

The road to resilience: breaking the cycle of disadvantage

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ABSTRACT

This paper aims to explore the set of characteristics that construct the profile of resilient students based on the OECD's PISA data. The sample of the research consists of low economic, social and cultural status students from Finland, Portugal and Croatia. The selection of the above three countries was grounded in factors related to each country's education system and also to their respective PISA results. The SPSS platform was used for the data analysis and the following descriptive statistical process. The present study suggests that resilient students form and develop certain attributes that provide them with the strength and fortitude to achieve school success.

KEYWORDS

PISA, resilient students, Economic Social and Cultural Status, Finland, Portugal, Croatia

RÉSUMÉ

Cet article vise à explorer l'ensemble des caractéristiques qui construisent le profil des étudiants résilients sur la base des données PISA de l'OCDE. L'échantillon de la recherche se compose d'étudiants de statut économique, social et culturel bas de la Finlande, du Portugal et de Croatie. La sélection des trois pays ci-dessus était fondée sur des facteurs liés au système éducatif de chaque pays et sur les résultats respectifs de PISA. La plateforme SPSS a été utilisée pour l'analyse des données et le processus statistique descriptif suivant. La présente étude suggère que les étudiants résilients forment et développent certains attributs qui leur fournissent la force et la fermeté d'obtenir la réussite scolaire.

MOTS-CLÉS

PISA, étudiants résilients, statut économique, social et culturel, Finlande, Portugal, Croatie

INTRODUCTION

A constantly growing body of research acknowledges that education has the potential to offer a significant range of benefits, such as the underpinnings of lifelong learning, but also social and financial development in diverse and challenging environments (Adams, 2010; OECD, 2010a, b, 2011b). The importance of offering all young people the opportunity to develop their talents to the fullest possible extent and the potential to break the cycle, which transmits disadvantage from one generation to another, is undisputed. Hence, there appears to take place an increase of the urge for mechanisms of recording and monitoring the educational process

that are expected to safeguard quality in terms of educational provision (OECD, 2007, 2008, 2010a, 2011c, 2012, 2013a). The notion of quality is of major significance for the design and development of education policies that could facilitate and enhance a holistic approach to education.

This need for efficiency, comparison and competition in educational policy has established International Organizations - and especially the OECD - as 'diagnosticians, judges and policy advisors' to educational systems and their 'knowledge based regulation tools' (KBRTs) (Meyer & Benavot, 2013, p. 9) as key indicators of global best practices. Such conception of knowledge perceives education as a site of policy intervention - through market mechanisms - to improve the well-being of individuals and economic strength of nations. The OECD's Programme for International Student Assessment (PISA) is a regulation tool for the quality and efficiency that has been established as a standard setter in secondary education (Educational Research Center, 2007, 2010; OECD, 2001, 2004a, 2008, 2011, 2011b, 2012, 2013c).

The PISA program focuses on testing literacy in three competence fields: reading, mathematics and science on a 1000-point scale. Specifically, it asks students to apply their knowledge to tackle problems set in real world contexts. Students are expected to construct, extend and reflect on the meaning of what they have read across a wide range of continuous and not continuous texts - in the case of reading (OECD, 2005, 2009a, 2010a, 2013).

THE THEORETICAL FRAMEWORK

Since standardization has become prominent, the OECD has inevitably been established as a global 'bench-maker' of standards between nation-states and their education institutions (Rinne & Ozga, 2013, p. 98). Its knowledge based regulation tools (KBRTs) seek to decontextualize policy making by displaying objective data as 'knowledge for policy' that simultaneously constructs a definition of a problem and a discussion of its solution (Rinne & Ozga, 2013, p. 111). Such instruments act as an impetus for education actors towards 'consciousness' and towards 'doing something they otherwise might not do (or not on this form)' (Kiss & Fejes, 2011, p. 69). By diffusing a specific type of knowledge - quality assurance based on standards - and introducing minutely specified procedures for action, they seek to form 'behavior, consciousness, accountability and education quality management issues' in different nation-states (Ibid).

However, despite all those efforts in national and supranational level, disparities in terms of cognitive and educational - in general - outcomes are still present. To be specific, it appears that inequality deeply affects students from underprivileged backgrounds and impedes their chances to break the cycle of disadvantage and social exclusion. According to the literature, low economic, social and cultural status is directly connected with school failure and low educational - academic performance (Battle & Lewis, 2002; Lee & Burkam, 2002; Rothstein, 2004; Sirin, 2005; Lareau & Conley, 2008; Berliner, 2009; OECD, 2009, 2010, 2011a, d; 2012, 2013c, 2014a, 2014b;). Particularly, the economic and social aspect is reflected on characteristics such as family background, educational and professional qualifications, interactions, values, family structure, parental social and cultural capital (Marjoribanks, 1996, 2001; Hill & Taylor, 2004) and even everyday routines like the existence of a dedicated workplace, or even Internet access, literature and poetry studies etc. (OECD, 2007, 2008, 2009, 2010, 2011a, 2012, 2013c, 2014b).

Evidently, low Economic Social and Cultural Status (ESCS) students live, study, perform and are exposed in different stimuli and therefore show diverse educational needs in comparison with their peers from more privileged backgrounds. However, not all ESCS

students face educational inequality and conversely not all children from privileged backgrounds achieve academic success. Hence, one could suggest that exploring the factors that have the potential to break the cycle of educational disadvantage is of major significance. Such factors could eliminate the disparities between the above-mentioned different categories of students and could also prove that social and economical obstacles can be overcome. To be particular, the relevant literature (Reyers & Jason, 1993; Gonzalez & Padilla, 1997; Waxman, Huang & Wang, 1997; Spencer, Jordan & Zanna, 2005; OECD, 2007, 2008, 2009, 2010, 2011a, 2012, 2013c, 2014b; Warren & Hunter, 2013) reveals that several students, despite being from underprivileged backgrounds, manage to tackle the struggles they face and achieve educational success due to their resilience.

Defining Resilience

The literature (Bernard, 1991; Grotberg, 2003; Werner, 2005; OECD, 2009, 2010, 2012, 2013c, 2014) defines resilient students as the ones that form and develop certain attributes that provide them with the strength and fortitude to achieve school success despite all the difficulties they may come across - because of their low ESCS. Resilience is about being able to overcome the social and economic factors that could impede academic success (Gordon Rouse, 2001). According to the OECD, students are resilient when they are in the lowest ESCS PISA level and at the same time achieve the highest level of PISA assessment results (OECD, 2011a, 2013b, c).

Contributing factors to resilience

It needs to be stressed that there is not a specific factor or characteristic that is solely responsible for resilience or success, however educational resilience can be enhanced through interventions that promote students' talents and skills (Wang & Gordon, 1994; Zins, Weissberg, Wang & Walberg, 2004; Brooks, 2006). The relevant literature refers to those factors as internal and external. Internal factors are personal characteristics, such as social and problem solving skills, autonomy and sense of purpose (Gutman, Sameroff & Eccles, 2002). Nordvik & Brovold (1998) particularly notes that resilient students perceive problems and challenges as obstacles that can be tackled and overcome through work.

On the other hand, external factors of resilience are the ones that can be enhanced or hindered by a student's environment - family, school and local community - where attributes like socialization, personal development, family structure, discipline, parental involvement and expectations for the future take place (Gonzalez & Padilla, 1997; Gutman, Sameroff & Eccles, 2002; Newman, 2002; Waxman, Gray & Padron, 2003; Duncan & Magnuson, 2005; Spencer et al., 2005; Werner, 2005). Additionally, peer support can also serve as a significant contributing factor (Eamon, 2005). Finally, as far as school environment is concerned, indicative factors for resilience are: the development of healthy interpersonal relationships among teachers and students, the pedagogy that fosters teamwork spirit and supports incentives (Taylor, 2005), the enhancement of creativity and emotional intelligence and the achievement of objectives.

METHODOLOGY AND METHOD

This study is based on quantitative data derived from the OECD's PISA official documents and aims to initially record the percentage of resilient students in Finland, Portugal and Croatia. Specifically, we analyse a set of data concerning mathematics literacy, collected by the PISA survey of 2012, and also discourses presented on the OECD's official website (<http://pisa2012.acer.edu.au/>). Through the use of the SPSS platform, this research seeks to

describe and analyse the characteristics of resilient students that enable them to confront and overcome the adversities of their socio-economic background. It should be mentioned that a critical factor determining our selection of mathematics literacy, was the fact that the OECD's main focus for 2012 was mathematics literacy.

According to the OECD's data, around 510,000 students in 65 economies took part in the PISA 2012 assessment of reading, mathematics and science representing about 28 million 15-year-olds globally. In 2012, 8.829 Finns, 5.722 Portuguese, and 5.008 Croatian 15-year-olds took part in PISA and the present study's sample consists of 178 students from the three above selected countries. The rationale behind the above sample selection was the similarities regarding the participants' social and economical background. Furthermore, the country selection criteria vary on a case-by-case basis, since our aim was to cover all three classification-groups based on the participating countries' rankings. To be specific, Finland was selected from the first classification-group, which brings together countries that achieve a significantly higher average score in comparison with other countries that took part in the PISA survey. Portugal's average score is not significantly different than the average of other OECD countries and finally, Croatia represents the third classification-group since Croatian students' average score was significantly lower (OECD, 2014).

OUTCOMES

Our study suggests that Finland demonstrates a noteworthy proportion of resilient students, reaching 34%. Those students, despite their underprivileged backgrounds, manage to achieve high rankings that place them at the peak of the PISA survey internationally. The fact that similar performances are usually achieved by youngsters of high socio-economic background, indicates that educational success can be achieved by everybody, no matter the economic or social status. If compared to Finland, then the percentages of Portugal and Croatia appear considerably lower despite similarities concerning their ESCS. Namely, Portugal reaches 24,4 % while Croatia achieves 27.7%. It needs to be highlighted that the latter percentage could be a result of a series of educational reforms implemented by the Croatian government in the last decade to improve the quality and efficiency of the educational process.

TABLE
Presentation of resilient student's rate per country

	Finland		Portugal		Croatia	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Resilient	34	34,0	10	24,4	10	27,0
Non-resilient	66	66,0	31	75,6	27	73,0
Number of students	100	100,0	41	100	37	100,0

There are specific characteristics and attitudes among resilient students from all three countries that determine and "feed" their resilience: Those students show perseverance, willingness to solve difficult problems, determination against quitting, genuine interest and eagerness for perfection. (Chart 1). Furthermore, another quality of theirs has to do with their intrinsic motivation, since they are interested in and fascinated by mathematics education (Chart 2) - although only Portuguese students enjoyed and at the same time were enthusiastic about taking mathematics lessons throughout the school year.

CHART 1

Math work ethic - study until I understand everything

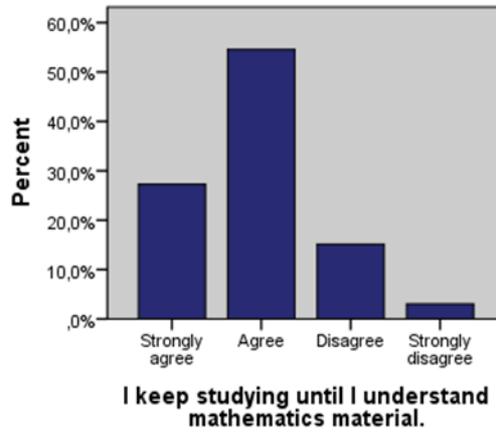
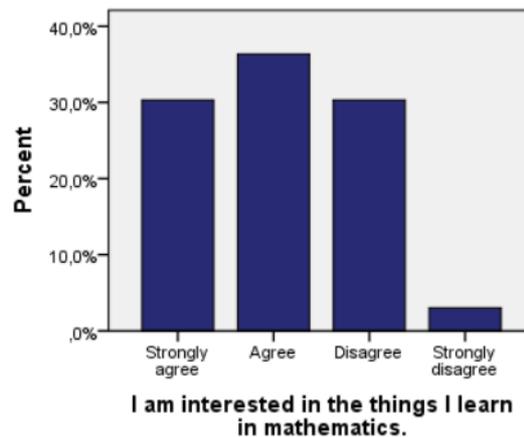


CHART 2

Math interest-interested



Moreover, the sample's students put more effort than expected by their peers, in terms of understanding and conceptualizing mathematics and achieving higher performances due to their perception of the importance of mathematics literacy for both the progress and development of their academic and professional careers (Chart 3). In addition to the above they combine a positive self-image and low levels of anxiety.

Self-efficacy is another intrinsic characteristic that determines the extent of resilience. The majority of the participants strongly believed that they have the ability to adapt and cope successfully with complicated issues that face during their everyday routines (e.g. calculating discounts, describing and understanding statistical tables and graphs presented in newspapers etc.). A significant proportion of resilient students from the selected countries showed confidence in their mathematical skills and exercised self-control by refraining from being influenced by negative peer and family impulses. According to them, success comes with personal effort, hard work and willingness for improvement (Chart 4). Failure on the other hand is not something that they relate to personal mistakes or poor effort, but they rather share a self-confident view that perceives the educational process, the pedagogy, or their educators' misguidance as factors inhibiting their progress. Resilient students from all three countries, equally underline the ideas mentioned previously.

CHART 3

Instrumental motivation - helps to get a job

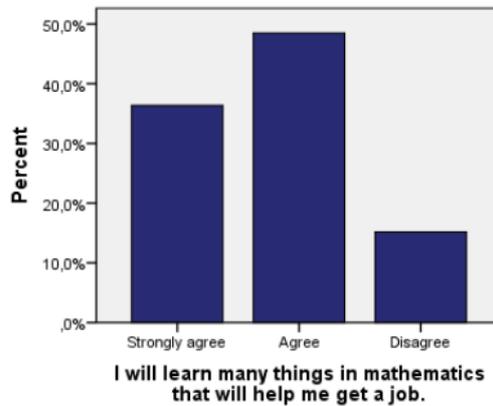
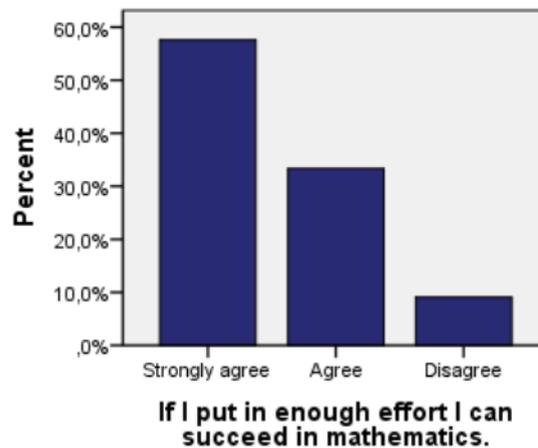


CHART 4

Perceived control - can succeed with enough effort



A noteworthy set of attributes that the majority of resilient students identify as decisive for academic success is a structured program of studying without disruptions and obstructions. Likewise, consistency and attention to detail during the lesson and during homework are equally essential (Chart 5), since mathematics literacy is perceived - by themselves and their families - as the way to professional success (Chart 6). On the contrary, our study suggests that peer support is a significant factor for resilience only for the Finns.

To be specific, only in Finland teens agree that their friends achieve high performance in mathematics, although according to them, not because of a special effort for understanding mathematical concepts and even despite not enjoying taking relevant tests (Chart 7)

Of major importance are the characteristics provided by the educational environment and have the potential to promote resilience. It appears that resilience is directly and positively related to self-esteem and satisfaction from the educational process in general (e.g. teacher - student relationships, pedagogy etc.) and perseverance and consistency regarding targets and objectives in particular. According to Bronfenbrenner (1979) schools have several features that resemble those of the family and which in many cases act as their substitutes or complements. Finally, this study suggests that the characteristics and behaviors displayed by resilient students are identical in all three different countries, but at the same time differ in terms of their intensity. The data indicate that Finn students achieve higher percentages in comparison with students

from Portugal and Croatia. So, is it the family, the school or the democratic and literate society as a whole that fosters literacy and mitigate social inequality?

CHART 5

Math work ethic - pay attention in classes

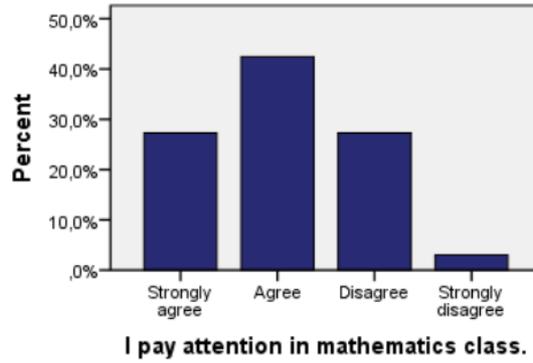


CHART 6

Subjective norms – parents believe studying Mathematics is important

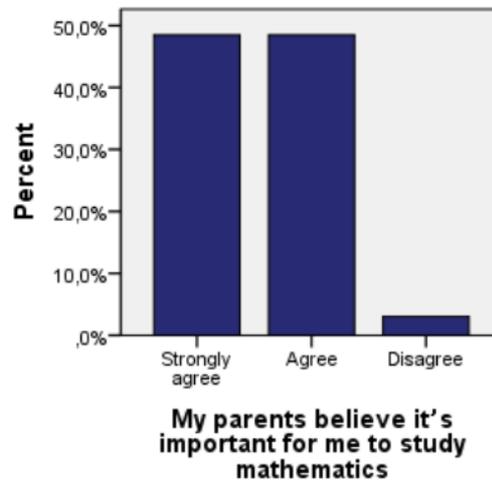
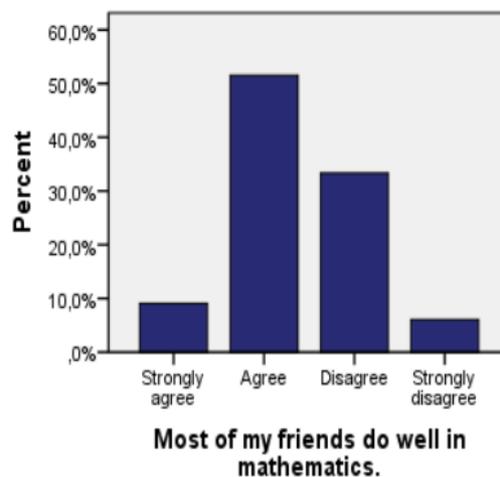


CHART 7

Subjective norms - friends do well in Mathematics



CONCLUSION

Taking into consideration the behaviors exhibited by resilient students - when compared to non-resilient - one could easily realize that the cultural and social capital aspect, as perceived by Bourdieu (1986), is of major significance in terms of the resilient students' developmental process. As mentioned previously, family and school backgrounds and also demographic characteristics are equally significant as they act as stimuli, interact and essentially define the notion of educational resilience. In a similar manner, Borman and Overman (2004) suggest that low socio-economic status students are exposed to greater risks and at the same time to environments that impede resilience. Hence, the fact that resilient adolescents enjoy school success is due to their mindset that perceives such accomplishments as a result of personal efforts or abilities. Those promoting factors appear to stem from the students' desire to achieve explicit educational goals and a smoother access to adulthood, but also from their optimism and tenacity to overcome difficult situations. When students believe that effectively control their success or failure, then they establish a balanced personality and positive self-esteem.

This study indicates that the - above-mentioned - elements associated with the personal dimension of resilience are the most significant values that have the potential to reinforce resilience. Skills such as building trust and emotional well being, fostering interpersonal relationships, setting goals, managing stress and boosting self-confidence and self-esteem strongly generate and support resilience. Furthermore, students who belong to this target group are able to make better use of their time - during and after school - because they have developed problem-solving skills, autonomy and a strong sense of purpose. When it comes to problem solving, it is their flexibility and strategic attributes that combined with their experiences lead them to academic success. Our multivariate analysis reveals that a high percentage of resilient students seek school participation teamed by work ethics, need for feedback, performance and achievement motivation, which validates Waxman's & Huang (1996) points. Those youngsters are less likely to have to repeat a school year and usually show lower rates of absenteeism.

Moreover, aspects related to children's families, such as education of parents, their relationships with children, their perceptions of the schooling process and their views regarding the importance of education, play a vital role in building resilience. This attitude is reflected in the form of incentives from parents to 15 year olds, who are full of ambitions, as revealed from their stances and efforts to grasp mathematic notions and achieve high grades. Those parents value education and show their commitment to educational success (Brofenbreuner, 1979; Krishnakumar & Black, 2002; Perez et al., 2009). Our findings suggest that external factors are reinforced by the social environment, and especially the family background, because parents have great expectations for their children, which finally become their children's own aspirations. Therefore, the parental influence encourages academic success indirectly through the formulation of a sense of self-concept and the establishment of high expectations. Likewise, the characteristics of family cohesion and stability exert considerable influence, since the vast majority of the teenagers that took part in the research grew up in a two-parent family. These conclusions thus contribute to an understanding, from different perspectives, of the complexity of issues related to the educational resilience of students from low socioeconomic backgrounds and encourage actions that can help to promote and establish resilience.

The focus on underprivileged students is vital for this study, as these students are less likely to get support, since many of them are trapped in disadvantaged environments and schools that offer limited options. We perceive the concept of resilience as a metaphor for a new vision of education that does not transmit social inequality and stratification. School and state mechanisms need to brake the cycle of disadvantage, which impedes the educational process. To conclude, students from underprivileged backgrounds have the potential to defy

and often challenge the predictions against them, if/ when provided with an opportunity to do so. In other words, no one can claim victory if not allowed to participate!

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