20TH INTERNATIONAL
EUROPEAN COUNCIL FOR HIGH ABILITY
CONFERENCE

Unpacking the Impact of Family SES on Student Underachievement

Mediating Mechanisms among High-Ability and Typical Students

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KULeuven

TALENT KU LEUVEN

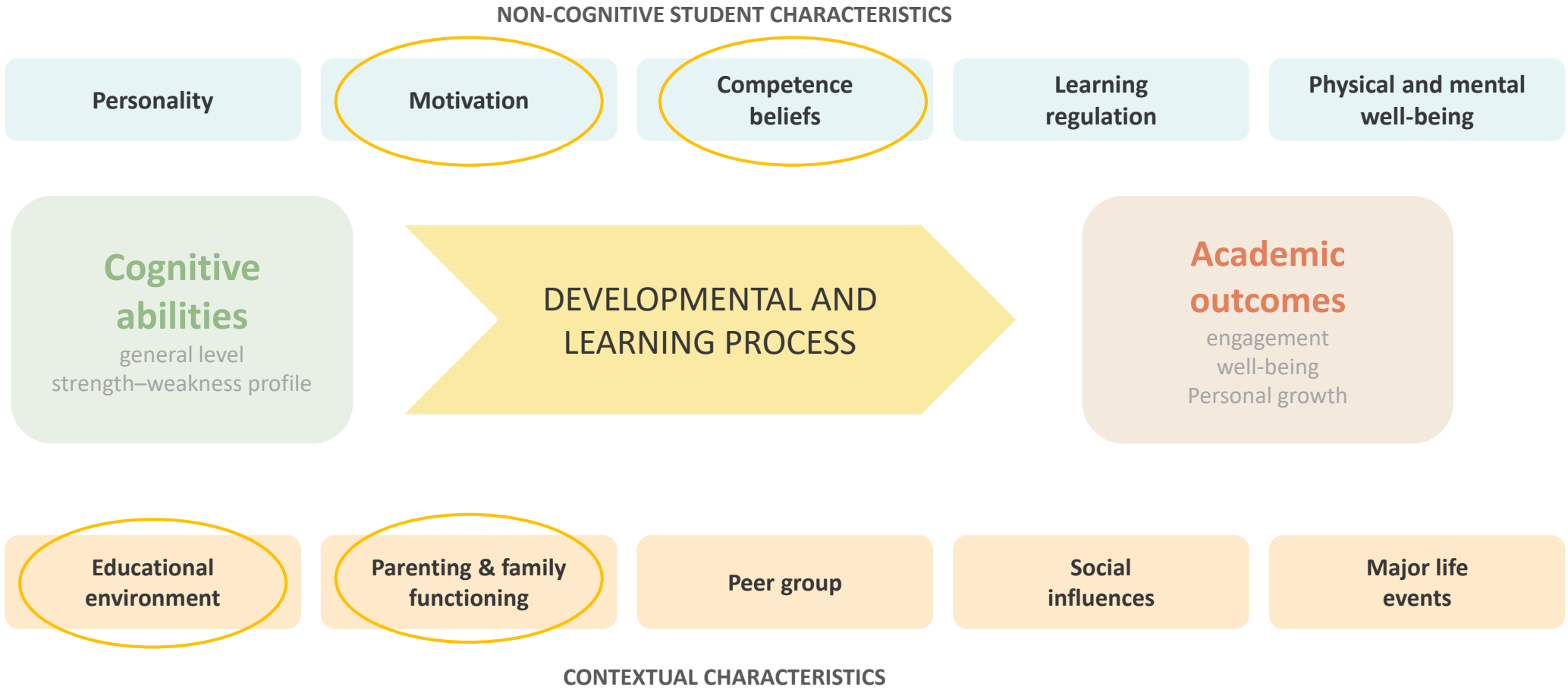
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Impact of SES

- Socioeconomic status (SES) is related to academic outcomes.
- Influences of SES on cognitive development appear early and widen over time.
- Lower SES students face limited access to enrichment and quality education.
- SES impacts broader aspects of life, all of which can influence talent development.

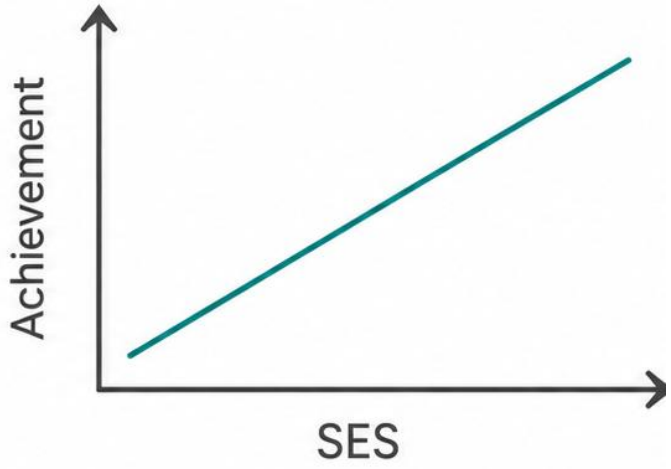
Von Stumm, 2017; Olszewski-Kubilius & Corwith, 2018

(Under)achievement is shaped by different factors



Verschueren et al., 2021

Gap in research







Xiang et al., 2011; Von Stumm, 2017; Olszewski-Kubilius & Corwith, 2018

Research questions

- To what extent does lower SES contribute to underachievement, considering both short-term and long-term effects across multiple academic years?

Similar for high ability and typical students?

- Which individual and contextual factors—*such as amotivation, mindset, self-concept, NFC, parenting, teacher expectations*—mediate this relationship -

Similar for high ability and typical students?

Measures

Data	•Talent Study
Cognitive Ability	•COVAT, standardized ability test, fluid intelligence, *7th* grade High-ability Gf ≥ 120 (top 10%), typical 90-110
Achievement	•GPA Grades 8 & 11
Underachievement	•Measured: residuals (achievement - expected performance) *(for Grades 8 & 11)* •Perceived: student & teacher reports *(measured in 8th grade)*
SES-indicators	•Low parental education, school allowance *SES risk = 1 if either indicator is present*
Mediators	•Contextual: Parenting Style, Parent expectations, Academic Home climate, Teacher expectations *(measured in 8th grade)* •Individual: Academic Self-concept, Entity mindset, Amotivation, NFC *(measured in 8th grade)*

Magez et al., 2015; Gagné 2004; Lau & Chan, 2001; Snyder & Adelson, 2017; Marsh, 1990; Dweck, 1995; Legault et al., 2006; Preckel & Strobel, 2011; Pommerantz et al., 2014; Grolnick & Wellborn, 1988.

Measures

7TH GRADE

Covat IQ-test
SES-data

8TH GRADE

Fall
Academic Self-concept
Entity mindset
Amotivation
NFC
Parenting Style
Parent expectations
Academic Home climate
Teacher expectations

MEDIATORS

Spring
GPA Grade 8
Measured UA G8
Perceived UA Self
Perceived UA teacher

OUTCOMES

11TH GRADE

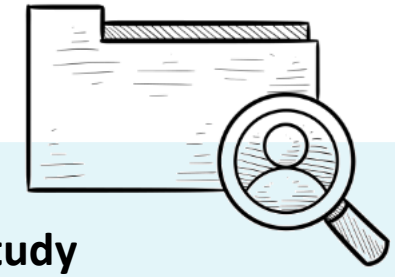
Spring
GPA Grade 11
Measured UA G11

OUTCOMES

Sample

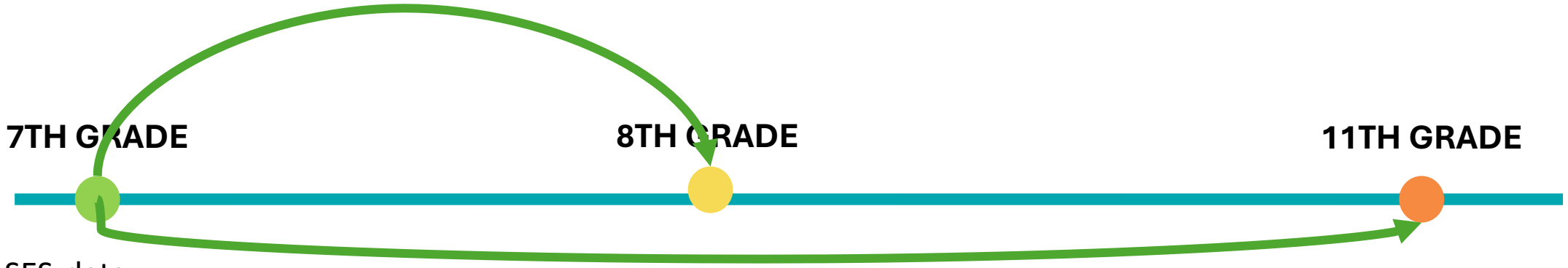


Total sample
Talent-study (fall 2017-spring 2023)
Grades 7 – 12
3,409 students



Sample for this study
2360 students
19,9% high-ability students
49% female
27 schools

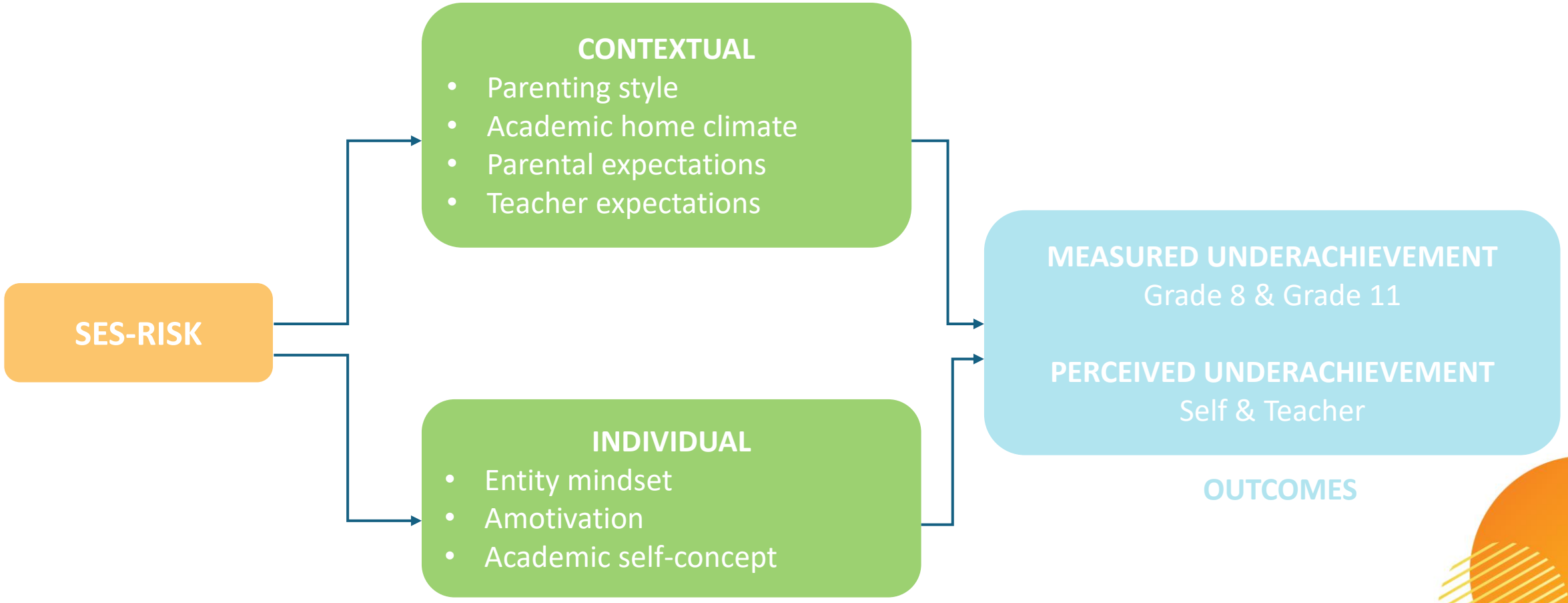
Analysis: Multilevel Regression Models



+ moderation by cognitive ability group

Analysis: Structural Equation Models (SEM)

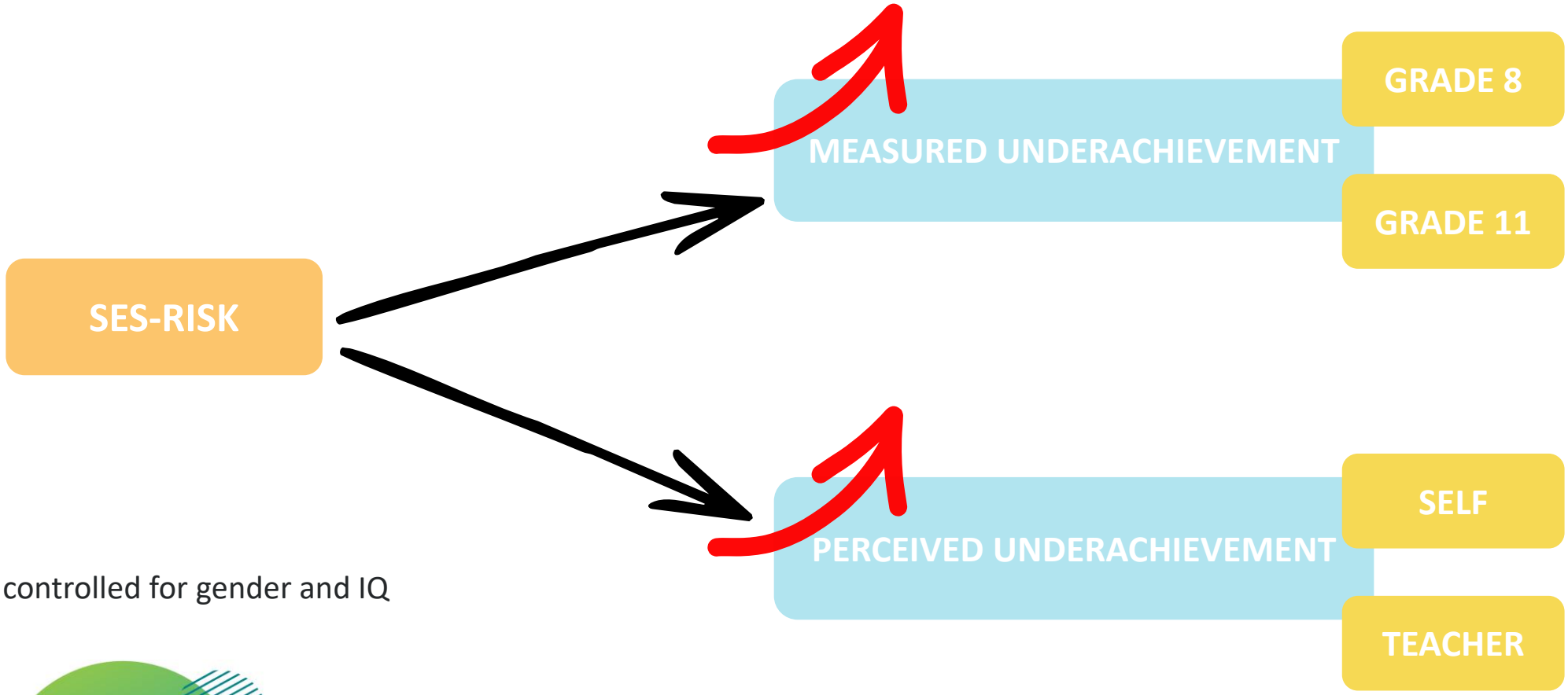
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+ moderation by cognitive ability group

Results

- To what extent does lower SES contribute to underachievement, considering both short-term and long-term effects across multiple academic years?

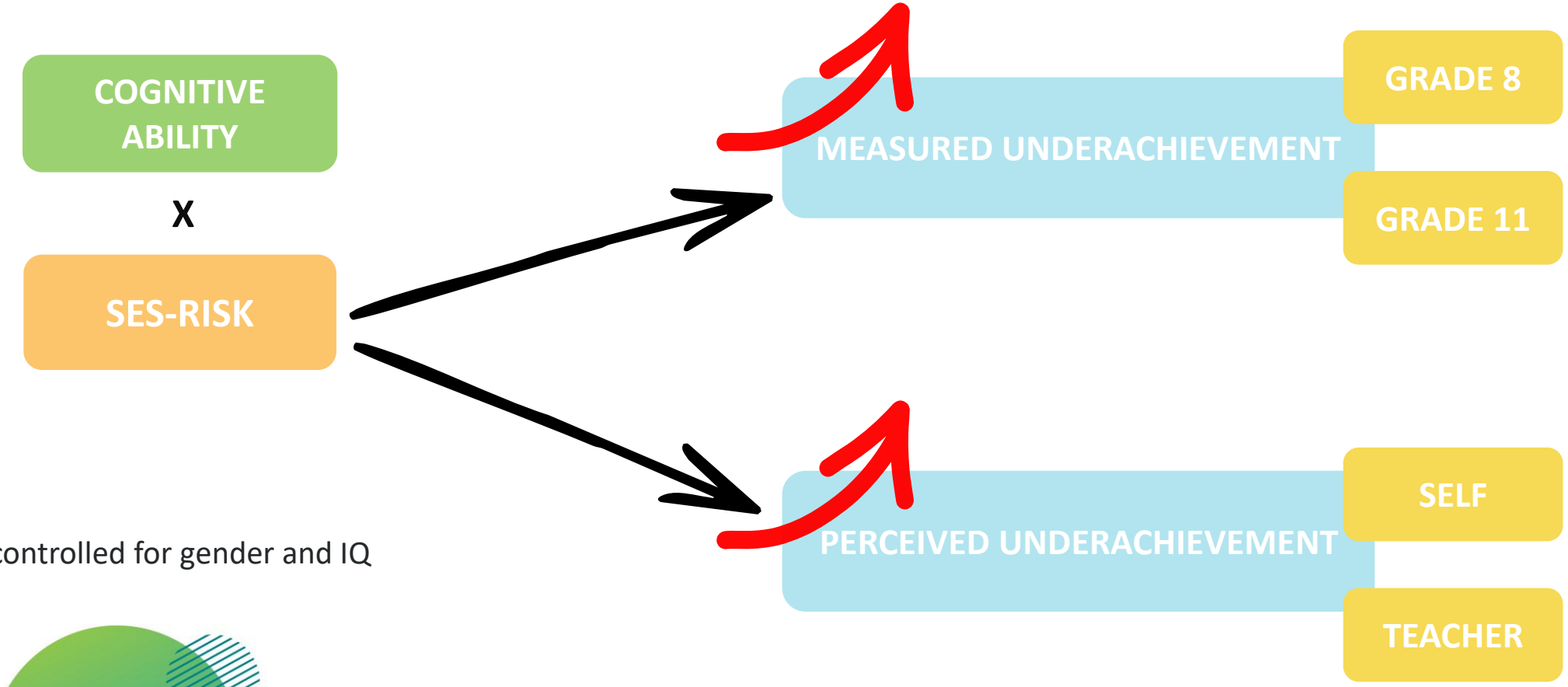


controlled for gender and IQ

Results

- To what extent does lower SES contribute to underachievement, considering both short-term and long-term effects across multiple academic years?

  + Similar for HA and typical?



controlled for gender and IQ

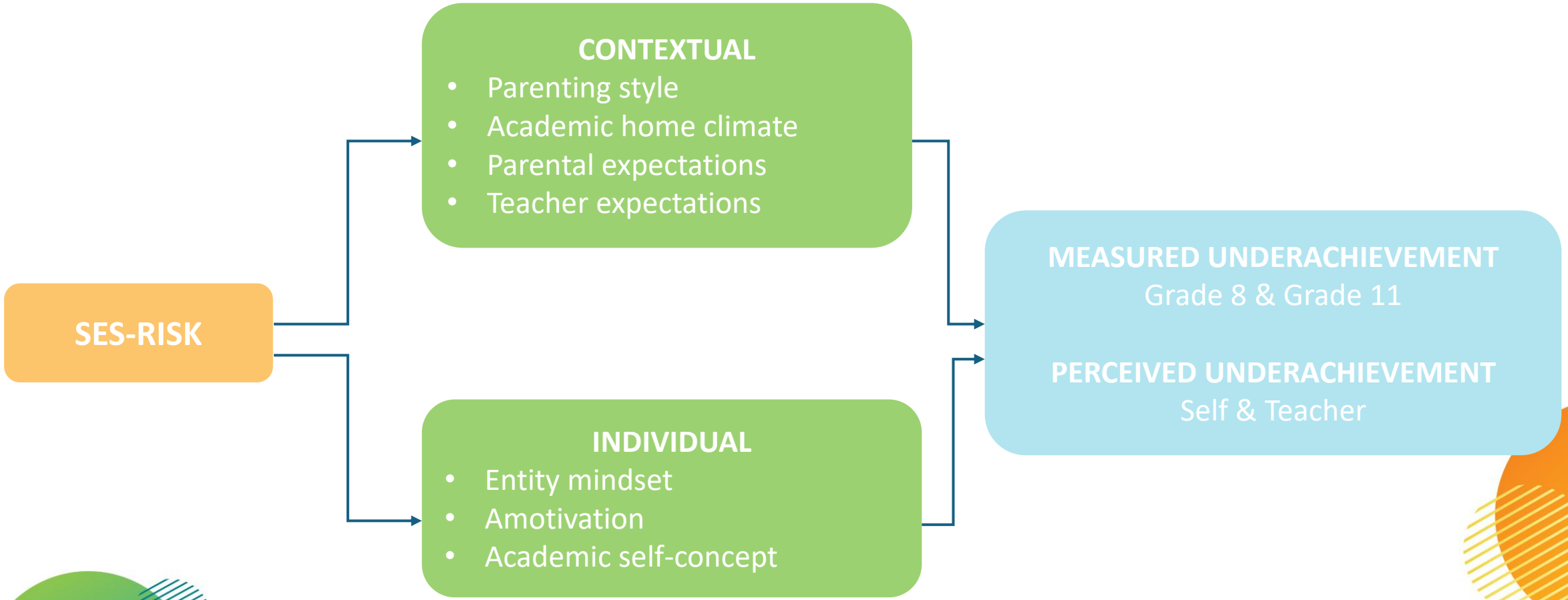
Summary

SES-risk predicted poorer academic outcomes across times

No moderation by cognitive ability

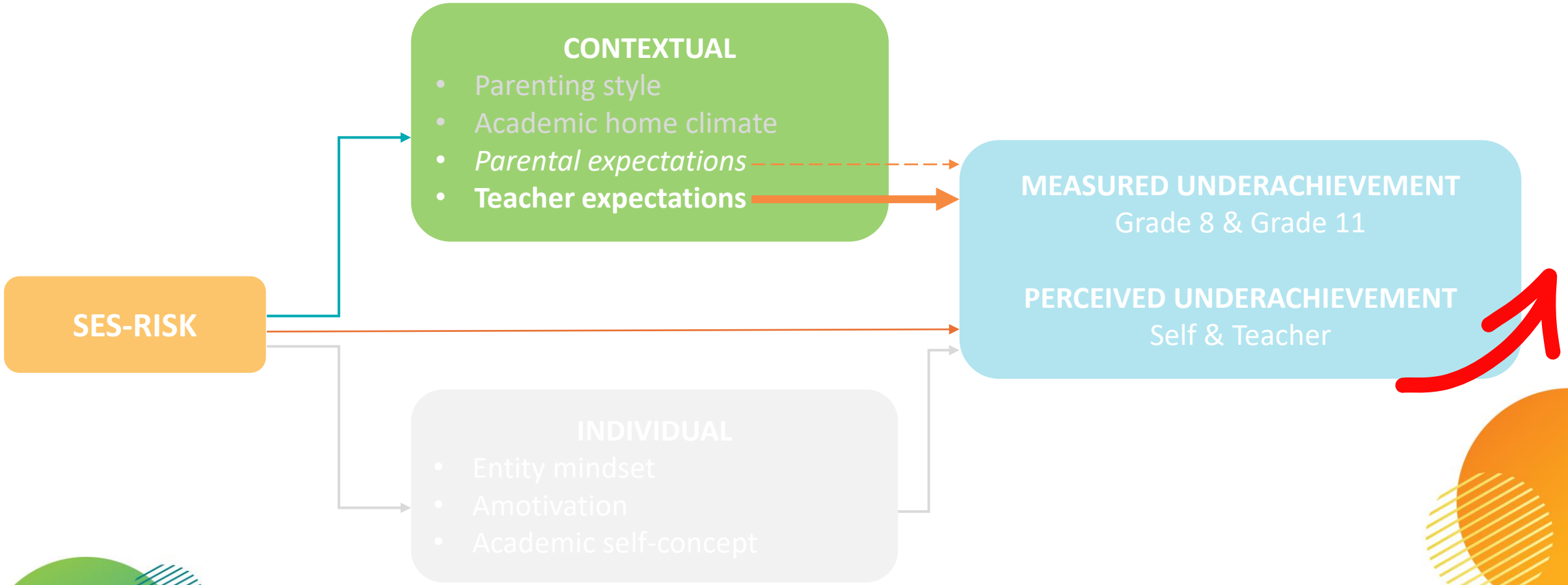
Results

- Which factors—*such as amotivation, mindset, self-concept, parenting, NFC, teacher expectations*—mediate this relationship ?



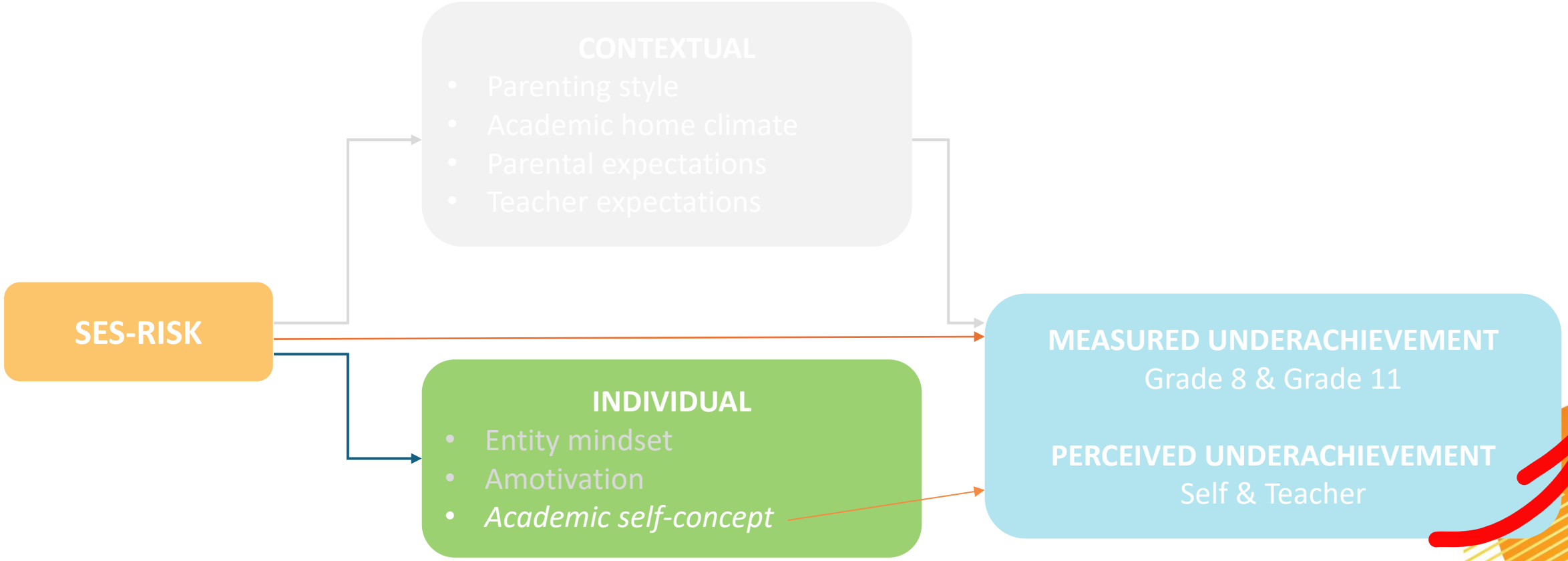
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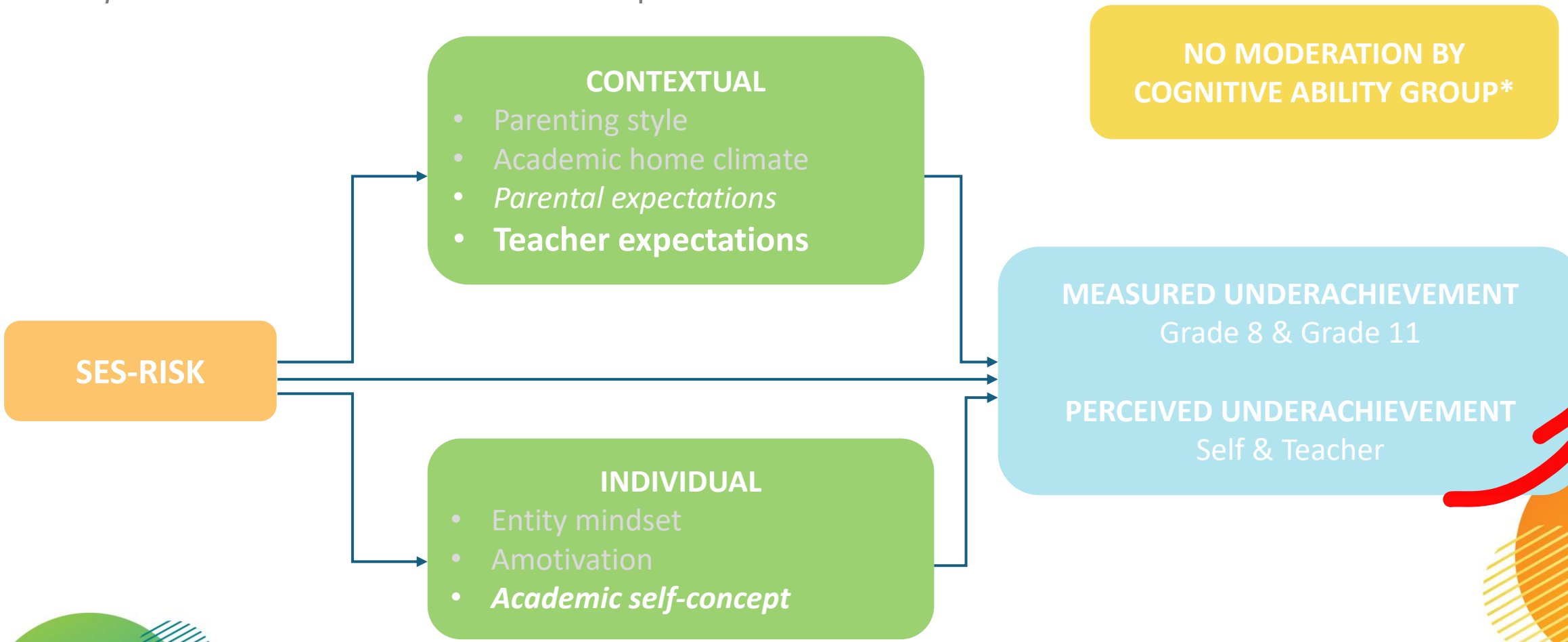
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Summary

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Take-away



TEACHERS' EXPECTATIONS MATTER



SES-RISK PERSISTS



ABILITY DOES NOT ELIMINATE RISK

Limitations and next steps

- Observational evidence; associations and indirect pathways do not establish causal effects
- Model refinement
  - Final models showed good fit, but subtle path differences for the high-ability group need further checking.
  - Refine multi-group comparisons and examine whether additional mechanisms are needed for the high-ability subgroup.

Thank you!

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Questions?
Suggestions?

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