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# Identifying School Climate Variables Associated with Financial Literacy Outcomes in PISA 2018 Data

*A Multilevel Structural Equation Modelling*

*Approach*

Centre for Educational Measurement  
Faculty of Educational Sciences

Spring 2021

## Acknowledgements

I am deeply indebted to my supervisors Prof Ronny Scherer and Dr Chia-Wen Chen. Both scholars afforded me their valuable time and infinite patience throughout the thesis production process. Ronny's occasional "wow" and "awesome" time and again saved me from deep insecurity and lent me the courage to continue this journey. It were Chia-Wen's clear and decisive instructions that helped me avoid the many pitfalls along the way. This thesis owes its very existence to both experts' input and reviews while any errors and omissions remain mine solely.

I often imagine what I would be doing today should former CEMO senior advisor Anne-Catherine Lehre not have encouraged me to extend my exchange semester into this Master program. I owe this degree to Anne-Catherine, Senior Executive Officer Siri Heslien, Academic Head of Program Prof Dr Johan Braeken and CEMO Director Prof Dr Sigrid Blömeke for their encouragement and guidance. My deep appreciation also goes to our new Administrative Leader Tara Sarin for providing me with a study space and her continuous support and protection throughout the pandemic period. May this thesis serve as a thank-you to everybody that assisted me each step of the way.

ILS scholars Dr Nani Teig and Prof Trude Nilsen's generosity of accepting me as their research assistant also introduced the fine details of conducting scientific research to my workflow. In fact, I learnt the school climate framework from Nani and Trude's project and I hope I presented this literature correctly in my writing.

Behind-the-scenes heroes are UV's IT expert Terje Thoresen and all the specialists empowering the Norwegian Research and Education Cloud. I can hardly imagine what my statistical analyses would look like without them lending me the university's powerful computation infrastructure. Terje also regularly stopped by and enquired about my progress—his insight into economics, politics, and life in general helped to contextualise my thesis topic into a broader social debate. I am also grateful for Terje's assistance in translating the abstract into Norwegian.

Certainly, my story with UiO would not come to be, had the University of Melbourne not facilitated my exchange semester in 2018. I would like to thank Global Learning Senior Education Abroad Adviser Mr Aaron DeBono for opening this world to me. I look forward to reporting back to the MGSE team when international travel resumes. I wish to sit down with

Aranka Dagleish and Jeff Kinsman and highlight their thoughts and teachings that made into my thesis. The kind images of the Director of Initial Teacher Education Dr Daniela Acquaro, Student Experience Team Leader Clair Richards and Student Wellbeing Officer Ms Susie Reay, all remind me the many shoulders I stand on today and I wish to record my gratitude to you all into this permanent archive at the University of Oslo.

To mum and dad, you deserve the most special thank-you on its own page and I present this thesis to fulfil my promise to be good and study hard made at the airport 18 years ago to this day. I hope I made you proud.

### Popular Abstract

Preparing youth for life-long success with numeracy, literacy and science capability has been the core mission for all schooling systems. The post-financial crises and post-COVID era, in addition, imposed increasing demand for financial literacy on school leavers. Although financial education programs were generally reported as effective in promoting learners' financial literacy outcome, paradoxical results of non-findings or even negative findings were not unheard of. Any claim that education efforts did not matter, or even harmful, for learners' development deserves immediate attention because if school were committing something wrong, school leaders and policy makers would want to know what, which and where the problems were so that harmful practices can be reverted into good pedagogy. Alternatively, it could instead be the instrument some researchers employed that led to such underwhelming results. A closer examination of how school effectiveness is measured would also promote methodology practices and the resultant policy advice. Using 2018 PISA financial literacy data, this study examined how students' financial literacy scores changed systematically as educational efforts, parental involvement, school safety as well as resource allocation varied. Analyses showed that all four aspects of school climate mattered greatly in explaining differences in students' financial literacy scores. Negative results reported by some papers were likely the results of certain design choices. School financial education should definitely not be withdrawn but more carefully designed with increase emphases on students' financial problem-solving skills in addition to knowledge and confidence training.

## Abstract

Repeated financial crises and the current pandemic emergency all exposed the harsh consequences of financial illiteracy shared by large proportions of the general population. Although remedial plans were shown to be most effective if introduced early in life, the exact relationships among student-, family- and school-factors behind youth's financial literacy outcomes were not yet fully understood. Using the latest Programme for International Student Assessment (PISA) 2018 financial literacy data and the theoretical framework of school climate recently proposed by Wang & Degol (2016), this study examined the mechanism for individuals' financial literacy performance in the context of their school environment. A multilevel structural equation model (MSEM) revealed that 33.5% of the variation in students' financial literacy scores could be explained by student-level variables and 47.7% by school-level factors for the full PISA 2018 sample. The MSEM also highlighted key roles financial knowledge and financial confidence played in mediating students' financial literacy performance. Both financial education and financial socialisation were positively associated with financial knowledge and confidence, but their direct effects on financial literacy scores were negative once the mediation effects have been accounted for. Strong contextual effects suggested the important role of school environment for facilitating individual-level effects. This study took a person-ecological approach for reconciling two strands of research efforts that focused either on students or on schools. It also confirmed the importance of school education, parental involvement, safety and educational resources for bringing about greater financial knowledge and confidence and identified potential improvement opportunity for pedagogical practices for further advancing students' financial problem-solving capabilities.

## Abstrakt

Gjentatte finanskriser og den nåværende pandemisituasjonen avslørte de alvorlige konsekvensene av manglende økonomisk kunnskap i en betydelig andel av befolkningen. Selv om kompenserende tiltak har vist seg å være mest effektive ved introduksjon tidlig i livet, var de eksakte forholdene mellom student-, familie- og skolefaktorer vedrørende ungdoms økonomiske ferdigheter ikke helt forstått.

Ved hjelp av det nyeste programmet for internasjonal studentvurdering (PISA) 2018—økonomiske ferdigheter og det teoretiske rammeverket for skoleklima, som nylig ble publisert av Wang og Degol (2016), undersøkte denne studien mekanismen for individers økonomiske ferdigheter i skolesammenheng. Strukturell flernivåmodellering (MSEM) avslørte at 33,5% av variasjonen i studentenes økonomiske ferdigheter kunne forklares med variabler på studentnivå og 47,7% av faktorer på skolenivå for hele PISA-utvalget. MSEM fremhevet også nøkkelroller som finansiell kunnskap og økonomisk tillit sin betydning i formidling av elevenes økonomiske ferdigheter.

Både finansiell utdannelse og økonomisk sosialisering var positivt assosiert med økonomisk kunnskap og tillit, men deres direkte effekter på finansiell kompetanse var negative etter at meklingsseffektene har blitt redegjort for. Sterke kontekstuelle effekter belyste skolemiljøets viktige rolle for å tilrettelegge effekter på individnivå. Denne studien tok en personøkologisk tilnærming med formål om å forene to forskningsfelt som fokuserte på enten studenter eller skoler. Den bekreftet også viktigheten av skoleundervisning, foreldrenes engasjement, sikkerhet og pedagogiske ressurser for å skape større økonomisk kunnskap og tillit, og identifiserte potensielle forbedringsmuligheter for pedagogisk praksis for å videreutvikle elevenes økonomiske problemløsnings- ferdigheter.



## Introduction

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