

Welcome to Issue #1!

Welcome to the first full edition of the LASSIE Newsletter, the official communication channel of ESERA Special Interest Group 11: Large-Scale Studies in Science Education.

LASSIE provides a platform for researchers who develop, administer, use, analyse, critique, and extend large-scale studies in science education. Its scope encompasses diverse theoretical perspectives, methodological approaches, and data sources that together deepen understanding of science teaching and learning across education systems and contexts.

September is a significant month for our field. The OECD releases the PISA 2025 results on 8 September, with science literacy at the centre of the cycle. Ten days later, on 18 September, LASSIE holds its launch webinar. You will find details on both inside, along with other important information.

Every section depends on what you send us: opinions, questions, events, milestones, publications, and resources. Nothing here is editorial-only, and self-nominations are always welcome.

In this issue

01	Opinion	<i>A space for sharing ideas, perspectives, and reflections</i>
02	Q&A	<i>Community questions on theory, methods, and research practice</i>
03	General News	<i>Reports, resources, funding opportunities, and other field updates</i>
04	Events	<i>Upcoming conferences, webinars, workshops, calls, and SIG activities</i>
05	Early-Career Spotlight	<i>Thesis defences, postdoc work, and academic milestones</i>
06	Publications	<i>Latest publications on large-scale studies in science education</i>

01 OPINION

Why PISA 2025 Results Matter

Matheus Monteiro Nascimento and Nani Teig

On 8 September 2026, the OECD will release the results of PISA 2025, a cycle that places science literacy at its centre for the first time since 2015. For the large-scale science education research community, this is a landmark moment. And yet, as with every major PISA release, it arrives accompanied by significant academic debate, this time, centred on one of the framework's most ambitious innovations: the incorporation of science identity (SI) as a core dimension of scientific literacy.

Critics have raised legitimate and substantive concerns. García-Carmona and Toma (2026), in a recent position paper in *Science Education*, argue that the PISA 2025 Science Framework conflates intrinsic features of SI with related but distinct constructs — including science capital, attitudes toward science, self-efficacy, and environmental awareness — producing what they describe as a conceptually diluted “catch-all” construct. Their analysis is careful and deserves serious attention. The boundaries

between SI and attitudes toward science have long been contested in the literature (Hallajow, 2018; Vincent-Ruz & Schunn, 2018), and the concern that PISA 2025 may be relabelling established measures rather than introducing genuine conceptual innovation is not unfounded.

Those concerns, however, are a reason to examine the results closely rather than to dismiss them. Three features make PISA 2025 especially important for our community:

The scale of PISA is unparalleled. No other study collects comparable data from hundreds of thousands of 15-year-olds across more than 80 countries within a single, standardised design. Whatever one thinks of the SI conceptualisation, the data generated will allow researchers to examine relationships between affective dimensions of science engagement and achievement at a scale and diversity of context that no individual research team could produce.

Policy influence demands scrutiny. PISA shapes policy, and that is precisely why the framework deserves scrutiny rather than deference. Despite well-documented critiques concerning governance by numbers (Grek, 2009), the OECD's expanded role (Sellar & Lingard, 2014), and the narrowing science education (Sjøberg, 2015), PISA findings penetrate national reforms (Li et al., 2025). This influence cuts both ways. If PISA travels into ministries with such force, then what enters its framework matters more, not less. Including SI and environmental agency signals that science literacy is more than cognitive competence. Whether this translates into genuine attention to equity or just more indicator-chasing depends on whether we engage the data critically or leave interpretation to others.

Imperfect frameworks can still advance research. The measurement of attitudes toward science in previous PISA cycles was itself contested (Osborne et al., 2003), yet it generated a rich body of comparative findings that shaped the field for twenty years. Secondary analyses of PISA 2025 data will allow researchers to test, across countries, whether science identity can be empirically distinguished from attitudes toward science, self-efficacy, and related constructs.

The results released on 8 September will offer new evidence, generated through a framework that is still evolving, about a genuinely complex construct. They will also be one of the most influential science education datasets of this decade. Our task as a community is not to wait for the perfect instrument before engaging, but to read the results critically, test the framework's limits, and use the evidence to advance both research and practice. We invite the LASSIE community to take part in this work and in the debate that must accompany it.

References

- García-Carmona, A., & Toma, R. B. (2026). From attitudes to science identity: A critique of the science identity construct in the PISA 2025 science framework. *Science Education*, 1–13. Advance online publication. <https://doi.org/10.1002/scs.70091>
- Grek, S. (2009). Governing by numbers: The PISA 'effect' in Europe. *Journal of Education Policy*, 24(1), 23–37. <https://doi.org/10.1080/02680930802412669>
- Hallajow, N. (2018). Identity and attitude: Eternal conflict or harmonious coexistence. *Journal of Social Sciences*, 14(1), 43–54. <https://doi.org/10.3844/jssp.2018.43.54>
- Li, J., Xue, E., & Guo, S. (2025). The effects of PISA on global basic education reform: A systematic literature review. *Humanities and Social Sciences Communications*, 12(1), Article 106. <https://doi.org/10.1057/s41599-025-04403-z>
- Osborne, J., Simon, S., & Collins, S. (2003). Attitudes towards science: A review of the literature and its implications. *International Journal of Science Education*, 25(9), 1049–1079. <https://doi.org/10.1080/0950069032000032199>
- Sellar, S., & Lingard, B. (2014). The OECD and the expansion of PISA: New global modes of governance in education. *British Educational Research Journal*, 40(6), 917–936.
- Sjøberg, S. (2015). PISA and global educational governance — A critique of the project, its uses and implications. *Eurasia Journal of Mathematics, Science and Technology Education*, 11(1), 111–127. <https://doi.org/10.12973/eurasia.2015.1310a>

Vincent-Ruz, P., & Schunn, C. D. (2018). The nature of science identity and its role as the driver of student choices. *International Journal of STEM Education*, 5(1), Article 48.
<https://doi.org/10.1186/s40594-018-0140-5>

Have an opinion to share? Submit to the LASSIE contribution form.

02 Q&A

This section provides a forum for questions and discussions on theoretical and methodological issues in large-scale studies in science education. Topics may include conceptual frameworks, research design, analytical approaches, cross-cultural comparability, and interpretation of findings.

How it works: questions published in one issue are answered by the community in the next. Submit your questions — there are no trivial ones. Anonymous submissions are welcome.

To open the section, the editors have put forward two questions. **We invite responses of 150–300 words for publication in Issue #2.**

Q1 - Plausible values in practice

Achievement in TIMSS and PISA is reported as plausible values (PVs). The standard analytical practice is to estimate the model separately for each plausible value and then aggregate the results. Yet some published studies use only PVI or average the PVs in the analysis. Under what conditions do these shortcuts introduce consequential bias, and when—if ever—are they defensible?

Q2 - Measuring socioeconomic status comparably

Economic, Social and Cultural Status (ESCS), parents' highest occupational status, parental education, home educational resources, number of books at home — each captures different dimensions of socioeconomic background and may function differently across contexts. Which indicator(s) do you use for cross-national analyses on science outcomes, and why?

Submit your answers and your own questions to the LASSIE contribution form.

03 GENERAL NEWS

European Commission — Call for Evidence on the new Education Package

Public input is being gathered ahead of an Education Package due this November, covering basic skills (including science), a Teachers Agenda, and digital education infrastructure. Researchers are explicitly invited to contribute. Deadline: 8 September 2026.

<https://education.ec.europa.eu/whats-new/news/commission-launches-call-for-evidence-on-new-education-package>

IEA IRC 2027 — Call for submissions now open

Proposals are invited for individual papers, symposia, and posters for the 12th IEA International Research Conference (Bangkok, 23–25 June 2027). Deadline: 15 November 2026, 11:59 pm CET.

<https://www.iea.nl/news-events/news/iea-irc-2027-call-submissions-now-open>

IEA Research and Development Funds — Call No. 6

Thematically open call for proposals advancing the methods, tools, and implementation of IEA studies. Two funding tiers: up to €55,000 (tier 1) or €55,000–110,000 (tier 2).

Projects start no earlier than 1 February 2027. Deadline: 14 September 2026, 13:00 CEST

<https://www.iea.nl/news-events/news/iea-research-and-development-call-6-open>

Have news, a dataset, a call, or a resource to share? Submit to the LASSIE contribution form.

04 EVENTS

Launch of PISA 2025 Results — OECD Education and Skills Global Webinar

8 September 2026 | 09:30 CEST | Virtual (Paris)

BERA Annual Conference 2026

8–10 September 2026 | Manchester, England

IERI Autumn Academy 2026: Secondary Analysis of International Large-scale Assessment Databases

15–17 September 2026 | Hamburg, Germany

LASSIE Launch Webinar on PISA 2025

18 September 2026 | 14:30 CEST | Virtual (Oslo)

05 EARLY-CAREER SPOTLIGHT

Recent Doctoral Defences

1. Zahra Hasani Yourdshahi — University of Gothenburg, Department of Education and Special Education (IPS)
Does Teaching Quality Compensate for Educational Inequity in Swedish Science Classrooms?
Defended 12 June 2026, Kjell Härnqvistsalen, Pedagogen, Gothenburg
Data: Swedish TIMSS 2015, 2019, and 2023 | Methods: CFA, SEM, multilevel SEM, within-student between-subject fixed effects
2. Tina Renee Lewis — State University of New York at Buffalo, Department of Learning and Instruction
Race, Gender, and Socioeconomic Status: Examining Patterns of Perceived Science Teacher Support Among High School Students
Ph.D. awarded 2026
Data: High School Longitudinal Study of 2009 (HSLS:09), N = 17,344 ninth-graders | Methods: Descriptive and regression analyses with interaction terms

06 PUBLICATIONS



Volume 18 of the IEA Research for Education series: **Educating Pupils for Environmental Sustainability in Europe: Findings from TIMSS 2023 Data**

Editors: Dirk Hastedt, Paulína Koršňáková,
Branislav M. Randelović

<https://link.springer.com/book/10.1007/978-3-032-14725-7>

Addido, J., Burrows Borowczak, A. C., & Slater, T. F. (2026). Impact of conceptual understanding, teaching experience, and parental education on science achievement: TIMSS data analysis. *European Journal of Science and Mathematics Education*, 14(1), 28–46.
<https://doi.org/10.30935/scimath/17622>

- ALMamari, K. (2026). Parental education, home resources, gender, and academic achievement: A multilevel analysis of GCC and Asia-Pacific students in TIMSS 2023. *Large-Scale Assessments in Education*, 14(1), Article 13. <https://doi.org/10.1186/s40536-026-00279-w>
- Ardasheva, Y., Dai, S., & Kangas, S. E. N. (2026). Opportunity gap at the intersection of language, disability, and science. *Science Education*, 110(2), 400–417. <https://doi.org/10.1002/sce.70011>
- Cao, G., & Huo, G. (2026). Shadow education and student achievement: Myth or reality? Global evidence from TIMSS 2019. *Studies in Educational Evaluation*, 90, Article 101634. <https://doi.org/10.1016/j.stueduc.2026.101634>
- Chen, Z., Carrasco, D., & Sandoval-Hernandez, A. (2026). Profiles of teachers built on cognitive-activation teaching strategies and its effect on student's outcomes in TIMSS 2019. *Studies in Educational Evaluation*, 89, Article 101610. <https://doi.org/10.1016/j.stueduc.2026.101610>
- Cheng, Q., Zhou, X., Shu, L., & He, X. (2026). Effects of multicultural professional development and English learner percentage on STEM teachers' instructional quality: A path analysis of the mediating role of teacher self-efficacy in multicultural classrooms. *Teaching and Teacher Education*, 175, Article 105438. <https://doi.org/10.1016/j.tate.2026.105438>
- Guo, L. (2026). National context and STEM career expectations: Social comparison and gender differences across 72 economies. *Career Development Quarterly*. Advance online publication. <https://doi.org/10.1002/cdq.70031>
- Kahraman, N., Teig, N., & Ding, Y. (2026). Profiles of social and emotional skills in adolescents: The role of demographic backgrounds, school climate and academic achievement. *British Journal of Educational Psychology*, 00, 1–24. <https://doi.org/10.1111/bjep.70111>
- Lehre, A.-C. W. G., Veletić, J., & Kaarstein, H. (2026). Environmental values as predictors of environmentally responsible behaviors: Insights from Norwegian TIMSS 2023 results. *Large-Scale Assessments in Education*, 14(1), Article 29. <https://doi.org/10.1186/s40536-026-00301-1>
- Li, A. R. P., Liu, S.-Y., & Lin, J. J. H. (2026). The role of science attitudes, parental support, and teacher support in fostering students' resilience. *International Journal of Science Education*, 48(7), 1023–1045. <https://doi.org/10.1080/09500693.2024.2439085>
- Liou, P.-Y., Huang, S.-C., Myoung, E., & Chen, S. (2026). Does motivation towards science mediate the relationship between parental support and adolescent science achievement? A comparison of two countries. *International Journal of Educational Research*, 136, Article 102903. <https://doi.org/10.1016/j.ijer.2025.102903>
- Marôco, J., Harju-Lukkainen, H., & Rautopuro, J. (2026). Worldwide predictors of science literacy in lower-secondary students: A TIMSS 2019 analysis. *International Journal of Science Education*, 48(4), 580–598. <https://doi.org/10.1080/09500693.2024.2394239>
- McLure, F. (2026). Exploring the impact of STEM experiences, parental education, family support, and stereotypes on students' STEM identity: A comparative study by gender and EAL status. *Research in Science Education*. Advance online publication. <https://doi.org/10.1007/s11165-026-10339-4>
- Neubauer-Hametner, D., Wendt, H., & Kasper, D. (2026). Profiles of inquiry-based instructional strategies in Austrian primary school science education. *Research in Science & Technological Education*. Advance online publication. <https://doi.org/10.1080/02635143.2026.2657036>
- Örnek, F., & Afari, E. (2026). Evaluating the effects of ICT engagement on science and mathematics achievement: Evidence from PISA 2022 using structural equation modeling. *Studies in Educational Evaluation*, 88, Article 101583. <https://doi.org/10.1016/j.stueduc.2026.101583>
- Pietsch, M., Eryilmaz, N., Strietholt, R., Scherer, R., Monteiro Nascimento, M., Abels, S., & Fischer, D. (2026). Endangering just sustainabilities: An IPD meta-analysis on the social stratification of youth environmental attitudes in 65 countries. *Journal of Environmental Psychology*, 103085. <https://doi.org/10.1016/j.jenvp.2026.103085>

- Pongsophon, P. (2026a). Contrastive modelling of self-regulated inquiry behaviours across nations: Evidence from TIMSS 2023 Earth Science. *British Educational Research Journal*, 52(3), 1965–1986. <https://doi.org/10.1002/berj.70095>
- Pongsophon, P. (2026b). Multilevel predictors of physics achievement: A cross-national analysis using TIMSS Advanced 2015 data. *Research in Science and Technological Education*, 44(2), 887–905. <https://doi.org/10.1080/02635143.2025.2545372>
- Rutkowski, D., Rutkowski, L. & Hastedt, D. Student achievement and self-confidence in mathematics and science: evidence from TIMSS 2023. *Large-scale Assessment in Education* 14, 33 (2026). <https://doi.org/10.1186/s40536-026-00304-y>
- Smith, T. J., & Lu, Y.-Y. (2026). Predicting math and science literacy from school digital device policies and students' sense of school belonging. *International Journal of Science and Mathematics Education*, 24(3), Article 25. <https://doi.org/10.1007/s10763-026-10651-5>
- Teig, N., Ye, W., Caro, D., & April, D. (2026). Academic resilience of disadvantaged students in 58 countries: The role of early home learning activities and instructional clarity. *Studies in Educational Evaluation*, 89, Article 101604. <https://doi.org/10.1016/j.stueduc.2026.101604>
- Truong, N., Teig, N., Danielsson, A., & Anderhag, P. (2026). Academic resilience in science: An examination of high achievers from low socioeconomic backgrounds. *LUMAT*, 14(2), 1–25. <https://doi.org/10.31129/LUMAT.14.3.3105>
- Xiao, Y., & Zheng, L. (2026). Evaluating the effects of digital devices on mathematics and science achievement in East Asian elementary schools: Evidence from TIMSS 2023. *Research in Science & Technological Education*. Advance online publication. <https://doi.org/10.1080/02635143.2026.2666567>
- Yu, C., & Liu, X. (2026). Students' STEM career expectations: Effects of science and mathematics abilities and attitudes relative to language abilities and attitudes. *International Journal of Science Education*. Advance online publication. <https://doi.org/10.1080/09500693.2026.2655798>
- Zamir, S., Abbasi, B. N., & Wang, Z. (2026). Assessing the effects of educational policies, teachers' gender-sensitivity and technological integration on STEM gender gaps. *European Journal of Education*, 61(1), Article e70370. <https://doi.org/10.1111/ejed.70370>
- Zhang, A. J.-J., Zheng, H., Fang, W., & Inoue, T. (2026). Dimensionalities of home science environment and family science capital and their relationship to science achievement: Evidence from a large-scale study in Chinese adolescents. *Developmental Psychology*. Advance online publication. <https://doi.org/10.1037/dev0002235>
- Zheng, L., & Xiao, Y. (2026). Supervised or autonomous? Exploring the effect of instructional strategies on elementary school students' mathematics and science achievement. *Teaching and Teacher Education*, 170, Article 105315. <https://doi.org/10.1016/j.tate.2025.105315>

How to Contribute

LASSIE is a community newsletter; it only comes alive with your contributions.

[LASSIE Newsletter Contribution Form](#)

For questions, please contact the editors:

Nani Teig: nani.teig@ils.uio.no

Matheus M. Nascimento: matheus.monteiro_nascimento@leuphana.de