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

*A Multilevel Structural Equation Modelling
Approach*

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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 School financial education should definitely not be withdrawn but more carefully designed with increase emphases on students' financial problem-solving skills in addition to knowledge and confidence training.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.

Keywords: school climate, financial literacy, PISA, multilevel modelling, structural equation modelling, contextual effect

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 utdanning 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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