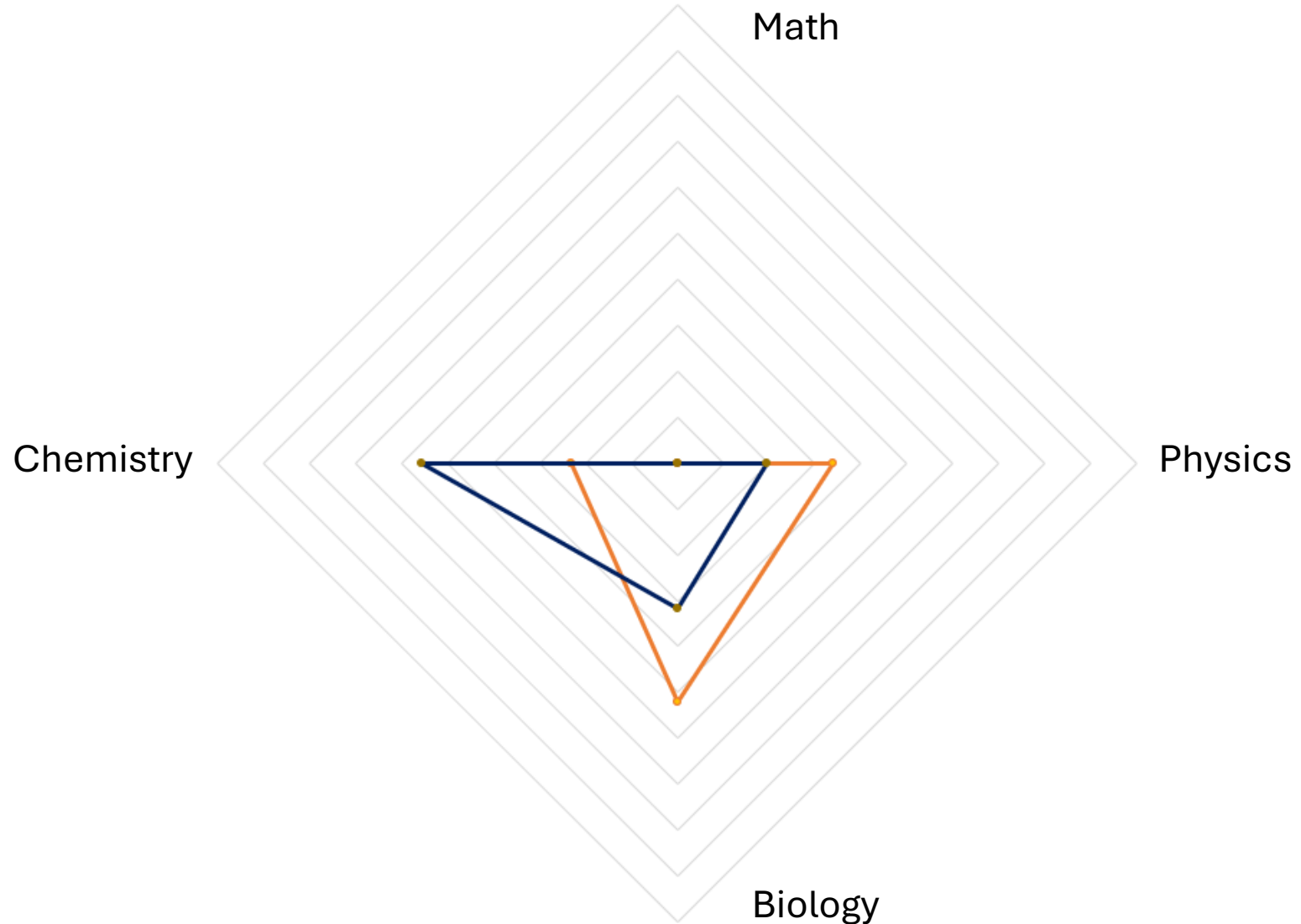


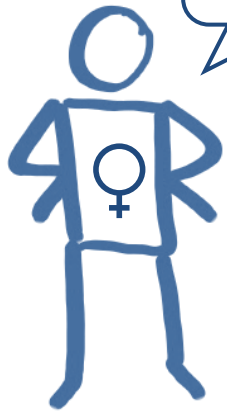


S10a



S4a





“Math runs in the family.”

S10a
STEM ✓

Math:

It suits me; It is interesting
It is easy; I enjoy it; I am interested in; my friends know (and like), that I am good at it

I like it

Physics:

It is easy; I am interested in; it suits me; I enjoy it; it ´s interesting; my friends know (and like), that I ´m good at it

It is difficult, It is interesting, I like it



“It just happened.”

S4a
STEM ✓



Something with Math,
Architect

STEM (Math suits her)



Confectioner/cook
Caregiver

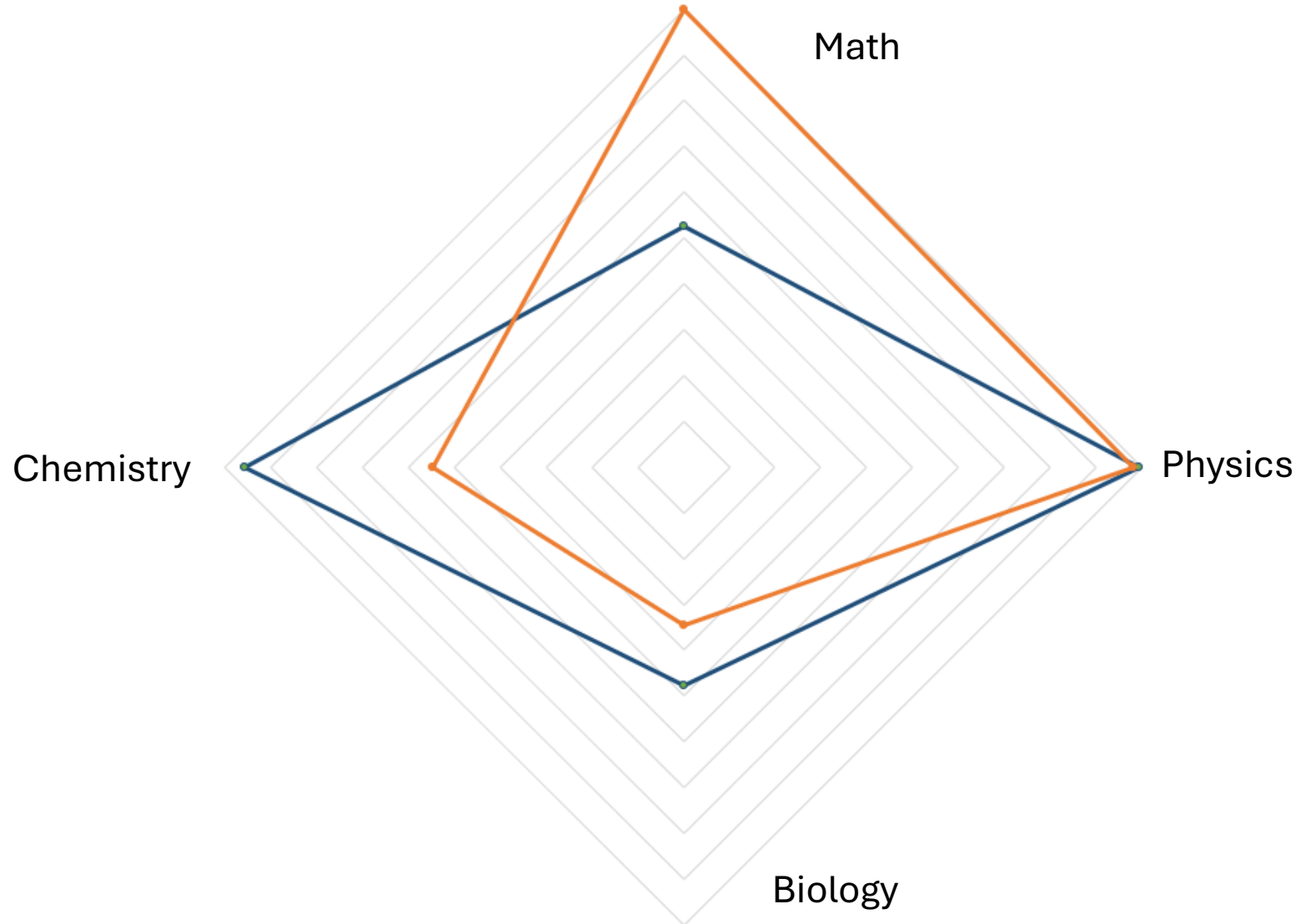
STEM (he likes cooking)



S6a



S8a





S6a
STEM ✓

“We are men, we can´t do math.”

Math:

It is difficult; anger, **it is getting** harder

It is not my thing; I don´t like it; I can´t do it in the test;
I´ve always been bad at it, **I don´t want** to understand it;
it´s my fault, that I don´t understand it

Physics:

I don´t like it
I just don´t know how to do it; (I know how to do it currently) disgust;
It doesn´t suit me; If I try hard, I understand it;



S8a
STEM ✓

“Math – we won´t be friends”



Emergency medical services

STEM (he was always good at it)



Something to do with medicine

STEM (she likes cooking, it is relevant for her life)

- STEM is not a unit
- STEM-Identity has many facets
- Student ´s arguments for or against STEM-subjects are really different

- Adding more perceived influencing factors
- School-STEM vs. Out-of-School-STEM
- New aspect: language
 - Common Math-language
 - Technical language as barrier

Research Gate



Website



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