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Can teacher support reduce inequalities in education? Re-examining the relationship between cultural capital and achievement

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Can teacher support reduce inequalities in education? Re-examining the relationship between cultural capital and achievement

Abstract: Starting from insights into the inequalities that stem from the effect students' cultural capital has on their academic achievement, and relatively scarce evidence on whether classroom-level pedagogical interventions could help reduce those inequalities, in this study we aim to explore whether teacher support moderates the relationship between cultural capital and students' reading performance. In addition, we analysed whether the moderation effect is the same across different education systems, or depends on equity between systems. We used data from PISA 2018 to test a simple moderation model with cultural capital as the independent variable, teacher support – the moderator, and reading performance as the dependent variable. The findings suggest that the correlation between cultural capital and students' reading performance is moderated by teacher support. However, the nature of the moderation effect differs in education systems with the lowest and education systems with the highest correlation between cultural capital and reading performance.

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The factors which contribute to student academic achievement have been a prominent topic in educational research for a long time. The results of many studies show that the largest part of the variance in student achievement can be explained by student- and family-related factors, such as socio-economic status, gender, previous performance, motivation, self-efficacy, family structure, parental involvement in education. (Casillas et al. 2012; Castro et al. 2015; Hattie 2009; Karadag 2017; Kyriakides, Christoforou, and Charalambous 2013; OECD 2019a; Scheerens 2016; Sirin 2005; Sun, Bradley, and Akers 2012; Teodorović 2011, 2012; Teodorović, Jakšić, and Milin 2020). That does not necessarily mean that teachers' contributions to student achievement are negligible, but rather that their effects are harder to measure and capture. Studies confirm that some of the measurable teacher characteristics do contribute to student achievement, such as the number of years of teaching experience and formal teaching qualifications (Goldhaber and Anthony 2003; Nye, Konstantopoulos, and Hedges 2004; Rivkin, Hanushek, and Kain 1998), but to a much lesser extent when compared

to student- and family-related factors. As for teachers' pedagogical practices, studies show that teachers who contribute the most to students' achievements had fewer classroom disruptions, better classroom management skills, and better relationships with their students compared to teachers whose added value to student achievement is low (Stronge, Ward, and Grant 2011). However, detailed studies of classroom practices which have the potential to reduce inequalities in education are scarce. Therefore, such insights raise concerns related to equity and fairness in education. Namely, if the factors which are of the greatest importance for student achievement are those which are relatively hard or even impossible to influence, and there is no great likelihood of teachers being able to impact on such factors, are students with certain characteristics and whose life conditions are unfavourable thus doomed to lower academic achievements?

To obtain a comprehensive picture of the factors from different domains which are likely to influence student achievement, i.e. student and family background, characteristics of teachers and teaching, characteristics of the school, the education system, and society, researchers often design or rely on large scale international studies such as PISA and TIMSS, as these studies collect and use a vast range of contextual variables related to performance. The findings from PISA suggest that education systems across the globe differ in terms of equity, which is measured by 'whether education outcomes […] are related to a student's personal background' (OECD 2019a, 43), whereas equitable school systems are defined as those that are able to weaken the link between the two. In our study, we used data from PISA 2018 to investigate whether teacher support to students can make a difference in terms of mitigating the correlation between cultural capital, as a measure that brings together different student and family characteristics, and students' performance in reading, as was the focus of PISA 2018. Studies commonly focus on cultural capital as the input, and educational achievement as the output, while different classroom processes, such as various forms of teacher support, which might have some influence on the link between the two, are not taken into account. We opted to use the data from PISA not only because it provides the variety of variables needed to perform the analysis, but also because it allows us to explore whether the potential of teacher support to reduce inequalities varies in different education systems, particularly with respect to their equity, which we measured as the strength of the correlation between students' cultural capital and their achievements.

Cultural capital and student achievement

The concept of cultural capital was introduced into theory by Pierre Bourdieu (Bourdieu and Passeron 1979). He considered cultural capital as one of the four basic forms of capital (alongside economic, social, and symbolic capital) which can be converted one into another (Bourdieu 1986). Bourdieu's concept of cultural capital refers to a set of different noneconomic goods which are related to culture, such as: 'verbal facility, general cultural awareness, aesthetic preferences, information about the school system, and educational credentials' (Swartz 1997, 75). More precisely, he differentiated three forms of cultural capital: embodied, objectified, and institutionalized (Bourdieu 1986, 243). Embodied cultural capital represents a set of cultural knowledge and preferences that makes one capable of appropriating high culture, objectified cultural capital refers to material objects such as books, musical instruments, paintings, while academic qualifications are indicators of institutionalised cultural capital (Bourdieu 1986).

Bourdieu developed the concept of cultural capital in research into the field of education, and it is his view that it plays a significant role in both social reproduction and the legitimation of that reproduction. Before focusing on the role of cultural capital in education, Bourdieu's concept of symbolic violence should be mentioned. Bourdieu defined this concept as a 'gentle, invisible form of violence, which is never recognized as such' (Bourdieu 1977a, 192) and which 'manages to impose meanings and to impose them as legitimate by concealing the power relations which are the basis of its force' (Bourdieu and Passeron 1990, 4). In the educational context this concept refers to the ability to impose one arbitrary culture as legitimate. Namely, Bourdieu believed that the education system values students based on their cultural capital as it expects them to possess certain competencies (for example, knowledge of formal language) which are characteristic of students from upper class positions. Thus, students with high cultural capital have the resources to meet teachers' expectations, while students with low cultural capital, alongside the regular school curriculum, must also obtain these resources (Bourdieu 1977b). Therefore, Bourdieu expected students with low cultural capital to have lower school achievement. Additionally, he assumed they would also have lower educational aspirations, since it was his belief that the school system was sending them the message that they did not have the required competencies to gain high education and encouraged them to think that education was 'not for the likes of them' (Bourdieu and Passeron 1990, 157). This in turn leads to self-elimination, i.e. students with low cultural capital dropping out of further education. Self-elimination is important for the functioning of the entire education system, because it allows it to legitimise

inequalities, which are reproduced by the system itself, as it tricks people into believing that they have made their decisions on their own. At the same time, the education system continues to represent itself as objective, as it has the same requirements for all, while those 'same requirements' are what creates inequalities in the first place.

Bourdieu's ideas regarding the role cultural capital plays in education have been tested in numerous studies. The effect of cultural capital on academic achievement has, at least to some extent, been confirmed in studies carried out in different societies, such as in the USA (DiMaggio 1982; Merolla and Jackson 2014), Brazil (Marteleto and Andrade 2013), various European societies (Jaeger 2011; Kraaykamp and van Eijck 2010; Puzić, Gregurović and Košutić 2015; Radulović 2019) and many others. The effect of cultural capital on students' achievement has been noted in some international studies (Bodovski, Jeon, and Byun 2017; Huang and Liang 2016). Additionally, although it has been recognized that variables related to social position (e.g. socio-economic status) affect student achievement, 'SES-based achievement gaps alone do not necessarily capture international educational disadvantages' (Rowley et al. 2020, 478). Nonetheless, educational studies dealing with cultural capital have caused some disagreements among researchers. Since Bourdieu failed to provide clear and consistent directions on how to operationalize cultural capital (in some instances he argues that cultural activities are an important indicator of cultural capital Bourdieu 1979; in other cases, he uses the level of parental education to operationalize it Bourdieu 1977b, Bourdieu 1996; while in others parental occupation is the only indicator of this capital Bourdieu & Passeron 1979), different authors conceptualise cultural capital in different ways. By reducing cultural capital to knowledge and participation in highbrow culture, and by controlling the social position of students (parents' education being an indicator of position, and not one of cultural capital), American sociologist DiMaggio argued that, among boys, cultural capital affects achievement only in the cases of children of low-educated parents (DiMaggio 1982; DiMaggio & Mohr 1985). Other authors, using 'DiMaggio-like' methodology, have produced different findings, showing that cultural capital affects achievement among Caucasians, but not African Americans and among students from the upper class, but not among those from the working class (Roscigno & Ainsworth-Darnell 1999; Jaeger 2011). These studies are criticised by authors who argue that this kind of approach to cultural capital is inadequate, because it has 'narrowed the terrain upon which cultural capital research operates' thus reducing the explanatory potential of the concept (Lareau & Weininger 2003, 569). In contrast to the narrow concept of cultural capital, broader conceptions have included different indicators related to students' parents (such as parental activities or educational level) and

they have succeeded in explaining educational achievement with fewer restrictions, showing that more cultural capital leads to better achievement regardless of gender, race or class position (Andersen & Hansen 2012; Merolla and Jackson 2014; Huang and Liang 2016). Therefore, in this paper we decided to rely on different indicators regarding parents and the home, choosing not to reduce cultural capital to participation in highbrow culture in the aim of attempting to differentiate between the cultural capital of children, parent and the family.

Although the relationship between cultural capital and students' achievement is widely studied and the idea that cultural capital affects achievement has almost become 'common knowledge' among educational sociologists, in most of these studies the researchers focus on cultural capital as the input, and educational achievement as the output, while different processes which take place in schools and which may have an impact on the correlation between the input and the output, are not taken into consideration. Hence, even if some practices in schools could serve to moderate the correlation between cultural capital and achievement (i.e. decrease the intensity of this correlation), they remain unknown. One of the reasons for this may be found in Bourdieu's theory. Namely, if Bourdieu's entire theory (not just the sociology of education) were taken into consideration, it could be argued that in order to change education one would have to change society as a whole, thus making it unlikely for individual practices in the education system alone to reduce existing inequalities.

Nonetheless, it should be stated that Bourdieu believed that the education system, like every other field, has a certain degree of autonomy (Bourdieu and Boltanski 1981). Furthermore, he explicitly said that 'rational pedagogy' could decrease inequalities (Bourdieu and Passeron 1979, 74). Bourdieu and Passeron claimed that rational pedagogy must be based on the critical analysis of different modes of teaching and that it has to 'bear in mind their differential efficiency according to students' social origins' (Bourdieu and Passeron 1979, 74). However, it remains unclear what the precise characteristics of such pedagogy are, and it seems that studies which would take educational processes beyond the 'black box' while exploring the relationship between cultural capital and achievement could explain those characteristics.

Although such studies are rare, some of them could help us to understand how the processes which take place in schools moderate the relationship between cultural capital (or certain other characteristics related to one's social position) and achievement. For example, some authors claim that a 'student-centred approach where space is negotiated for all voices to be heard and listened to' and 'different ways of thinking and knowing are included rather

than (just) the voice of the dominant group', could lead to the declining effect of cultural capital (Ryan and Hellmundt 2007, 15). Similarly, authors in Serbia empirically tested how different teaching approaches moderate the relationship between social position and achievement, showing that the intensity of the correlation between social position and achievement is stronger in the situation when teaching tends to be more transmissive and less engaging (Gundogan, Malinić, and Radulović 2020, 41). Other studies tried to test how specific teaching practices moderate the relationship between cultural capital, or other characteristics related to social position, and achievement. For example, one quasi-experimental study showed how 'physical-knowledge activities (e.g. Pick-Up Sticks and "bowling")' lead to better 'mental arithmetic abilities' among students with low socioeconomic status than 'traditional exercises focusing narrowly on number', such as one-to-one correspondence skills and answering questions like 2 + 2 (Kamii, Rummelsburg, and Kari 2005, 39). Another study dealing with maths lessons showed a 'positive linear relationship between the cultural capital of the students and the amount of feedback they perceived', suggesting that the amount and type of feedback might be a 'micro-level mechanism' which increases inequalities (Sortkaer 2019, 647). Additionally, studies also showed that students with higher cultural capital are given more frequent feedback, but that they also seek teachers' help more often (Calarco 2011, 2014).

Finally, it should be stated that although this type of studies might be rare, they are an excellent way of gaining a better understanding of the mechanisms which lead to educational inequalities. Also, if bringing about change through education is even possible, one of the ways to discover how to do that lies precisely in such studies.

Student support and academic achievement

Student support is a widespread concept in pedagogical literature, educational policy documents for different levels of education, as well as in everyday language. The basic meaning of this concept can be defined as one type of social support which includes 'assisting students in their personal and academic development' (Bartram 2009). Still, there is no common understanding of the essence of this concept, support procedures, or their real contribution to student learning and achievements. The analysis of research papers indicates that there are different 'providers' of support, different types, and contents of support, as well as different understandings of its nature and functions. Bearing in mind these differences it

could be argued that there are different theoretical foundations of the concept of student support.

Understanding support as an individual relationship with the student which contributes to his/her learning and promotes personal development is rooted in classical humanist values which promote wellbeing and the rights and opportunities of every human being to develop. These concepts in the pedagogical domain are manifested as 'beliefs in the importance of assisting and developing learners in an attempt to help them achieve their potential' (Bartram 2009, 2) and in understanding that schools and teachers have an important role in this process. Therefore, support must be both meaningful and holistic. Support in education is at the same time nurturing, and as such 'belongs to the domain of human cultural interactions' (Bartram 2009, 2). Authors emphasise that students function more effectively when they feel respected and valued (Ryan and Deci as quoted in Stipek 2006), hence teachers should also show support and concern for students outside the classroom and nurture their relationships with students, pay attention to their work and provide constructive feedback (Davidson and Phelan as quoted in Stipek 2006). The authors emphasise that this kind of support is especially beneficial for students who are the most at risk academically (Stipek 2006).

Although the concept of support originates from humanistic ideas, this concept is developed and operationalised within two different approaches. The first one tends to regulate and secure *support mechanisms* and to *provide support* by following bureaucratic-administrative procedures. This understanding of support in the literature is referred to as instrumental and technicist. In contrast to the technicist approach, the second approach is based on socio-cultural theory and critical educational theory, where the main difference lies primarily in terms of perceptions of the role of the actors and the nature of their relationships in the supporting process.

In the technicist/instrumental approach, the actors in the support process are *support providers* and *receivers*. This interpretation of support implies a clear distinction between those who provide support and those who receive it and places those who receive support in the position of the victim, indicates their passive role, and perceives support as a therapeutic activity. In the educational context, this typically means that the teacher is the one who provides the student with support. This may, as some authors have noted, lead to the formalisation of relationships and be counterproductive for student development. It can result in the stigmatisation of those students who need support and to their learned helplessness, as

well as to the domination of the deficit model of support (Furedi, Hayes as quoted in Bartram 2009).

On the other hand, the socio-cultural approach views support as an interactive process. Research confirms the significant and active role of students in the support process and points out the importance of not just what teachers provide, but also of how students perceive and experience that 'provision' and what students provoke and initiate in their communication with teachers (Sortkaer 2019). It comes as no surprise that from this perspective support is not defined as merely 'assisting students'. In order to understand what support is, it is crucial to bear in mind the 'individual's perceptions of support or specific supportive behaviours' (Malecki and Demaray 2003, 232) and to perceive support as 'an exchange of resources between two individuals perceived by the provider or the recipient to be intended to enhance the wellbeing of the recipient' (Shumaker and Brownell 1984, 11). Additionally, these authors emphasise the contextual nature of support. Context is important for understanding the effects of supportive behaviour and, sometimes, it can lead to situations where 'good intentions' have undesired consequences. Thus, Shumaker and Bronwell highlight the importance of differentiating between the contents of supportive exchanges, the purposes or functions of support, and its real outcomes (Shumaker and Brownell 1984).

A different understanding of support is not only of conceptual-theoretical significance, but is also significant for support in practice – a different understanding of support will mean the provision of different types of support. Nonetheless, different approaches to support and different types of support are, in reality, often mixed and hardly separable. What kind of support will be offered in practice depends on multiple factors such as how the provider and the recipient understand their positions, whether they accept humanistic beliefs, whether these values form part of the school ethos and are accepted at the level of the education system and in society.

Support can be provided or facilitated by teachers, but also by peers and parents; it may be an individual activity or organized at the level of the educational institution, education system, or other services and institutions in society (Bartam 2009; Malecki and Demaray 2003; Wilcox et al. as quoted in Bartam 2009). It can be directly focused on academic achievement or indirectly related to it through fulfilling other student needs (e.g. social, emotional, integrational, practical, material). Support can be emotional (showing feelings of trust and love), instrumental (spending time with someone or providing him or her with

materials or money), informational (providing someone with information or advice) and/or provided as an appraisal (giving feedback) (Malecki and Demaray 2003). The literature documents that specific subtypes of support are more closely related to some outcomes than to others (Malecki and Demaray 2003).

Bearing in mind the existence of different types and different concepts of support, as well as some notions on 'support' that can be counterproductive, it then follows that there are different research findings regarding the relationship between support and academic achievement. According to Malecki and Demaray, numerous studies show the positive effect of perceived support on the educational outcomes of children and adolescents (see: Malecki and Demaray 2003). However, they stress that all these studies 'were based on examining social support in a global way by assessing overall social support' (Malecki and Demaray 2003, 231) and that it is important to bear in mind that there are multiple types of support and that not all of them contribute to the same extent. These authors studied the different types of support teachers offer and found out that emotional support was the only one that had a positive effect on students' academic competence (informational support, appraisal, and instrumental support had no effect or had a negative effect on achievement) (Malecki and Demaray 2003). These findings are in the line with the previously mentioned humanistic ideas regarding the importance of emotional support (Stipek 2006).

The report from PISA 2018 shows that on average, across education systems, 'students who perceived greater support from teachers scored higher in reading, after accounting for the socio-economic profile of students and schools' (OECD 2019b, 98). However, in many countries, even though socio-economically disadvantaged students were more likely to report that they have supportive teachers, they tended to experience lower performance. As stated in the report, this negative relationship between teacher support and reading performance 'became non-significant or positive once students' and schools' socio-economic profile was accounted for' (OECD 2019b, 102). Nevertheless, the nature of the interaction between the mentioned variables remains unclear.

Starting from the insights into the inequalities which stem from the effect students' cultural capital has on their academic achievement, and the relatively scarce evidence on whether classroom-level pedagogical interventions could help reduce those inequalities, in this study we aim to explore whether teacher support moderates the relationship between cultural capital and students' reading performance in PISA 2018. Additionally, we also

wanted to analyse whether the moderation effect is the same across different education systems, or depends on equity between systems. In our study we measured the equity of the education system as the effect of cultural capital on student performance, in line with how it is defined in PISA, where: 'Equity […] is measured by whether education outcomes […] are related to a student's personal background' (OECD 2019a, 43).

Summing up previous analysis it is apparent that different theoretical standpoints and research findings lead to different assumptions regarding the ability of formal education to moderate the relationship between cultural capital and student achievement and the nature of that moderation. Bourdieu's theory, as well as studies on feedback in education (Calarco 2011, 2014; Sortkaer 2019) suggest that teaching practices alone cannot decrease the effect of cultural capital on student performance (in fact, they can even lead to its increase). Other studies show that some teaching strategies (Gundogan, Malinić, and Radulović 2020; Kamii, Rummelsburg, and Kari 2005; Ryan and Hellmundt 2007) and certain kinds of teacher support (Malecki and Demaray 2003; Stipek 2006) could lead to the declining effect of cultural capital. Bearing in mind this discrepancy we decided to conduct an explorative study without explicitly defining any hypotheses.

Method

Data and sample

We used the data from PISA 2018. PISA is a triennial international assessment study which measures the academic performance of 15-year-old students who, in most of the countries which take part in the study, are still enrolled in formal education. For the purpose of this study we used students' scores in reading, as it was the focus of PISA 2018 (OECD 2019a).

The correlation between cultural capital and reading performance in the PISA 2018 test was analysed for all OECD countries (37 countries and 294,527 students). The countries were ranked based on the correlation coefficients (Appendix 1) and the following countries were grouped and selected for further comparative analysis:

- Three OECD countries with the strongest correlation between cultural capital and reading performance: Hungary (r = .459, N = 5,132), France (r = .448, N = 6,308), and the Czech Republic (r = .417, N = 7,019).

- Three OECD countries with the weakest correlation between cultural capital and reading performance: Israel (r = .0189, N = 6,623), Canada (r = .194; N = 22,653), and Norway (r =.212, N = 5,813).

Design and variables

In order to analyse whether teacher support moderates the relationship between cultural capital and student performance in reading, simple moderation design was used, with cultural capital being the independent variable, teacher support – the moderator, and reading performance as the dependent variable (Figure 1). The analysis was performed separately for the two groups of countries described in the sample. For the statistical analysis we used SPSS software and Hayes' Process macro (Hayes 2017).

[Insert Figure 1 here]

Reading performance was based on the students' scores in the PISA 2018 reading assessment. *Cultural capital*, in line with the broader concept, was based on the parents' level of education and access to a computer which can be used for school work, educational software, an internet connection, classic literature, books of poetry, works of art, books which can help with school work, and books on art, music, and design. Based on the analyses of the principal components, one factor (named Cultural capital) was extracted, explaining a total of 28.5% of the variance between those 10 variables (Table 1). Table 2 shows that this factor groups all the variables related to cultural capital and has the highest loading on the Mother's Education variable, but the loadings for all the variables are above 0.4. As presented in the tables, in addition to the factor named cultural capital, another two factors had eigenvalues greater than 1. After analysing the component matrix, it was decided to disregard these factors since they seemed to be not just irrelevant for analysing cultural capital, but inadequate for theoretical interpretation in general.

[Insert Table 1 here]

[Insert Table 2 here]

Teacher support was defined as a composite index (α = 0.843) which grouped the students' answers on the following seven Likert scale items: 1) The teacher shows an interest in every student's learning; 2) The teacher gives extra help when students need it; 3) The teacher helps students with their learning; 4) The teacher continues teaching until the students understand; 5) The teacher adapts the lesson to my class's needs and knowledge; 6) The teacher provides

individual help when a student has difficulties understanding a topic or task; 7) The teacher changes the structure of the lesson on a topic which most students find difficult to understand.

It should be noted that even though these items do refer to teacher support, they do not capture all kinds of possible support. In addition, the items are phrased in a general or classroom-level manner. Namely, the students were asked to assess the extent to which their teachers demonstrate certain behaviour in the classroom, and not whether their teachers provided them with certain kinds of individual support. However, it may be assumed that perceiving a teacher as more supportive in general implies that the student has a positive experience with teachers and feels supported.

Context

In this section we will briefly present the characteristics of six education systems which, based on the initial analysis of the correlation between cultural capital and students' performance in reading, were selected for further analysis. We were interested in exploring whether these education systems were comparable, i.e. similar enough in terms of their core features, but also to find out whether any characteristics stood out, which could facilitate the interpretation of our findings.

All the countries whose education systems were chosen for the analysis are categorized as high-income countries (The World Bank 2020), have an above-average employment rate (OECD 2020), a very high human development index (Human Development Index 2019), and a relatively similar Gini index, ranging between 25 for the Czech Republic and 39 for Israel (The World Bank data). As for the basic education system parameters relevant for this study, mostly similarities were observed. In most countries, students at the age of 15 are in the 10th grade of their schooling and are approaching the end of their compulsory education. Students of the given age are enrolled in upper secondary education (ISCED 3), while in Norway they are in the last year of their lower secondary education (ISCED 2) (Hörner et al. 2015). With the exception of Norway and the Czech Republic, upper secondary education is mandatory. However, even in these countries, a large percentage of students enrol in upper secondary education – 92.4% in Norway and 83.2% in the Czech Republic (data from 2017, World Bank EdStats). The countries in the study have a percentage of students in VET programmes around the OECD average (42%), except for Canada, where it is much lower (9%), and the Czech Republic where the percent of students in VET is higher than the OECD average (71%).

The countries within both groups vary in terms of students' performance in reading in PISA 2018, as well as with regards to social diversity in schools and equity in education, as measured by OECD. Israel and Hungary are the only countries below the OCED average in terms of students' reading performance (OECD 2019a). As for social diversity in schools, France stands out as the country with greater social diversity than the OECD average in the group of countries with the highest correlation between cultural capital and reading performance, while in the other group Israel stands out as the country with lower social diversity in schools compared to the OECD average (OECD 2019a). In terms of equity in education, all the countries from the group with the highest correlation between cultural capital and reading performance are below the OCED average, while in the other group Norway and Canada are above, and Israel is below the OECD average (OECD 2019a).

The TALIS survey (OECD 2019c) also provides us with insights into teachers' career choices and self-efficacy. Namely, the data shows that the percentage of teachers from Norway, Canada, and Israel whose first career choice was teaching is below or close to the OECD average, while in Hungary, France, and the Czech Republic it is above average. The percentage of teachers in Canada and Israel who report that contributing to society (94.7% Canada, 96% Israel) and the chance to benefit the socially disadvantaged (77.8% Canada, 91% Israel) was of moderate or high importance for them in deciding to become a teacher, is above the OECD average.

To sum up, the general characteristics of education systems are relatively similar, which allows for comparisons to be made. Even though we noted certain differences between the individual countries and their education systems, no systematic differences between the two groups of countries were observed. Given that the general characteristics of education systems are not sufficient to explain the differences regarding the importance of cultural capital between the two groups, we focused on micro-level factors such as teacher support.

Results

The two groups of education systems, one with the strongest correlation between cultural capital and reading performance, and the other where this correlation is the weakest, vary in terms of the students' average performance in reading on PISA 2018, cultural capital, and the rating of teacher support (Table 3). The students in those countries with the weakest correlation between cultural capital and reading performance have higher scores in reading ($t(53546) = -8.237$, $p < .001$), higher cultural capital ($t(47103) = -25.574$, $p < .001$), and

perceive their teachers as more supportive ($t(49218) = -159.502$, $p < .001$), compared to the students from education systems where the correlation between cultural capital and reading performance is the strongest.

[Insert Table 3 here]

Cultural capital explains over 18% of reading performance among students from education systems with the strongest correlation between cultural capital and reading performance and less than 4% among students from education systems where this correlation is the weakest. On the other hand, the correlation between teacher support and reading performance is negligible in education systems with a high correlation between cultural capital and reading performance, while there is a weak correlation between teacher support and reading performance in education systems with the weakest correlation between cultural capital and reading performance (Table 4).

[Insert Table 4 here]

To test whether teacher support moderates the relationship between cultural capital and reading performance among students in OECD countries with the *highest correlation* between cultural capital and reading performance, hierarchical multiple regression analysis was used. In the first step, two variables were included: cultural capital and teacher support. These variables accounted for a significant degree of variance in the students' reading performance, $R^2 = .184$, $F(2, 16418) = 1854.92$, $p < .001$. Next, the interaction term between cultural capital and teacher support was added to the regression model, and it accounted for a significant proportion of the variance in reading performance, $\Delta R^2 = .001$, $\Delta F (3, 16417) = 14.532$, $p < .001$, $b = 3.81$, $t(16417) = 3.81$, $p < .01$. An examination of the interaction plot showed an enhancing effect – teacher support increased the correlation between cultural capital and performance. Even though cultural capital has a significant positive effect on achievement at every level of teacher support (low – 16th percentile, average – 50th percentile, high – 86th percentile), it is evident that at higher levels of teacher support cultural capital has a stronger effect on reading achievement (Appendix 2). As can be seen in Figure 2, for high cultural capital, the performance is similar at different levels of support, while for low cultural capital those students with the most support showed the lowest performance in reading.

[Insert Figure 2 here]

To examine whether teacher support moderates the relationship between the cultural capital and reading performance of students in OECD countries with the *lowest correlation* between cultural capital and reading performance, hierarchical multiple regression analysis was used. In the first step, two variables were included: cultural capital and teacher support. These variables accounted for a significant degree of variance in the students' reading performance, $R^2 = .052$, $F(2, 29195) = 795.6$, $p < .001$. Next, the interaction term between cultural capital and teacher support was added to the regression model, and it accounted for a significant proportion of the variance in the students' performance, $\Delta R^2 = .0002$, $\Delta F (3, 29194) = 7.478$, $p = .006$, $b = -1.5368$, $t(29194) = -2.7346$, $p = .006$. Unlike among students from education systems with the highest correlation between cultural capital and reading performance, an examination of the interaction plot indicates that teacher support decreased the correlation between cultural capital and performance. More precisely, cultural capital has a stronger effect on reading achievement among students with low levels of teacher support than among those with high levels of teacher support (Appendix 3). Consequently, in this context students with low cultural capital benefited the most from high teacher support (Figure 3).

[Insert Figure 3 here]

Discussion

In our study we aimed to investigate if teacher support moderates the relationship between cultural capital and students' reading performance, and whether the moderation effect depends on the equity of the education system. The findings suggest that regardless of its strength the correlation between cultural capital and students' reading performance is moderated by teacher support. However, the nature of the moderation effect differs in education systems with the lowest and those with the highest correlation between cultural capital and reading performance. In education systems where this correlation is the lowest, we noted that the average students' rating of teacher support is high and that it may serve to reduce some of the inequalities, since it is evident that students with low cultural capital benefited from high teacher support the most. On the contrary, in education systems where the correlation between cultural capital and students' reading performance is the highest, despite being rated lower when compared to the other group, teacher support seems to contribute to greater inequalities. Namely, the students with low cultural capital who reported higher teacher support showed the lowest reading performance.

Although these findings might seem controversial, they could be interpreted from both pedagogical and sociological perspectives. Pedagogical literature suggests that some kinds of

teacher support (referred to as instrumental) might be counterproductive if students are placed in a passive role and are treated as hopeless victims, where the support is conceived as a therapeutic activity (Bartram 2009). We could assume that such support might serve to increase inequalities if this type of support is typical for students with low cultural capital, while support for students with high cultural capital occurs through interaction. Thus, support itself could result in polarisation among those students who are passive receivers and those who are allowed to be proactive in the education process. From the sociological perspective, it is possible that in such instances support is provided so as to compensate for students' low cultural capital and to introduce them to the legitimate culture. Namely, from Bourdieu's perspective, unjust education systems are characterized by a rigid boundary between legitimate and illegitimate knowledge and culture (Bourdieu and Passeron 1979). It is likely that in such a context support is oriented towards the acculturation of students with low cultural capital to the legitimate culture, instead of developing their potential. Therefore 'more support' could send those students the message that they do not have what it takes to be a 'good student' and lead to their self-elimination.

However, bearing in mind the characteristics of the items used to measure teacher support (the students were asked to assess teacher support in general, not to what extent teachers support them individually), these interpretations should be viewed with caution. Some students might have reported high levels of teacher support which was provided to other students, and not to them. This may be a case of students with higher cultural capital tending to seek, and therefore receiving support from teachers more often, which was confirmed in other studies (Calarco 2011, 2014). The findings from our analysis could indicate that this tendency is more apparent in education systems which are less equitable, i.e., where cultural capital is highly correlated with student performance. In essence, this suggests that such systems are less equitable because they are more oriented towards students with high cultural capital.

Conclusions

Based on the insights gained through our analysis, we can conclude that 1) teacher support can moderate the correlation between cultural capital and students' reading performance, and 2) the nature of the moderation effect differs in different educational contexts. We could also argue that the content and type of teacher support, as well as the recipients of this support, influence the nature of moderation. However, PISA does not provide us with enough data to explore these relations in more depth. As already mentioned, the items related to teacher

support do not provide a clear picture of who the recipients of support are. In addition, it is not possible to determine what type of support is provided to the students. Even though teacher support in large-scale studies is operationalised in a manner similar to the technicist understanding of support, it is not quite clear what the content of such support is. Therefore, it may be assumed that the students interpreted these items differently, e.g. as purely academic and/or emotional support. Hence, based on the data from PISA, the contributions of different teacher support types could not be analysed separately. Hence, although this study provides important findings on the relationships between cultural capital, teaching support and reading performance, further research is necessary in order to understand the potentials of different types of support for reducing inequalities in education.

Another thing to be taken into consideration is that the different activities of teacher support the students were asked to assess could have different effects across different education systems, as they are never isolated from the context of the overall teaching practice and from other support measures in place on the institutional and system level. Bearing in mind these limitations, further studies should explore the types of support which are provided to different groups of students, the educational context in which support takes place (during regular classes or extracurricular activities, in which phases of teaching, who is initiating the support, how is it shaped) and how students and teachers perceive such support and its (potential) effects. These studies could have numerous goals and vary in terms of methodology, ranging from qualitative studies which would provide detailed descriptions of the support provided and the personal, educational, institutional, and societal context in which it is situated, to the exploration of the causal relations between specific types of support and their effects. In order to achieve this, studies which deal explicitly with teacher support should be designed in such a manner as to enable the triangulation of different data sources and research methods. Additionally, instruments specifically intended for exploring students' and teachers' perceptions of different types of support should be designed (questionnaires, interview and observation protocols). Studies conducted by teachers as researchers would be especially valuable, as well as participative studies which would include students as co-researchers. Apart from being scientifically insightful, such studies could also have emancipatory potential – for teachers to reflect on their practice and gain a better understanding of what kind of support students with different cultural capital need, and for students to be encouraged to seek support and widen their awareness of the different educational needs their peers may have.

The insights from such studies would be of great value for pedagogical and sociological theory, but could also be relevant for educational practice. To help reduce inequalities in the educational context, teachers should reflect on the support they provide to students – what types of support they offer, to whom they direct it and in which situations, what the student role in the process is, how support is perceived from the students' perspective. At the same time, educational policies need not only to ensure adequate assistance for teachers in providing support for students, but also to systematically re-examine the different characteristics of the education system and society which contribute to unequal opportunities of students with different levels of cultural capital. Although large-scale studies, such as PISA, provide data on a variety of system parameters, caution should be taken in interpreting their results, as external testing alone disregards different students' backgrounds. Such studies inherently carry conflicted values – they place emphasis on high performance and the efficacy of education on one side, and promote equity and fairness in education on the other. Hence, education systems which focus on outcomes and strive to improve or maintain their positions on international student performance charts, often invest in students who already show academic potential and those who are in need of support are sidelined. Thus, higher efficiency often comes at the expense of less equity in education (Baucal 2012).

Disclosure statement

No potential conflict of interest was reported by the authors.

References

Andersen, Patrick Lie, and Marianne Nordli Hansen. 2012. "Class and cultural capital—The case of class inequality in educational performance." *European Sociological Review* 28(5): 607-621.

Bartram, Brendan. 2009. "Student Support in Higher Education: Understandings, Implications and Challenges." *Higher Education Quarterly* 63(3): 308–314. doi: https://doi.org/10.1111/j.1468-2273.2008.00420.x

Baucal, Aleksandar. 2012. *Ključne kompetencije mladih u Srbiji u PISA 2009 ogledalu* [Key competencies of students in Serbia in PISA 2009 mirror]. Beograd: Institut za psihologiju, Filozofski fakultet i Tim za socijalno uključivanje i smanjenje siromaštva Vlade RS.

Bodovski, Katerina, Jeon Haram, and Byun Soo-yong. 2017. "Cultural capital and academic achievement in post-socialist Eastern Europe." British *Journal of Sociology of Education* 38(6): 887–907.

Bourdieu, Pierre, and Jean Claude Passeron. 1979. *The Inheritors*. Chicago and London: The University of Chicago Press.

Bourdieu, Pierre, and Jean Claude Passeron. 1990. *Reproduction in Education, Society and Culture*. London: Sage.

Bourdieu, Pierre, and Luc Boltanski. 1981. "The Education System and the Economy: Titles and Jobs". In *Rupture and Renewal Since* 1968, edited by Charles Lemert, 141-152. New York: CUP.

Bourdieu, Pierre. 1977a. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Bourdieu, Pierre. 1977b. "Cultural Reproduction and Social Reproduction". In *Power and Ideology in Education*, edited by Jerome Karabel, 487-511. Oxford: Oxford University Press.

Bourdieu, Pierre. 1986. "The forms of capital." In: *Handbook of Theory and Research for the Sociology of Education*, edited by John Richardson, 241–258. New York: Greenwood Press.

Calarco, Jessica McCrory. 2011. "'I Need Help!' Social Class and Children's Help-Seeking in Elementary School." *American Sociological Review* 76(6): 862–882.

Calarco, Jessica McCrory. 2014. "Coached for the Classroom: Parents' Cultural Transmission and Children's Reproduction of Educational Inequalities. "*American Sociological Review* 79(5): 1015–37.

Casillas, Alex, Steve Robbins, Jeff Allen, Yi-Lung Kuo, Mary Ann Hanson, and Cynthia Schmeiser. 2012. "Predicting early academic failure in high school from prior academic achievement, psychosocial characteristics, and behavior." *Journal of Educational Psychology* 104(2): 407-420.

Castro, María, Eva Expósito-Casas, Esther López-Martín, Luis Lizasoain, Enrique Navarro-Asencio, and José Luis Gaviria. 2015. "Parental involvement on student academic achievement: A meta-analysis." *Educational Research Review* 14(1): 33-46.

DiMaggio, Paul, and John Mohr. 1985. "Cultural capital, educational attainment, and marital selection." *American Journal of Sociology* 90(6): 1231-1261.

DiMaggio, Paul. 1982. "Cultural Capital and School Success: The Impact of Status Culture Participation on the Grade of U.S. High School Students. "*American Sociological Review 47*(2): 189–201.

Goldhaber, Dan, and Emily Anthony. 2003. *Teacher Quality and Student Achievement*. New York: ERIC Clearinghouse on Urban Education.

Gundogan, Dragana, Dusica Malinić, and Mladen Radulović. (2020). "Mogu li različiti načini rada u nastavi da utiču na povezanost društvenog položaja i postignuća učenika [Can different teaching practices influence the relationship between social status and student achievement?]. " *Inovacije u nastavi-časopis za savremenu nastavu* 33(2): 29-41.

Hattie, John. 2009. *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

Hayes, Andrew. 2017. *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York and London: Guilford publications.

Hörner, Wolfgang, Hans Döbert, Lutz R. Reuter, and Botho Von Kopp, eds. 2015 *The education systems of Europe* (secpnd ediotion). Dordrecht: Springer.

Huang, Haigen, and Guodong Liang. 2016. "Parental cultural capital and student school performance in mathematics and science across nations." *The Journal of Educational Research* 109(3): 286-295. doi: http://dx.doi.org/10.1080/00220671.20 14.946122

Human Development Index. 2019. http://hdr.undp.org/en/2019-report

Jæger, Mads Meier. 2011. "Does Cultural Capital Really Affect Academic Achievement? New Evidence from Combined Sibling and Panel Data." *Sociology of Education* 84(4): 281–298.

Kamii, Constance, Judith Rummelsburg, and Amy Kari. 2005. "Teaching arithmetic to low-performing, low-SES first graders." *The journal of mathematical behavior 24*(1): 39-50.

Karadag, Engin, ed. 2017. *The Factors Effecting Student Achievement: Meta-Analysis of Empirical Studies*. Cham: Springer.

Kraaykamp, Gerbert, and Koen Van Eijck. 2010. "The Intergenerational Reproduction of Cultural Capital: A Threefold Perspective." *Social Forces* 89(1): 209–231.

Kyriakides, Leonidas, Christiana Christoforou, and Charalambos Y. Charalambous. 2013. "What matters for student learning outcomes: A meta-analysis of studies exploring factors of effective teaching." *Teaching and Teacher Education* 36: 143–152.

Lareau, Annette, and Elliot B. Weininger. 2003. "Cultural capital in educational research: A critical assessment." *Theory and Society* 32(5): 567-606.

Malecki, Christine Kerres, and Michelle Kilpatrick Demaray. 2003. "What Type of Support Do They Need? Investigating Student Adjustment as Related to Emotional, Informational, Appraisal, and Instrumental Support. "*School Psychology Quarterly* 18(3): 231–252.

Marteleto, Leticia, and Fernando Andrade. 2013. "The Educational Achievement of Brazilian Adolescents: Cultural Capital and the Interaction between Families and Schools." *Sociology of Education* 87(1): 16–35.

Merolla, David M., and Omari Jackson. 2014. "Understanding Differences in College Enrollment: Race, Class and Cultural Capital." *Race and Social Problems* 6(3): 280–292.

Nye, Barbara, Spyros Konstantopoulos, and Larry V. Hedges. 2004. "How Large Are Teacher Effects?." *Educational Evaluation and Policy Analysis 26*(3): 237-257.

OECD. 2019a. *PISA 2018 Results (Volume II): Where All Students Can Succeed*. Paris: OECD Publishing.

OECD. 2019b. *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*. Paris: OECD Publishing.

OECD. 2019c. *TALIS 2018 Results* (Volume I): Teachers and School Leaders as Lifelong Learners. Paris: OECD Publishing. doi: https://doi.org/10.1787/1d0bc92a-en

OECD. 2020. *Employment rate (indicator)*. doi: https://doi.org/10.1787/1de68a9b-en

Puzić, Saša, Margareta Gregurović, and Iva Košutić. 2016. "Cultural capital–a shift in perspective: An analysis of PISA 2009 data for Croatia." *British Journal of Sociology of Education* 37(7): 1056-1076.

Radulović, Mladen. 2019. *Značaj kulturnog kapitala za obrazovni uspeh i formiranje obrazovnih aspiracija učenika u Srbiji* [The Relevance of Cultural Capital to

Educational Achievement and Formation of Students' Educational Aspirations in Serbia] (Doctoral dissertation). Belgrade: Faculty of Philosophy, University of Belgrade.

Rivkin, Steven G., Eric A. Hanushek, and John F. Kain. 2005. "Teachers, schools, and academic achievement." *Econometrica* 73(2): 417–458.

Roscigno, Vincent J., and James W. Ainsworth-Darnell. 1999. "Race, cultural capital, and educational resources: Persistent inequalities and achievement returns." *Sociology of Education* 72: 158-178.

Rowley, Kristie J., Chrisse C. Edmunds, Mikaela J. Dufur, Jonathan A. Jarvis, and Florencia Silveira. 2020. "Contextualising the achievement gap: assessing educational achievement, inequality, and disadvantage in high-Income countries." *Comparative Education* 56(4): 459–483. doi: https://doi.org/10.1080/03050068.2020.1769928

Ryan, Janette, and Susan Hellmundt. 2007. "Maximising international students' 'cultural capital'". In J. Carroll and J. Ryan (eds.) *Teaching international students*, edited by Jude Carroll and Janette Ryan, 13-16. London: Routledge.

Scheerens, Jaap. 2016. *Educational effectiveness and ineffectiveness: a critical review of the knowledge base*. Dodrecht: Springer.

Shumaker, Sally A., and Arlene Brownell. 1984. "Toward a Theory of Social Support: Closing Conceptual Gaps." *Journal of Social Issues* 40(4): 11-36.

Sirin, Selcuk R. 2005. "Socioeconomic status and academic achievement: A meta-analytic reviewof research." *Review of Educational Research* 75(3): 417–453.

Sortkaer, Bent. 2019. "Cultural capital and the perception of feedback." *British Journal of Sociology of Education* 40(5): 647-663.

Stipek, Deborah. 2006. "Relationships matter." *Educational leadership* 64(1): 46-49.

Stronge, James, Thomas Ward, and Leslie Grant. 2011. "What Makes Good Teachers Good? A Cross-Case Analysis of the Connection between Teacher Effectiveness and Student Achievement."*Journal of Teacher Education* 62(4): 339–355. doi: https://doi.org/10.1177/0022487111404241

Sun, Letao, Kelly D. Bradley, and Kathryn Akers. 2012. "A Multilevel Modelling Approach to Investigating Factors Impacting Science Achievement for Secondary School Students: PISA Hong Kong Sample." *International Journal of Science Education* 34(14): 2107–2125. doi: https://doi.org/10.1080/09500693.2012.708063

Swartz, David. 1997. *Culture and Power: The Sociology of Pierre Bourdieu*. University of Chicago Press.

Teodorović, Jelena, Ivana Jakšić, and Vladeta Milin. 2020. "Value added of schools in Serbia." *Zbornik Instituta za pedagoska istrazivanja* 52(1): 81–135. doi: https://doi.org/10.2298/zipi2001081t

Teodorović, Jelena. 2011. "Classroom and school factors related to student achievement: what works for students?" *School Effectiveness and School Improvement* 22(2): 215–236. doi: https://doi.org/10.1080/09243453.2011.575650

Teodorović, Jelena. 2012. "Student background factors influencing student achievement in Serbia." *Educational Studies* 38(1): 89–110.

The World Bank. 2020. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

Appendex 1: Countries ranked by the correltaion between cultural capital and reading performance

Country	Corelation between cultural capital and reading performance
Israel	.189**
Canada	.194**
Norway	.212**
Estonia	.213**
United Kingdom	.227**
Iceland	.232**
United States	.245**
Sweden	.263**
Latvia	.264**
Netherlands	.274**
Australia	.277**
Korea	.277**
Austria	.282**
Ireland	.287**
Italy	.288**
Finland	.290**
Switzerland	.295**
New Zealand	.297**
Denmark	.301**
Portugal	.307**
Slovenia	.308**
Japan	.313**
Poland	.319**
Greece	.331**
Germany	.337**
Lithuania	.338**
Mexico	.340**
Turkey	.343**
Chile	.347**
Belgium	.359**
Colombia	.381**
Luxembourg	.381**
Slovak Republic	.381**
Czech Republic	.417**
France	.448**
Hungary	.459**
Spain	no data

**. Correlation are significant at the 0.01 level (2-tailed).

Appendix 2: Model 1 education systems with the highest correlation between cultural capital and reading performance

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.43	.185	7415.421	1242.476	3	16417	.000
Main model						
	Coeff	se	t	p	LLCI	ULCI
Constant	509.839	2.575	197.967	.000	504.791	514.887
Cultural capital	35.713	2.821	12.661	.000	30.184	41.241
Teacher support	-5.034	.922	-5.461	.000	-6.841	-3.227
Interaction	3.807	.999	3.812	.000	1.85	5.765
Effects of the predictor at values of the moderator:						
Teacher Support	Effect	se	t	p	LLCI	ULCI
Low	43.327	1.044	41.484	.000	41.28	45.375
Averagge	46.047	.757	60.835	.000	44.563	47.53
High	48.766	1.036	47.082	.000	46.736	50.797

Appendix 3: Model 2 education systems with the lowest correlation between cultural capital and reading performance

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.228	.052	9604.96	533.01	3	29194	.000
Main model						
	Coeff	se	t	p	LLCI	ULCI
Constant	459.025	2.214	207.293	.000	454.685	463.365
Cultural capital	30.192	2.503	12.063	.000	25.286	35.097
Teacher support	10.048	.493	20.363	.000	9.080	11.015
Interaction	-1.537	.562	-2.735	.006	-2.638	-.435
Effects of the predictor at values of the moderator:						
Teacher Support	Effect	se	t	p	LLCI	ULCI

Low	26.02	1.125	23.127	.000	23.815	28.226
Averagge	22.727	.779	29.179	.000	21.201	24.254
High	21.849	.96	22.771	.000	19.968	23.73

Table 1. Cultural capital: Eigenvalue and percentage of the explained variance

Factor	Eigenvalues	Percentage of variance
Cultural capital	2.863	28.629
2	1.496	14.956
3	1.101	11.011
4	.855	8.547
5	.838	8.378
6	.744	7.443
7	.662	6.615
8	.532	5.316
9	.506	5.057
10	.422	4.223

Table 2. Cultural capital: Component matrix of factors

Items	Cultural capital	2	3
Mother's Education (ISCED)	0.599	-.338	-.551
Father's Education (ISCED)	0.588	-.329	-.573
In your home: Classic literature	0.582	.423	-.029
In your home: Books on art, music, or design	0.54	.384	.025
In your home: Works of art (e.g. paintings)	0.537	.234	.048
In your home: A computer you can use for school work	0.536	-.459	.401
In your home: Books of poetry	0.536	.556	-.017
In your home: Educational software	0.512	-.213	.421
In your home: A link to the Internet	0.452	-.489	.311
In your home: Books to help with your school work	0.426	.281	.182

Table 3. Descriptive statistics for reading performance, cultural capital and teacher support in two groups of education systems

	Education systems with the strongest correlation between cultural capital and reading performance			Education systems with the weakest correlation between cultural capital and reading performance		
	M	SD	N	M	SD	N
Reading performance	492.315	98.843	18459	499.994	104.435	35089
Cultural capital	.091	.893	16732	.299	.818	30373
Teacher support	2.708	.749	17820	4.333	1.237	31400

Table 4. Correlations between students' reading performance, cultural capital, and teacher support (for two groups of education systems)

	Education systems with the strongest correlation between cultural capital and reading performance			Education systems with the weakest correlation between cultural capital and reading performance		
	Reading performance	Cultural capital	Teacher support	Reading performance	Cultural capital	Teacher support
Reading performance	1	.431**	-.033**	1	.195**	.128**
Cultural capital	.431**	1	.037**	.195**	1	.033**
Teacher support	-.033**	.037**	1	.128**	.033**	1

**. Correlations are significant at the 0.01 level (2-tailed).

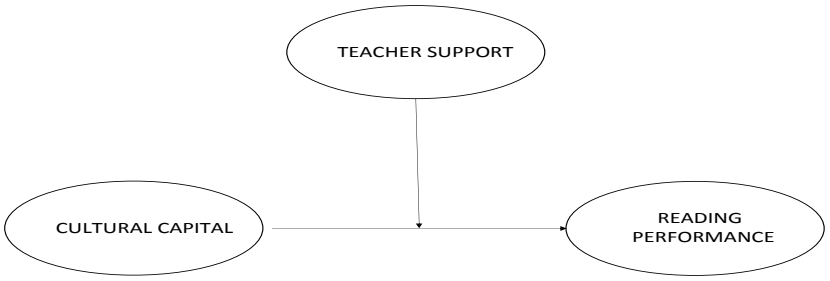

Figure 1. Research design - Simple moderation model

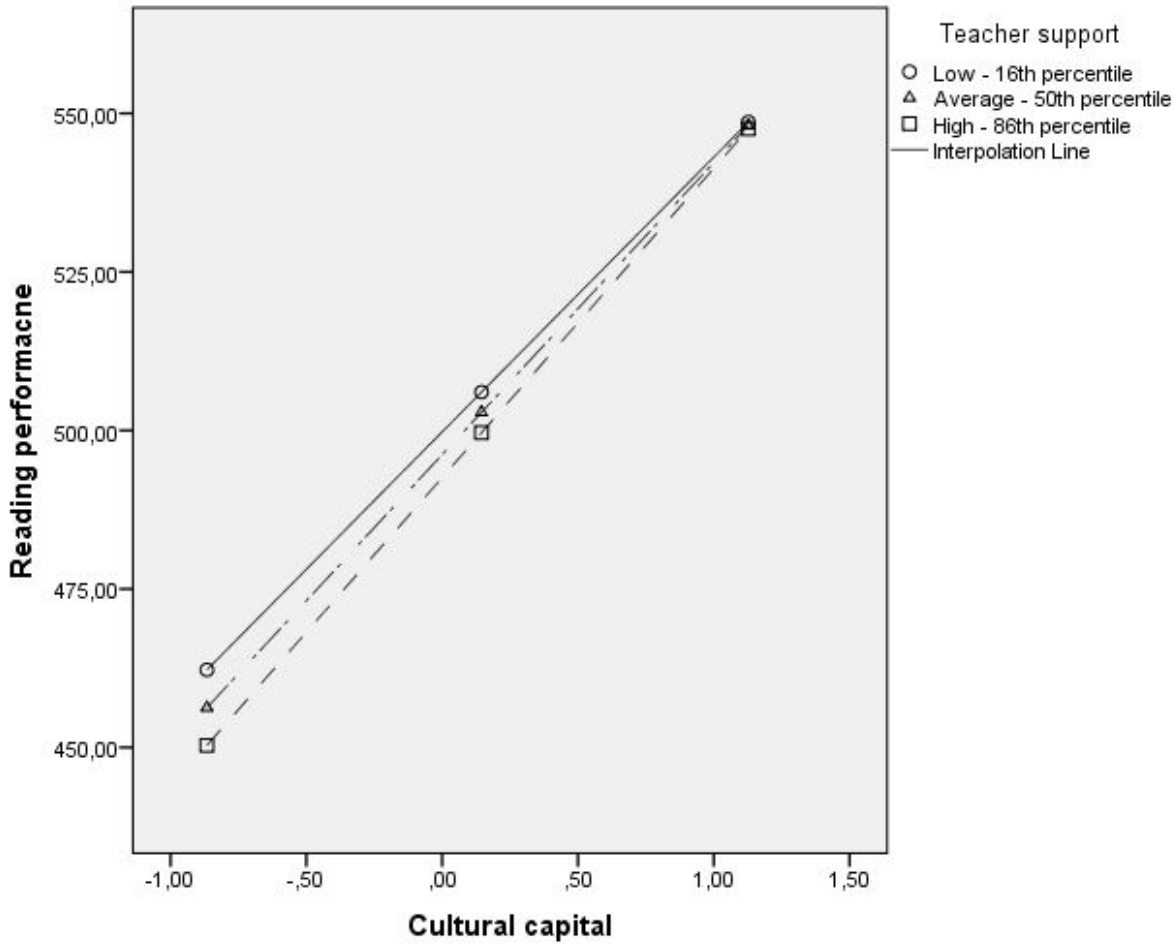

Figure 2. Interaction effect between cultural capital, reading performance and teacher support (education systems with the strongest correlation between cultural capital and reading performance)

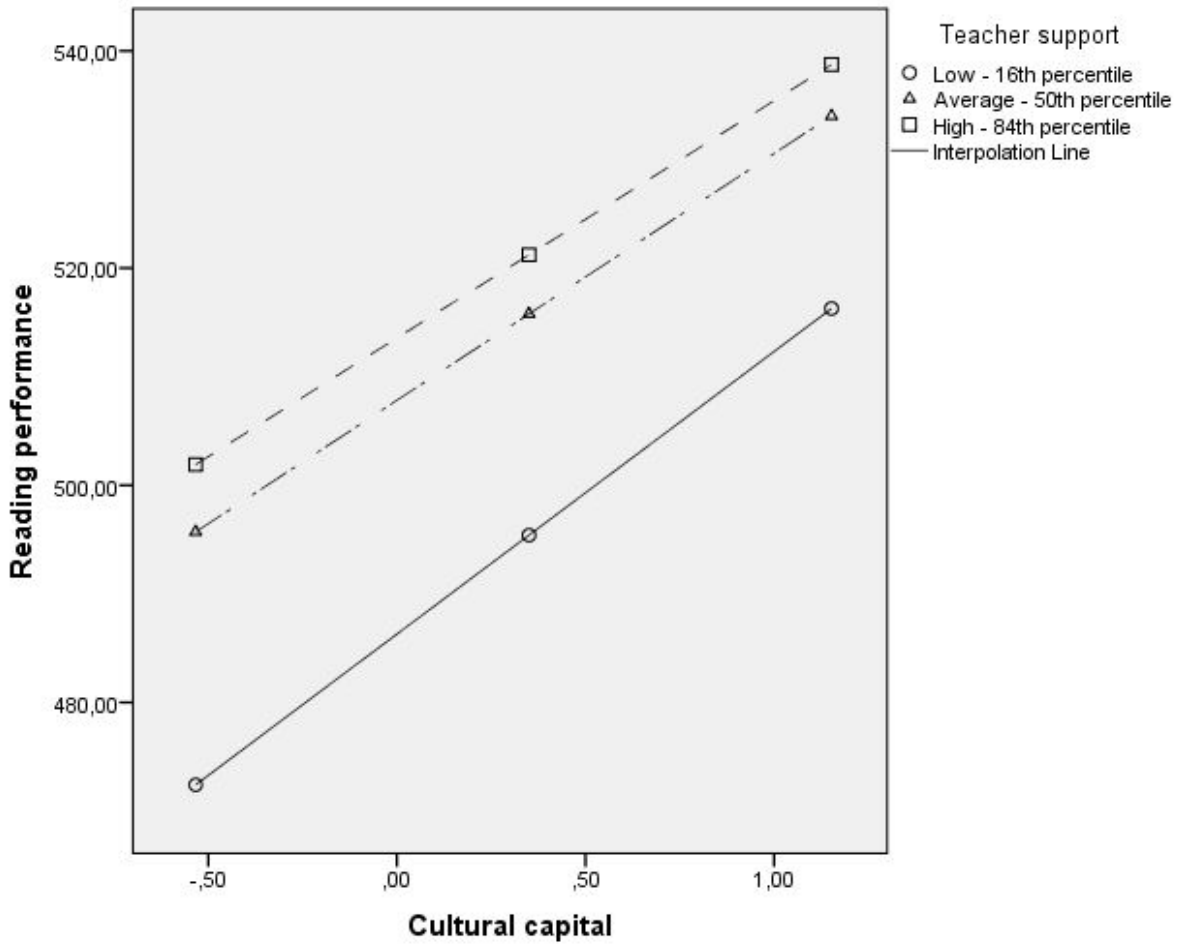

Figure 3. Interaction effect between cultural capital, reading performance and teacher support (education systems with the weakest correlation between cultural capital and reading performance)

List of figures: