Professorship of Health Literacy
Department of Health and Sport Sciences
TUM School of Medicine and Health
Technical University of Munich

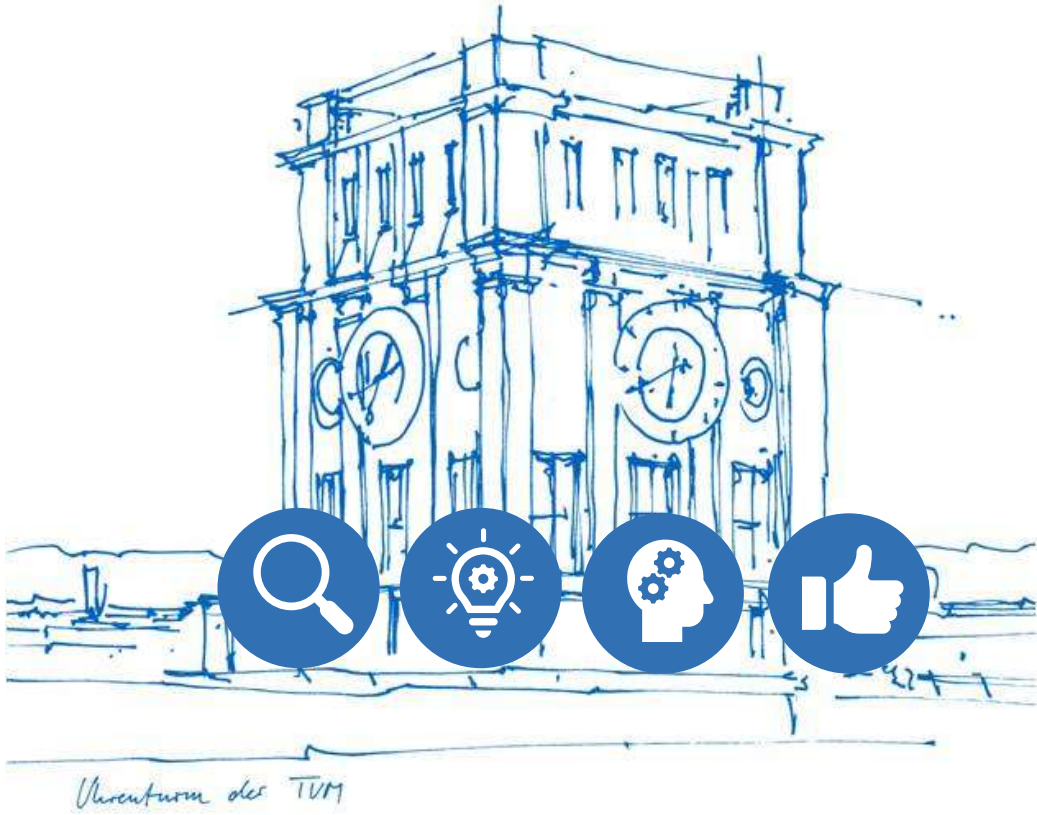
I-HLA International Health Literacy Association

WHO Collaborating Centre for Health Literacy

12th AHLA
AHLA INTERNATIONAL HEALTH LITERACY CONFERENCE
Health Literacy and SDGs
Chiang Mai, Thailand 2026



Health literacy research in context of schools



40 ANNIVERSARY 2026
OTTAWA CHARTER
Health Promotion International

Orkan Okan
Assistant Professorship of Health Literacy
WHO Collaborating Centre for Health Literacy
Department of Health and Sport Sciences
TUM School of Medicine and Health
Technical University of Munich

03 November 2026

TUM and WHO CC health literacy research team



Cara Krudewig
M. Sc.



Marlene Meyer
M. Sc.



Prof. Dr. Orkan Okan
Professor and
Director WHO CC HL



Lisa Stauch
M. Sc.



Monika Singer
M. Sc.



Eva Winkler von
Mohrenfels, M. A.



Mohanad Alyousefy
M. Sc.



Alena Bex
M. Sc.



Moritz Hartstang
M. Sc.



Dr. Alexandra Fretian
M. Sc. (alumni)



Dr. Denise Renninger
M. Sc. (alumni)



Dr. Tessa Schulenkorf
M. Ed. (alumni)



Sandra Jacobsen
M. Ed. (alumni)



Dr. Torsten Bollweg
M. Ed (alumni)



Dr. Sandra Kirchhoff
M. Ed. (alumni)



Sophie Rauschmayr
M. Sc. (alumni)



Daniela Märkl
Secretary



Student assistants https://www.hs.mh.tum.de/healthliteracy/who-kollaborationszentrum/



Celestine Fröhlich, Katharina Übel, Theresa Hunfeld, Clara Busch, Linus Trautmann

Student assistants (alumni)



Tanja Eibel



Kristina Rose



Lucy Gaugler



Jette Böving



Clara Schidelko



Sophia Seitz



Valentina Rehm

Projects and research focus

Development of theories, concepts and methodologies

Development, implementation and evaluation of interventions

Surveys, cross-country studies, international studies and policy research

New projects and collaborations 2026

1. ***Collective Well-being: An Organizational Approach to the City of Munich`s Pre-School Administration*** *(funded by Robert Bosch Foundation)*
2. ***NextGenAI Health Literacy*** *(Australia, NHMRC Synergy Grant with Health Literacy Lab Sydney University, prof Kirsten McCaffery)*
3. ***Development and Validation of a Computerized Adaptive Test for Measuring Mental Health Literacy in Adolescents*** *(Health and Medical Research Fund (HMRF) Hong Kong with Chinese University of Hong Kong, prof Eliza Wong)*

Funding agencies and sponsors

WHO Collaborating Centre for Health Literacy



TUM School of Medicine and Health

CC Head: Prof Okan (Health Literacy Unit, Department of Health and Sport Sciences)
Runtime 12/2023 until 12/2027



World Health Organization Ref-No DEU-147

WHO HQ Liaisons: Dr. Faten Ben Abdelaziz
WHO Department of Health Promotion, Geneva
WHO Euro Liaison: Siff Nielsen, Copenhagen
WHO Behavioural and Cultural Insights Unit



Research objectives

Research goal 1

Development of a global population-level health literacy survey and country monitoring

Research goal 2

Development of a global school-level and child health literacy survey and country monitoring

Research goal 3

Development of a framework of health literacy competency standards to navigate emergencies

Research goal 4

Review of evidence and technical input to inform the development of a global agenda on health literacy

Strategic objectives

Further developing interdisciplinary health literacy research in the fields of health promotion, disease prevention and health care

Developing the WHO CC HL into a global health literacy hub in the areas of research, practice, and policy

Facilitating and supporting early career researchers, cooperations, collaborations, networking, policy, advocacy, and capacity building

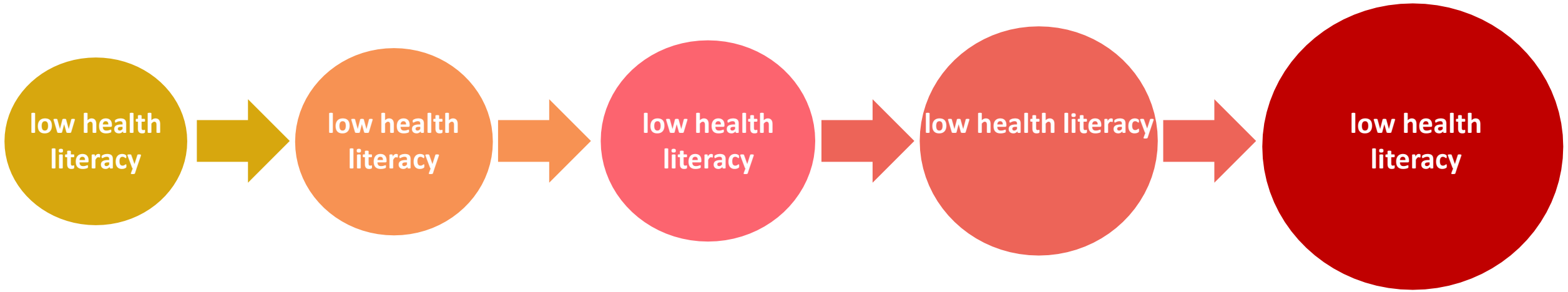
Partners

Global Health & Education · CHAMPION Center for Health Promotion and Prevention in Childhood and Adolescence · IHLA International Health Literacy Association · EUPHA · FRESH · Collaborating Centres · ALLIANZ · GLOBHL Global Health Literacy Research Network · NATIONALER AKTIONSPLAN GESUNDHEITSKOMPETENZ · EuroHealthNet · EOHLI Global Health Literacy Academy

hs.mh.tum.de/en/healthliteracy/who-collaborating-centre-for-health-literacy/ @whocc-hl.bsky.social

Health literacy over time in Germany

HLS-EU 2012	HLS-Ger 2014	HLS-Ger2 2020	WHO CC HL @ TUM 2024	RKI Panel 2026
47,3%	**54,0 %**	**58,8%**	**75,8%**	**81,1%**
More than half of the population has	More than half of the population has	More than half of the population has	More than three quarters of the population have	8 out 10 of the population have



HLS-EU Consortium 2012	Schaeffer et al 2018	Schaeffer et al 2021	Kolpatzik et al 2024	Jordan et al 2026

Mental health literacy in Germany

Project: Mental health literacy in Germany
Runtime: 01/2024-12/2025
Team TUM: Alexandra Fretian, Torsten Bollweg, Orkan Okan
Funded by: Wort & Bild Verlag

Mental Health Literacy
Population Survey 2024 Germany

WHO Collaborating Centre for Health Literacy


Alena Bex
M. Sc.

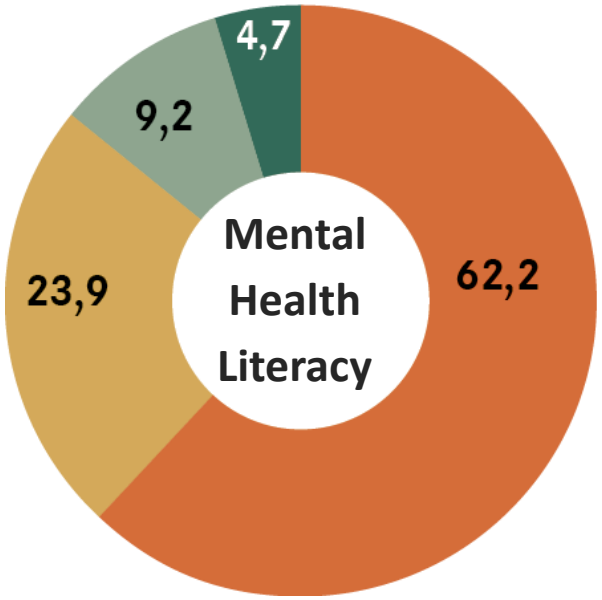

Monika Singer
M. Sc.


Marlene Meyer
M. Sc.

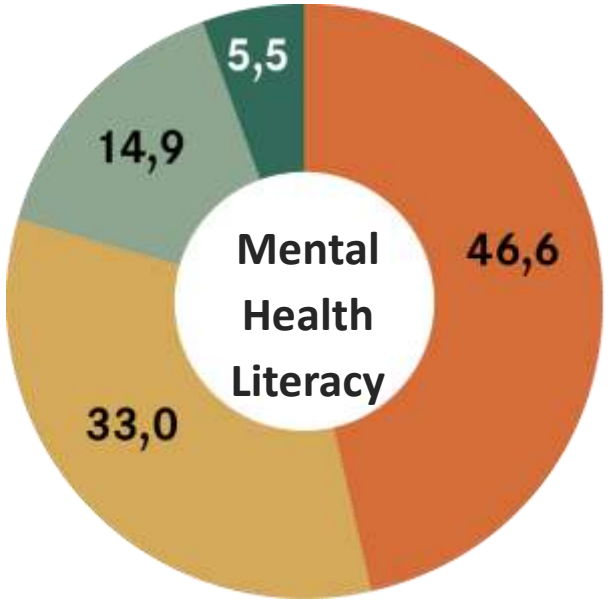

Dr. Alexandra Fretian
M. Sc.


Dr. Torsten Bollweg
M. Ed.

Adult population N=2000



Trainees N=500



Results in %

adequate
inadequate
excellent
problematic

Mental health literacy is low in the general population **(86.1%)** and among trainees (79.6%).

Across all social groups and variables.

Biggest difficulties:

- To appraise mental health information.
- To cope with stress in everyday life.
- To find offers and services for mental health promotion, prevention, and care.

Extremely high need for support re mental health.



Health literacy in schools?

Country health literacy curricula

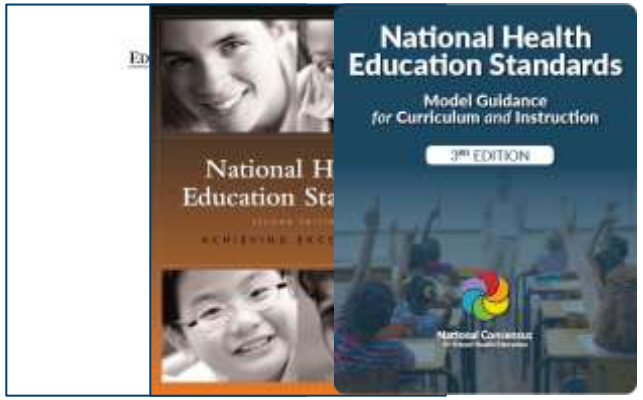




Finland



Australia



United States



Portugal

First publications on school health literacy

How to address health literacy at school?



Schools, health literacy and public health: possibilities and challenges

LAWRENCE ST LEGER

Leger 2001



A Model for Mapping Linkages Between Health and Education Agencies to Improve School Health

Lawrence St. Leger, Don Nutbeam

Leger and Nutbeam 2000



Health-Promoting Schools

Evidence for a Holistic Approach to Promoting Health and Improving Health Literacy

Lee 2009

Linking health literacy to existing educational concepts and topics

These authors suggested to

- include health literacy in **health-promoting schools**
- link with health and life skills education and/or **skills-based health education**

Child / adolescent health literacy papers

Abrams 2009; Allensworth et al 2010; Borzekowski 2009; Brown et al 2006; Benham-Deal 2010; Chisolm & Buchanan 2007; Marx et al 2007; Davis et al 2006; Hubbard & Rainey 2007; Manganello 2008; (…)

Health literacy evidence: children / adolescents

Low child / adolescent health literacy is associated with

- less **health knowledge**
- more often **unhealthier behaviours** (e. g. smoking, alcohol, less phys. activity, media use, sleeping)
- problems with **health communication**
- problems in managing **health information**
- problematic **social media use**
- problems in **critical health thinking**
- poorer **academic aspiration and performance** poorer **self-esteem**
- poorer **physical health outcomes**
- poorer **mental health outcomes**



Okan, Bauer, Levin-Zamir, Pinheiro, and Sørensen 2019



Saboga Nunes, Bittlingmayer, Okan, Sahrai 2020



Bollweg, Bröder Pinheiro 2019



Bittlingmayer, Islertas, Sahrai, Harsch, Bertschi, Sahrai 2020



Rathmann, Dadaczynski, Okan, Messer 2021



Schaeffer & Pelikan 2017



Mayer 2018



Okan, Paakkari & Dadaczynski 2020



Sørensen & Okan 2020



Okan, Paakkari, Aagaard-Hansen, Weber & Barnekow 2021



Okan, Dadaczynski, Koller, Braun & Hurrelmann 2021

Health literacy evidence: schools and students

Co-funded by the European Union's Health Programme (2014-2020)



Okan, Paakkari & Dadaczynski 2020

Health literacy is a determinant of health behaviour

Personal, social, educational & cultural determinants of health
- Family affluence and cultural background
- Educational status (parents and child)
- Cognitive abilities and learning skills

Review and evidence synthesis health literacy in schools

Health Literacy
- Personal Health Literacy
- Organizational Health Literacy

Health-related attitudes & behaviour
- Self-esteem
- Physical activity & exercise
- Diet & nutrition
- Alcohol & drug use
- Sexual behaviour
- Sleeping behaviour
- Healthcare seeking
- Smoking …

Health conditions
- Overweight & obesity
- Health complaints
- Perceived health
- Wellbeing
- Quality of life
- Mental health problems & disorders …

School & educational outcomes

Short and mid-term:
- School grades
- Class repetition
- School attendance

Long-term:
- Educational status
- Early school-leaving

Education is a determinant of all things health

HeLit-Schools Health Literate School Organization

HeLit-Preschools Health-literate Health Region^{plus} Neu-Ulm

Digital health literacy in schools

Representative school study



Lisa Stauch
M. Sc.



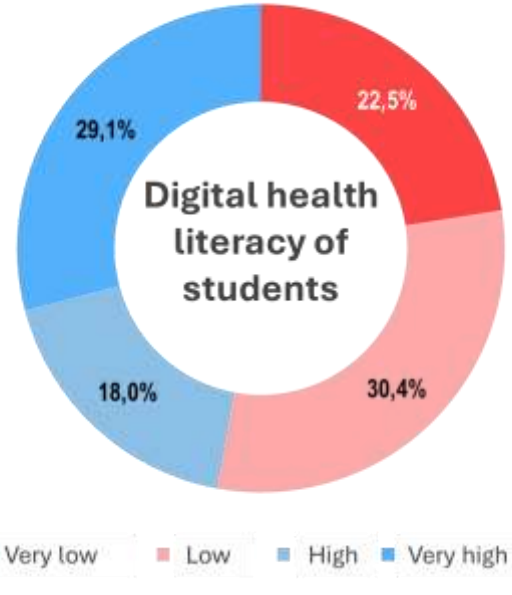




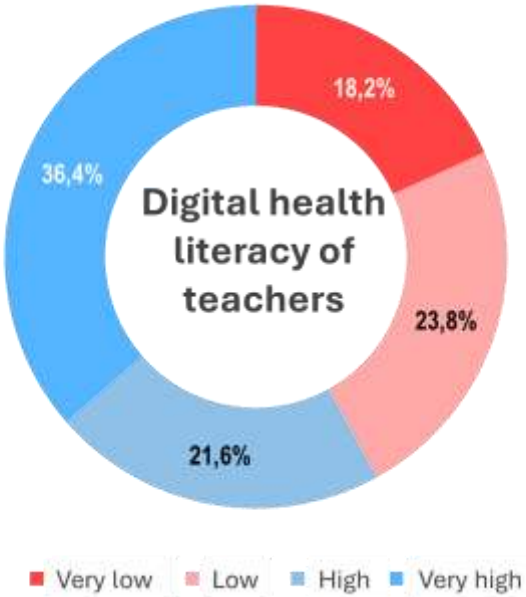












*„**52,9%** of all schoolchildren grades 5-10 across all German schools have low levels of digital health literacy“*

Greatest challenges are related to

- **Protecting privacy while navigating the internet**
- **Navigation skills for seeking information & services**
- **Evaluating reliability of online health information**

*„**42%** of all teachers have low levels of digital health literacy“*

Greatest challenges are related to

- **Protecting privacy while navigating the internet**
- **Determining relevance for everyday life**
- **Evaluating reliability of online health information**

Digital health literacy in schools

Representative school study







Lisa Stauch
M. Sc.

We don`t learn it in schools		We don`t teach t in schools
49.4%	Evaluating quality	69.3%
52.4%	Determining relevance	73.5%
50.8%	Information seeking	63.5%
49.6%	Data protection	61.5%
49.7%	Navigation skills	57.4%
55.1%	Developing own content	80.2%
49.4%	Operational skills	29.6%

Digital health literacy in schools

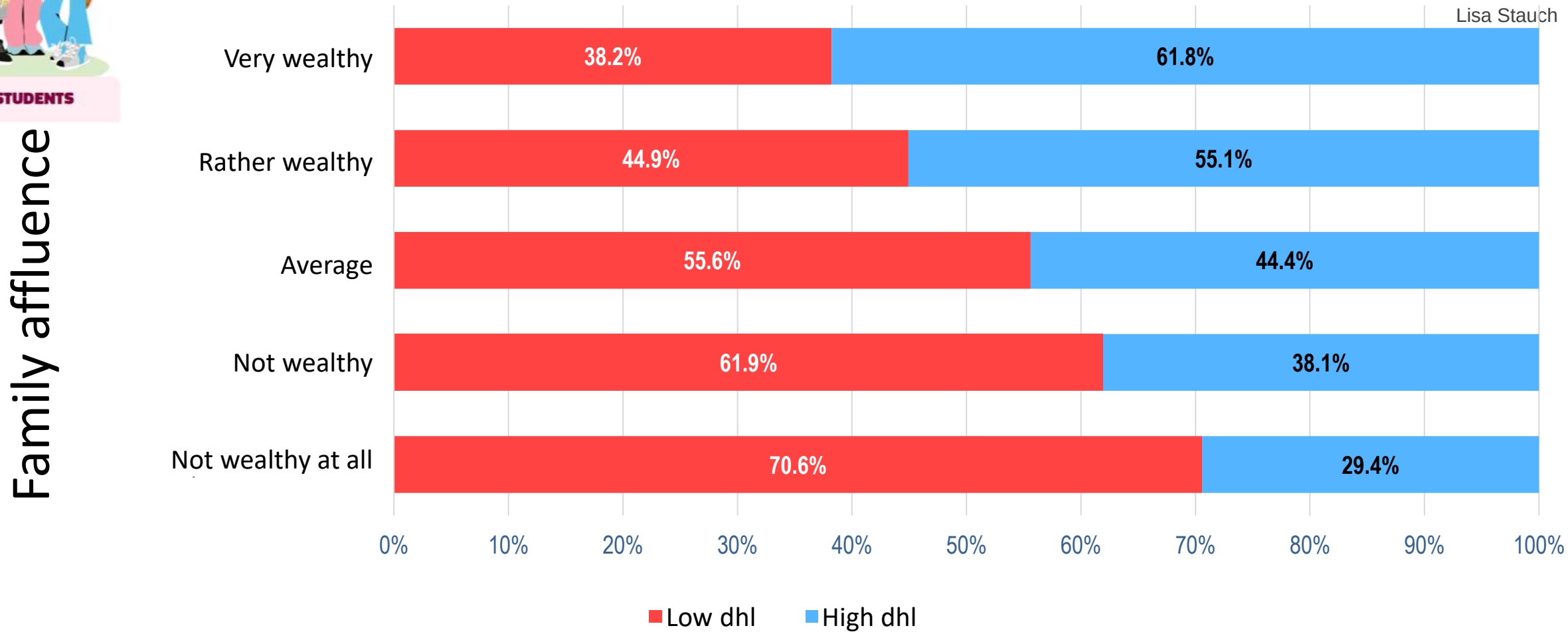
Representative school study



Social gradient in low digital health literacy (dhl)



Lisa Stauch



Digital health literacy in schools international

Project: Durchblickt I & II – Survey and evaluation of a school program
Runtime: 12/2022-12/2026 (continuation in 2026/2027)
Partner: see below
Team TUM: Lisa Stauch, Marlene Meyer, Orkan Okan
Funded by: Barmer, Prevention Law § 21K

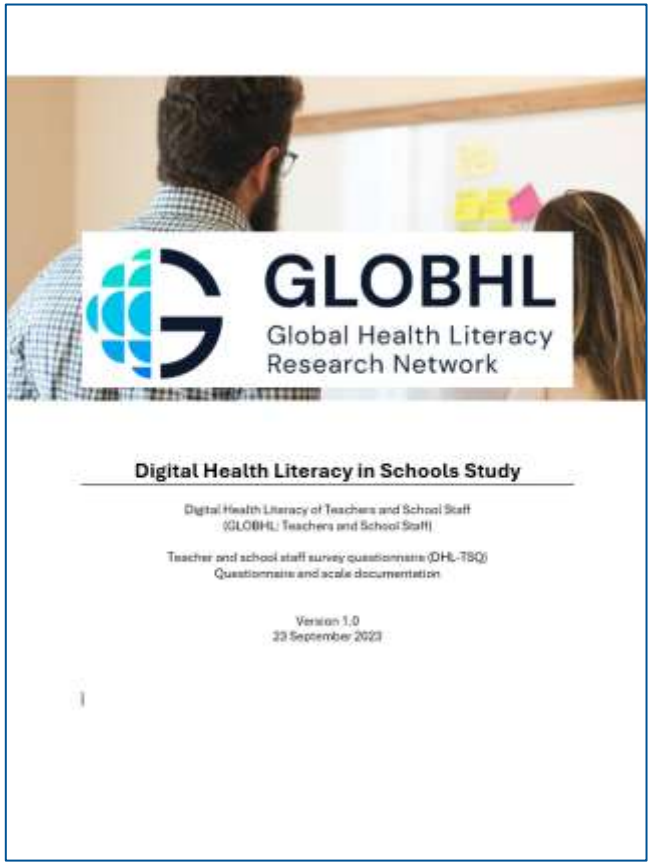
BARMER Durchbl!ckt WHO Collaborating Centre for Health Literacy

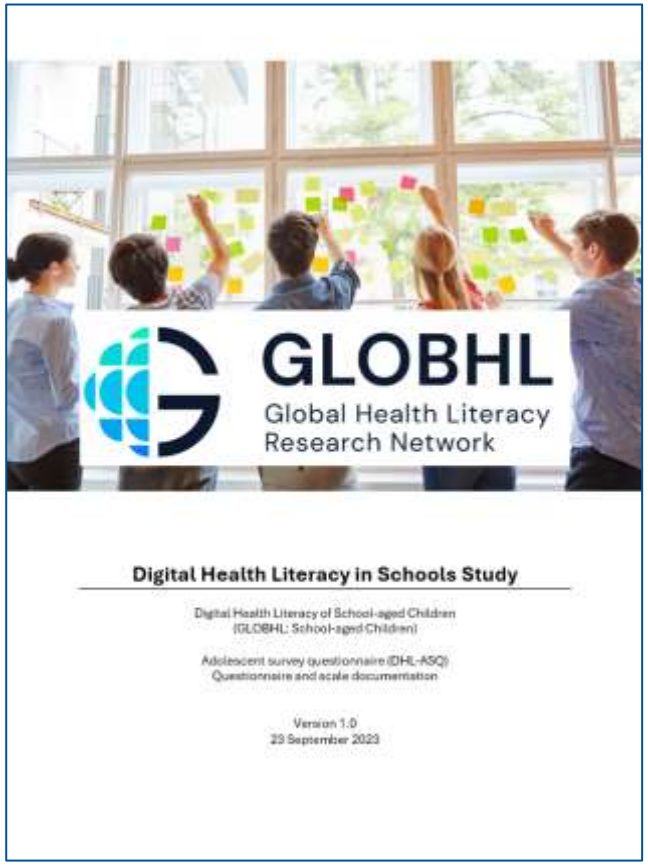


Lisa Stauch
M. Sc.



Marlene Meyer
M. Sc.





GLOBHL
Global Health Literacy
Research Network

Internationalization of the Durchblickt!
Digital Health Literacy in Schools Study



Creating supportive environments: ecosystem education and health as a setting

4 School environment-level

3 School-level

2 Staff-level

1 Student-level

Utilizing the school ecosystem to promote education through health and health through education



Kirchhoff et al 2022



Kirchhoff et al 2025



Okan & Winkler 2026

Health literacy is embedded into the setting and therefore it is relational

Personal health literacy and action level **(agency)**: focus on the individual and **behaviour change**



Behavioral level
Personal knowledge, abilities &competencies

Health Literacy

Environmental level
Systemic demands and complexities

Organisational health literacy and systems level **(structure)**: focus on organizations and **social change**



Based on:
Parker 2009 / Parker und Ratzan 2010

Personal health literacy *is linked to literacy and entails people's knowledge, motivation and competences to access, understand, appraise, and apply health information to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course*
Sørensen et al 2012

Organisational health literacy *is the degree to which organizations equitably enable individuals to find, understand, and use information and services to inform health-related decisions and actions for themselves and others.*
USDHHS 2020

School health literacy setting approach



Cara Krudewig
M. Sc.

8 standards & 48 indicators of a health-literate school

Schools can utilze the HeLit-Schools framework to

(1) **Identify** school health literacy needs
(2) **Determine and assess** school health literacy levels
(3) **Develop and implement** school health literacy interventions
(4) **Optimize** school processes to improve health literacy promotion at school



Download
Schools
Pre-schools



1. Include health literacy to the school's mission statement
2. Health literacy as part of school development
3. Promote and enhance health literacy in daily school life
4. Health literacy of students
5. Health-literate school staff
6. Health-literate communication at school
7. Enhance health literacy in the school environment
8. Networking und cooperation

Health-Literate School Standards (HeLit-Schools)

Kirchhoff and Okan 2021, 2022a/b/c
Krudewig et al 2024 / Kirchhoff et al 2025
Rauschmayr et al 2025a/b

GLOBHL: School principals as setting leaders

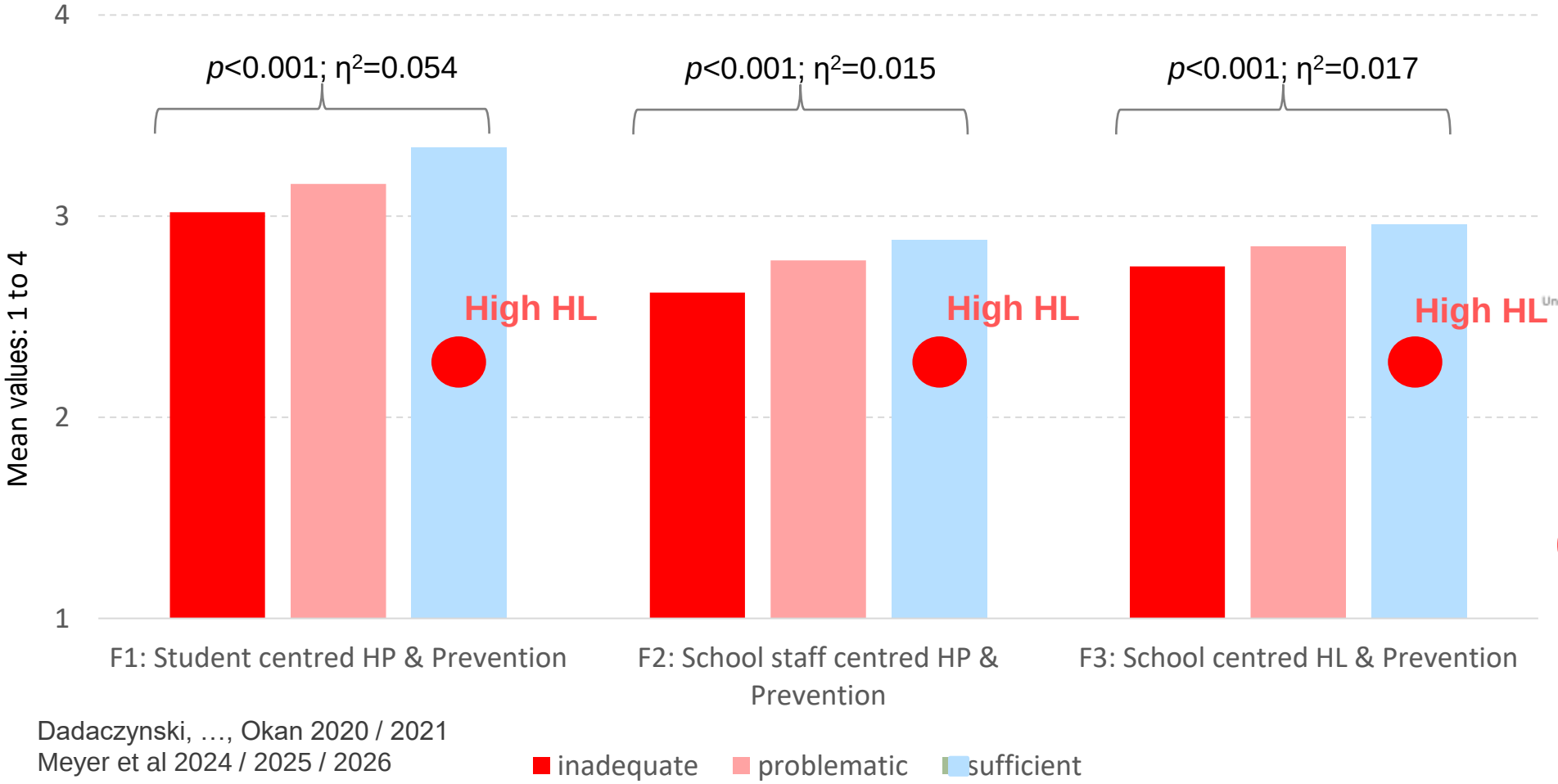
GLOBHL Global Health Literacy Research Network

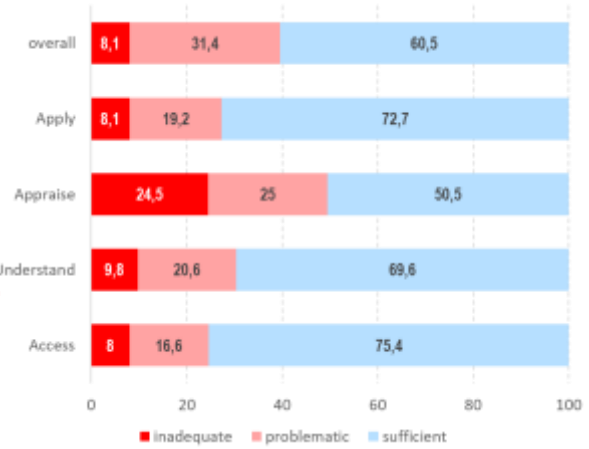
WHO Collaborating Centre for Health Literacy



Marlene Meyer
M. Sc.

Implementation of school health promotion and prevention programs & principals` health literacy





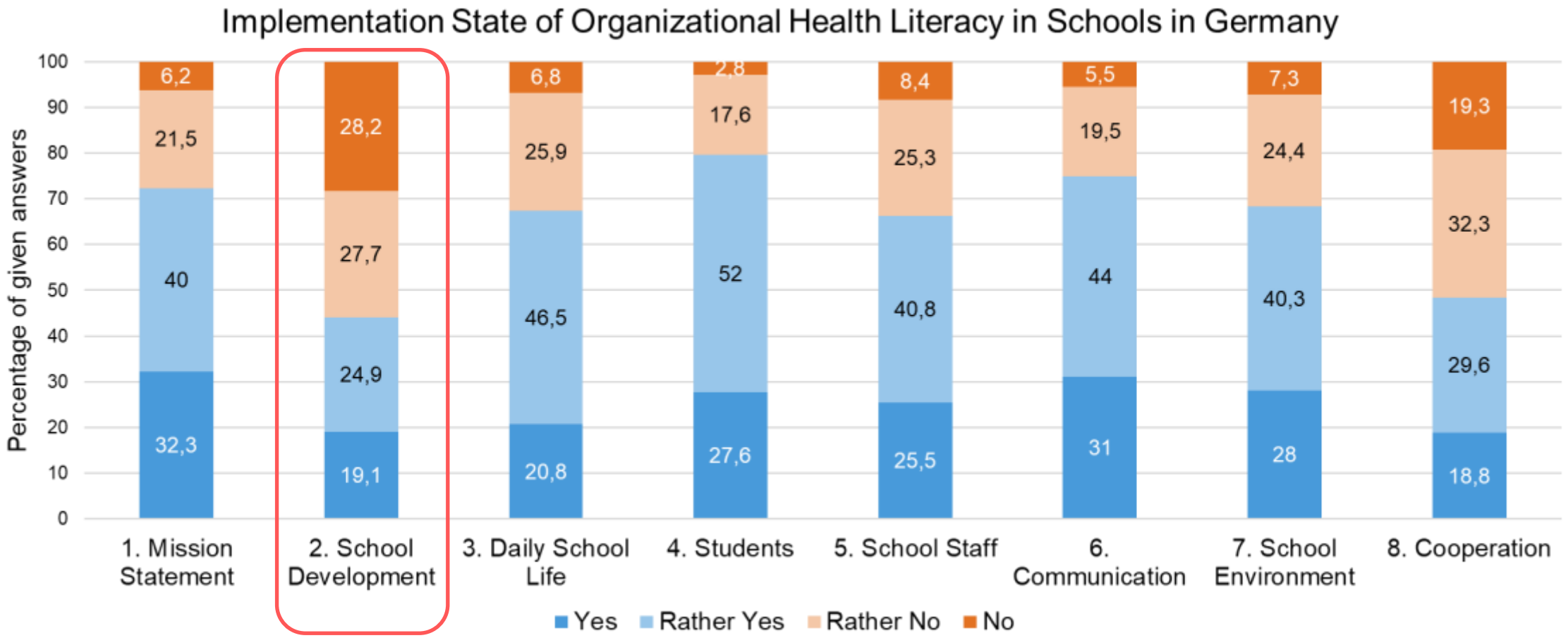
Promoting HL of principals will facilitate and endorse promotion of schoolchildren's HL!

Dadaczynski, …, Okan 2020 / 2021
Meyer et al 2024 / 2025 / 2026

Setting success and failure



Cara Krudewig
M. Sc.

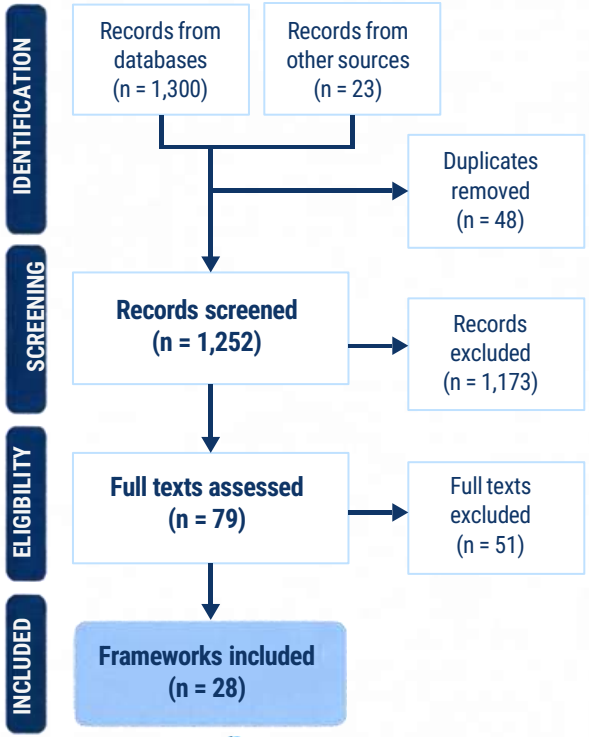


Outlook 1:

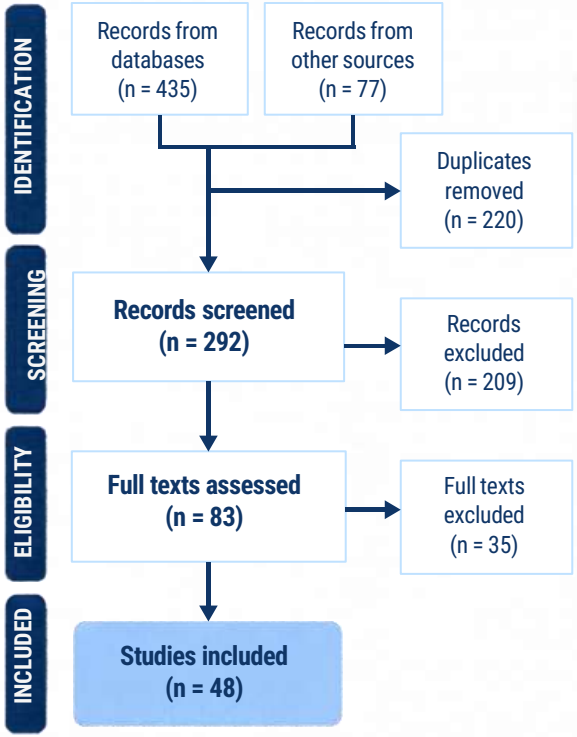
WHO School Health Literacy Projects
Two systematic reviews to build
WHO programs and measures for adolescents

WHO Collaborating Centre for Health Literacy

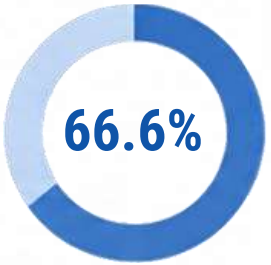
ToR 3 · Competency standards framework (ages 10–19)



ToR 4 · Global assessment tool (ages 13–17)

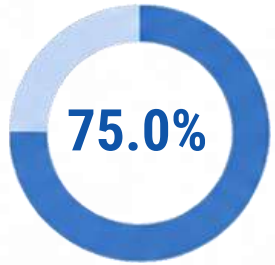


ToR 3



of frameworks from high-income countries

ToR 4



of studies from high-income countries

13 countries

misinformation and infodemic risks dominate

28 countries



64.6% self-reported tools

No standards on AI, populism, war and conflict
Ages 16–19 rarely covered
No studies from South America or Oceania



Most existing frameworks and tools come from high-income countries, limiting their global applicability.

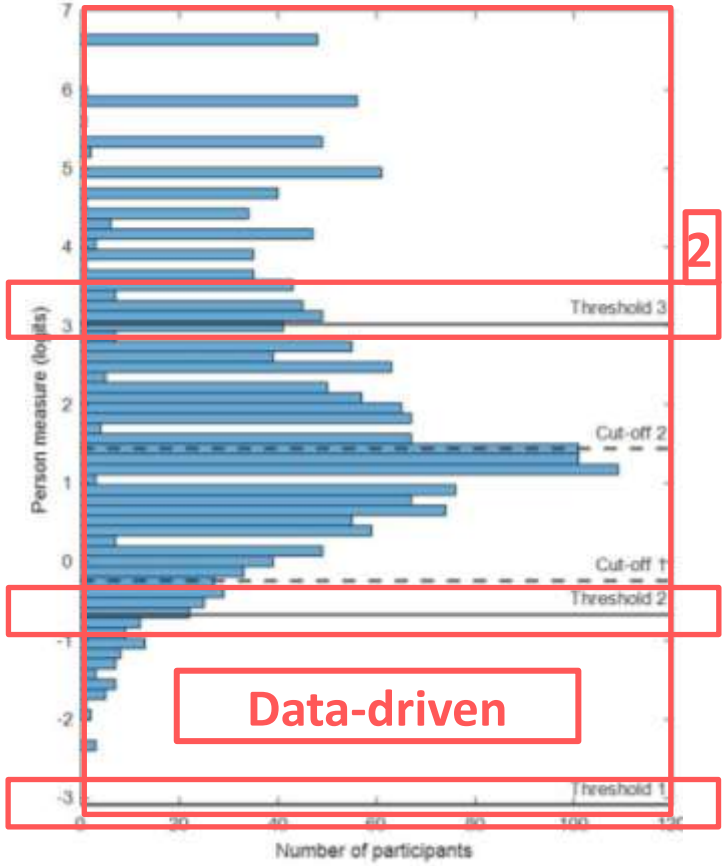

Mohanad Alyousefy M. Sc.


Monika Singer M. Sc.


Alexa Bex M. Sc.

Outlook 2:

The calculation of health literacy levels in self-report surveys: A new method using Rasch Analysis and the need for new tools



- The new proposed method to compute HL levels, Rasch-Thurstonian thresholds, has the advantage of taking item and test difficulty into account in comparison to commonly used methods.

1

Tools	# of Items	Cut-Off Values (Relative)	Cut-Off Values (Absolute)
HLS-EU-Q47 [28,42]	47	$a \leq 50\%$ ($\frac{1}{2}$) $50\% < b < 66\%$ (~⅓) $66.6\% \leq c < 84\%$ (~¼) $84 \leq d$	$0 < a \leq 25$ $25 < b < 33$ $33 \leq c < 42$ $42 \leq d$
HLS-EU-Q16 [44]	16	$a \leq 50\%$ $50\% < b < 81.3\%$ $81.3\% \leq c$	$0 < a < 9$ $9 \leq b < 13$ $13 \leq c$
HLS-COVID-Q22 [46]	22	$\leq 50\%$ $50\% < b < 66\%$ $66\% \leq c$	$a \leq 2.5$ $2.5 < b < 3$ $3 \leq c$

Okan et al 2020

Human-driven

- The present study is a contribution to health literacy research by discussing the advancement of currently applied methods.

Comparing results with both methods

	Method	
HL Level	Common	New
Inadequate	7.3%	0%
Problematic	34.3%	3.4%
Sufficient	58.4%	68.6%
Excellent	N/A	28%

1

2

Conclusion

- Rasch analysis tops classical test theory approach
- Existing tools not sensitive enough regarding difficult and very difficult items
- Development of new tools needed, using Rasch during the development of the tools to test item difficulty and ensure equal distribution of easy/difficult items





Meyer et al 2024



Meyer et al 2025



Meyer et al 2026

Implementing school health literacy in the setting

- Health literacy is **new to schools**
- There are **no mandatory curricula and policies**
- Most countries: **no health education in schools**
- Most **teachers are not trained in health**
- School curriculum is **overcrowded**
- Non-curriculum, non-mandatory topics in schools: **no time**
- Health often **out-of-place or alien element**, non-integrative, non-inclusive
- Absence of **whole-of-school approaches** (e. g. Health-literate school; Whole School, Whole Community, Whole Child; WHO Health Promoting School,)
- Higher **investments in schools and education** required

Professorship of Health Literacy
Department of Health and Sport Sciences
TUM School of Medicine and Health
Technical University of Munich

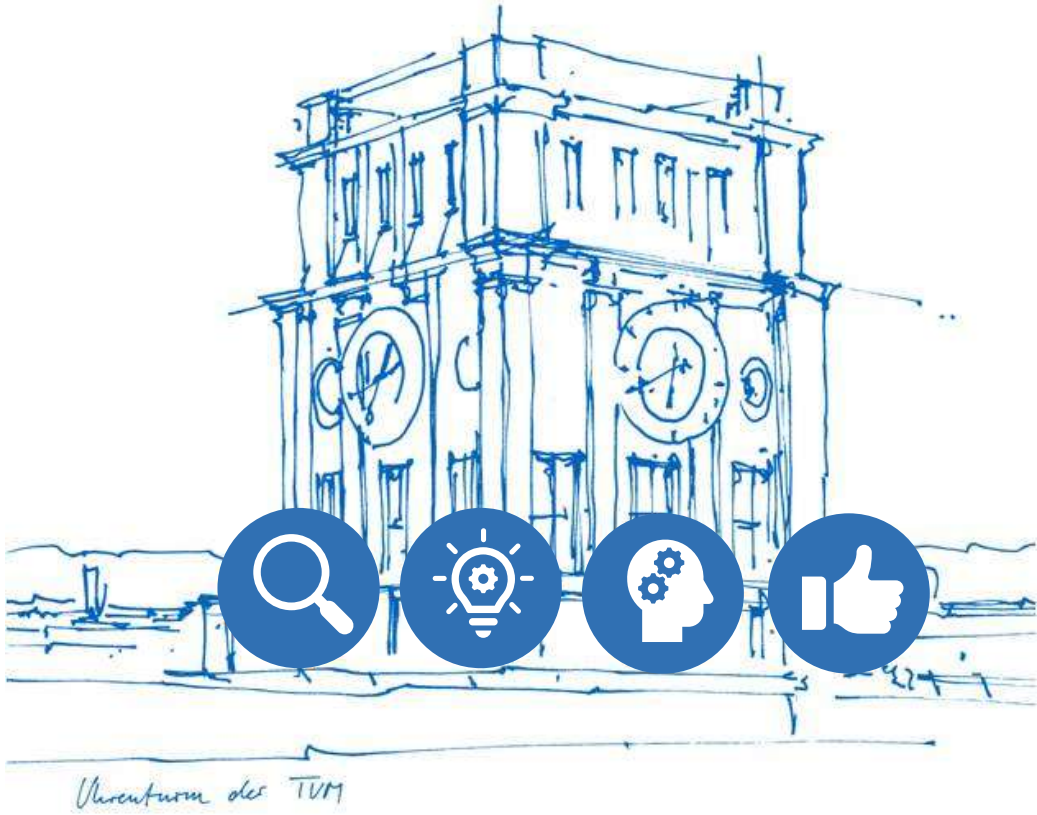
I-HLA International Health Literacy Association

WHO Collaborating Centre for Health Literacy

12th AHLA
AHLA INTERNATIONAL HEALTH LITERACY CONFERENCE
Health Literacy and SDGs
Chiang Mai, Thailand 2026



Health literacy research in context of schools



40 ANNIVERSARY 2026
OTTAWA CHARTER
Health Promotion International

Orkan Okan
Assistant Professorship of Health Literacy
WHO Collaborating Centre for Health Literacy
Department of Health and Sport Sciences
TUM School of Medicine and Health
Technical University of Munich

03 November 2026