

The Factors That Make Education High Performing—Take Finland for Example

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Abstract. High-performing education aims to achieve excellence, equity and efficiency. Finnish education, known for its outstanding performance and philosophy, is globally recognized. But the factors behind its success are also complicated. The prosperous economy provides sufficient financial support for Finnish education, allowing the government to invest more in the construction of educational infrastructure, the upgrading of teaching equipment, teacher training and student financial aid. Meanwhile, the Finnish government's policies lay the foundation for high-performing, equal, and inclusive education. This includes providing free early school, basic and secondary education, as well as providing necessary support and resources for students with special needs. All children have equal access to education. Finally, the Finnish education system has been able to be highly regarded globally, in large part due to highly educated teaching personnel. The high standard of educational background and professional training ensure that Finnish teachers can provide high-quality teaching. The continuing teaching education enables teachers to adapt well to various changes and ensures the effectiveness of teaching. In summary, the success of Finnish education stems from its heavy investment in education, its policy guarantee of educational equality, and its emphasis on the high-quality teacher education. These factors work together to create an efficient, inclusive and student-centred education system contributing to the outstanding performance of Finnish students in global competition. Through the analysis of these factors, this article aims to figure out the reasons behind its success, to offer some insights for global education.

Keywords: high-performing education, teacher education quality, equity, Finnish lessons.

1. Introduction

Education is an investment in the future as it brings numerous benefits to countries and individuals. From a national level, education is crucial for the development of a country in several ways, such as economic growth, social stability, technological advancement and cultural preservation. From an individual level, education holds significant importance for an individual in various aspects of life. It promotes personal development by encouraging individuals to explore new ideas, question assumptions, and pursue lifelong learning. Also, education functioning as a pathway to social mobility helps individuals improve their socioeconomic status and break cycles of poverty. Education is an indispensable prerequisite for achieving personal fulfillment, peace, sustainable development, gender equality and responsible citizenship. Moreover, as a catalyst for development, it is a key point to combat inequality and reduce poverty (Pavione et al., 2020). [1] At present, all countries or regions that have achieved modernization have the highest level of education development in the world, and there are several high-level research universities. In the 21st century, countries around the world are paying more and more attention to building high-performing education. According to the OECD report, many developed countries, such as the United States, the United Kingdom, Germany, Finland, Canada and Japan, have used more than 5% of GDP as education spending. [2]

Among them, Finland is globally recognized as a world power in education, known for its successful educational performance and unique educational philosophy. The Programme for International Student Assessment (PISA) is a research project conducted by the Organization for Economic Co-operation and Development (OECD) on the evaluation of reading, mathematics and science literacy of 15-year-old students. Since 2000, the assessment has been conducted every three years. PISA results allow schools, education systems, and governments to identify aspects to be improved in their educational systems based on international comparisons of students' performance.

On the other hand, some countries that perform well in PISA assessments have become the subject of educational observation in other countries. The most prominent of these is Finland. In 2003, Finnish students achieved first place in the PISA assessments in reading, mathematics and science, thus shaping themselves as models of success in basic education. The results of the PISA test show that not only do Finnish students score high, but also have a very low number of weak performers (Kivirauma and Ruoho, 2007). [3] The standard deviation of test results, which reflects variation in student performance, is the lowest among all OECD countries (Valijarvi et al., 2002).[4] Therefore, Finland is also evaluated as one of the most high-performing countries in the use of educational resources by OECD.

In 1970s, Finland carried out a series of basic education reforms, establishing an education system based on the concept of educational equity and inclusive education. The Finnish education system has the following key features. Firstly, Finnish education attaches too much importance to the equity. One of the basic principles is to ensure equal and high-quality education and training for all children, regardless of their social background, gender, age, race and so on. In Finland, education is publicly funded. Education from pre-primary to higher education is free. School meals and all learning materials are provided free and access in remote and sparsely populated areas is ensured through free school transport. Only 2% of pupils in compulsory education attend schools that have a private provider. Secondly, the Finnish education system is featured in trust and responsibility. There is very little external control, such as finance and administration. Local autonomy is high. Most of the funding comes from local budgets and the government transfers are not earmarked. Local authorities are responsible for organizing early childhood education and care, pre-school education and basic education at the local level, and are also partly responsible for funding. Almost all schools that provide basic education are managed by local authorities. Also, Finnish higher education institutions enjoy extensive autonomy. They are autonomous regarding their teaching and research. For schools, they have the right to provide educational services in accordance with their own administrative arrangements and visions, if the essential functions prescribed by law are performed. In many cases, budget management, acquisitions, and recruitment are the responsibility of the school. Teachers also have autonomy in teaching. They can decide for themselves which teaching methods and learning materials to use. Besides, the focus of Finnish education system is life-long learning, which is ensured by making it possible for learners to take up studies at any stage of their lives. In Finland, adult learning is very popular. In 2017, over 27% of Finnish adults participated in adult education compared to an EU average of 11%. [5] As shown in Figure 1.

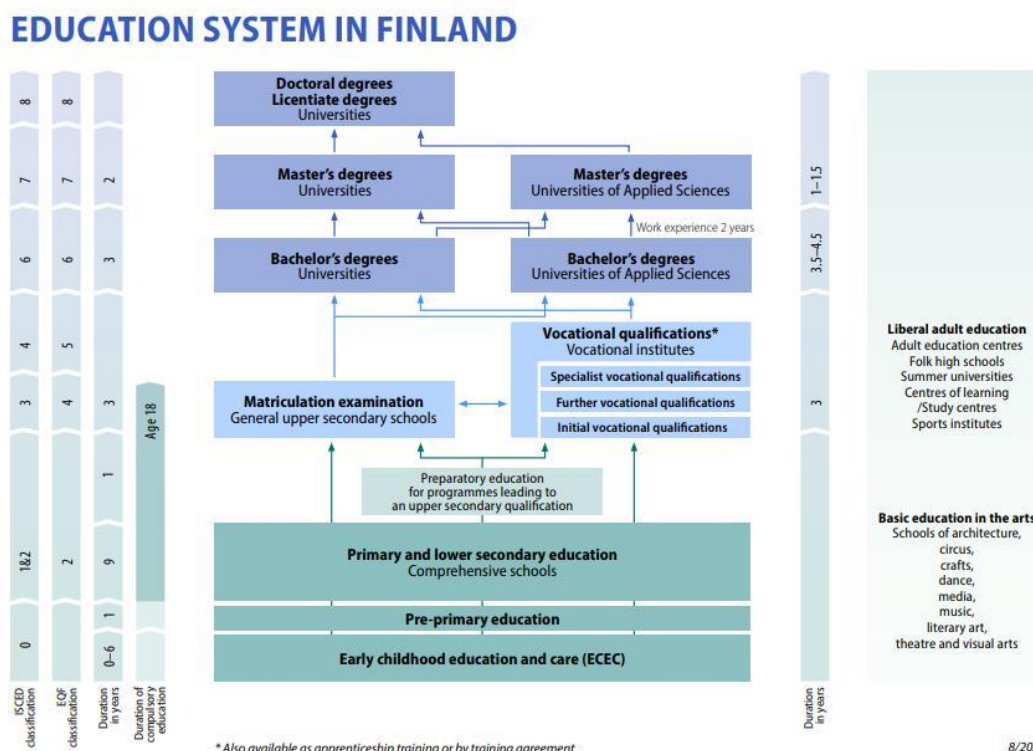


Figure 1. Finnish education in a nutshell. Source: Ministry of Education and Culture, Finnish National Agency of Education graphic, 2018

These key features have been making Finland an educational powerhouse and a great advantage in international competition. In the PISA 2018 assessment, Finnish students excelled in three areas: reading, maths, and science. For example, in terms of reading ability, Finnish students scored an average of 520 points, which is higher than the OECD average score of 487 points. In mathematics and science, the average score of Finnish students is 506 and 521, which is also higher than the OECD average of 489. [6] Although Finland slipped on the 2022 PISA test, it is still above the OECD average for reading, math and science literacy. For example, in terms of reading, Finland is in 14th place; in terms of mathematics, Finland is in 20th place; in terms of science, Finland is in 9th place. [7] Therefore, taking Finland as an example to explore the factors affecting education high performing has great implications for the development of education in other countries.

2. The Definition of High Performance Education

The National Center on Education and the Economy (2021) released NCEE's Blueprint for a High-Performing Education System. In this report, NCEE elaborated on high-performing education. NCEE define high-performing education as those that achieve excellence, equity and efficiency. About excellence, NCEE use PISA results as a measure to evaluated whether education system achieve excellent performance. PISA results show students' performance in reading, mathematics and science, which imply students' abilities to apply what they have learned in school to the kinds of problems they will encounter in the workplace and elsewhere outside school. Moreover, PISA results also test whether students are safe, happy, satisfied with their lives and content with their school climate. Based on these, the extent to excellent system can be successfully evaluated. Equity refers to that every student should have the opportunity to accept education. NCEE design some measures of equity, such as the gap in performance between the highest and lowest achieving students, the percentage of low performing students. Efficiency is a very prominent feature of high-performing education. It aims at earning world-class and equitable achievement for all children at the lowest possible cost. Its fundamental goal is to dramatically improve students' achievement while bridging the gap between advantaged and disadvantaged students. The key to achieving this goal is to redesign our education

system to eliminate the huge waste of resources that currently exists. Besides, high performing education systems have four components. They are effective teachers and principals; a rigorous and adaptive learning system; equitable foundation of supports; and coherent and aligned governance. These four parts make up an organic system and are far greater than the sum of their parts. The components are mutually reinforcing. Effective teachers and principals activate rigorous and adaptive learning systems. An equitable foundation of supports ensures that teachers and principals can teach and lead effectively, and all students come to school ready and able to learn at the highest levels. Coherent and aligned governance allows every component to work together, creates accountability for achieving results, and provides a framework to organize the system.

3. The Factors That Make Finnish Education High Performing

There are several factors influencing education, such as economy, government policies, the quality of teacher education and so on. In this part, this study will figure out the reasons for the success of Finnish education through the analysis of these factors.

3.1. Economic development level

Economic development is the basic condition for the development of education, which provides a material guarantee for the development of education. The level of economic development of a country has a direct impact on the government's education spending. On the one hand, economically developed countries can provide more scholarships and funding programs to help students from financially disadvantaged families complete their studies. They can also build more schools and buy more educational equipment. These measures have expanded access to education and made it possible for more people to have access to education. On the other hand, economically developed countries can improve the allocation of educational resources, upgrade educational facilities, and purchase advanced teaching equipment, to improve the quality of education.

According to the Figure 2, by 2022, Finland's per capita GDP has reached 62,760 US dollars, which is at the world's leading level, far exceeding the OECD total. [8] A higher GDP means that the government has more resources to invest in education, including building schools, improving the quality of education, and providing more educational opportunities. In addition, higher economic growth is likely to raise household income levels and enable more families to pay for their children's education, thereby contributing to the educational development of society. The budget proposal of the Finnish Ministry of Education and Culture for education in 2024 amounts to EUR 8 billion, an increase of EUR 274 million compared to 2023. An additional EUR 50 million will be allocated to ensure equity in primary and lower secondary education, and an additional EUR 1 million will be allocated to the costs associated with additional weekly school hours. For vocational education and training and general upper secondary education, EUR 1,418 million is proposed, which is EUR 74.6 million more than in the 2023 Budget. EUR 3,706 million will be allocated for higher education institutions and research, which is EUR 214.9 million more than in the 2023 Budget. The Ministry of Education and Culture aims to increase the number of young people with higher education degrees to nearly 50% by 2030. To achieve this, the Ministry of Education and Culture will invest EUR 11.7 million in 2024 to increase the number of students enrolled in higher education schools. In addition, it is recommended to increase funding for higher education institutions in line with rising costs. In 2024, the university expects to invest EUR 40 million in pilot projects for the training of researchers. The continued increase in investment in education demonstrates the importance that the Finnish Government attaches to education.[9]

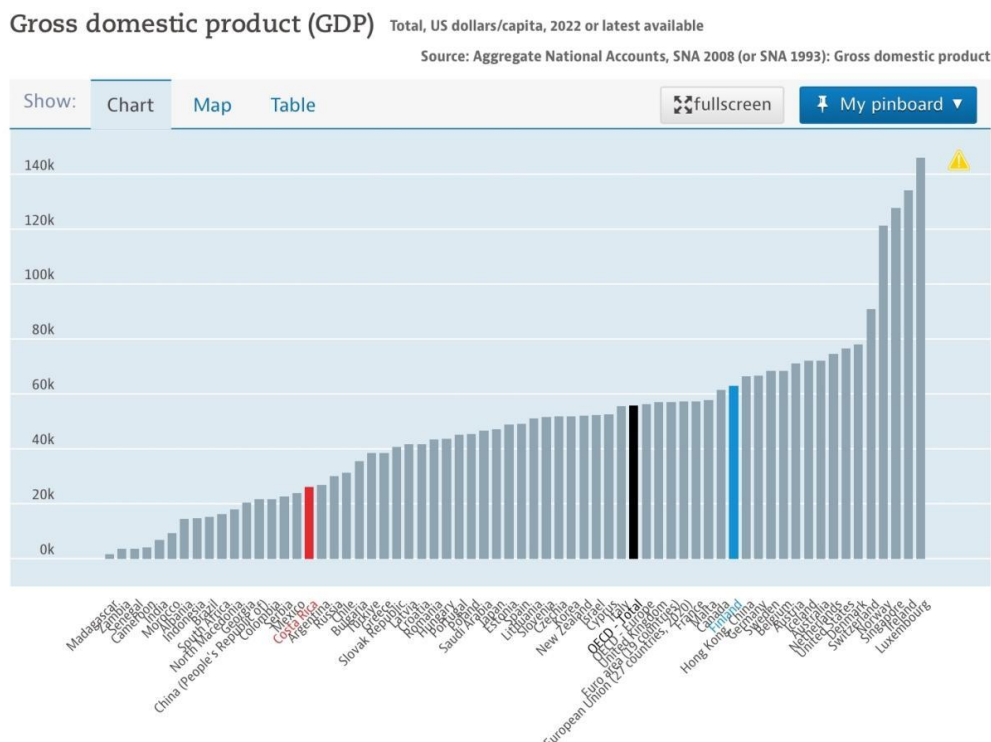


Figure 2. Gross domestic product (GDP) Total, Us dollars/capita, 2022 or latest available
Source: Aggregate National Accounts, SNA 2008

According to the Figure 3, by 2020, Finland spent more than 5% of the country's GDP on public education from primary to tertiary education, which is one of the highest in the world. Moreover, Finland's public spending on education far exceeds the OECD average, surpassing developed countries such as France, Australia, the United States, and Canada. This indicator shows the priority given by governments to education relative to other areas of investment, such as health care, social security, defence and security. [10]

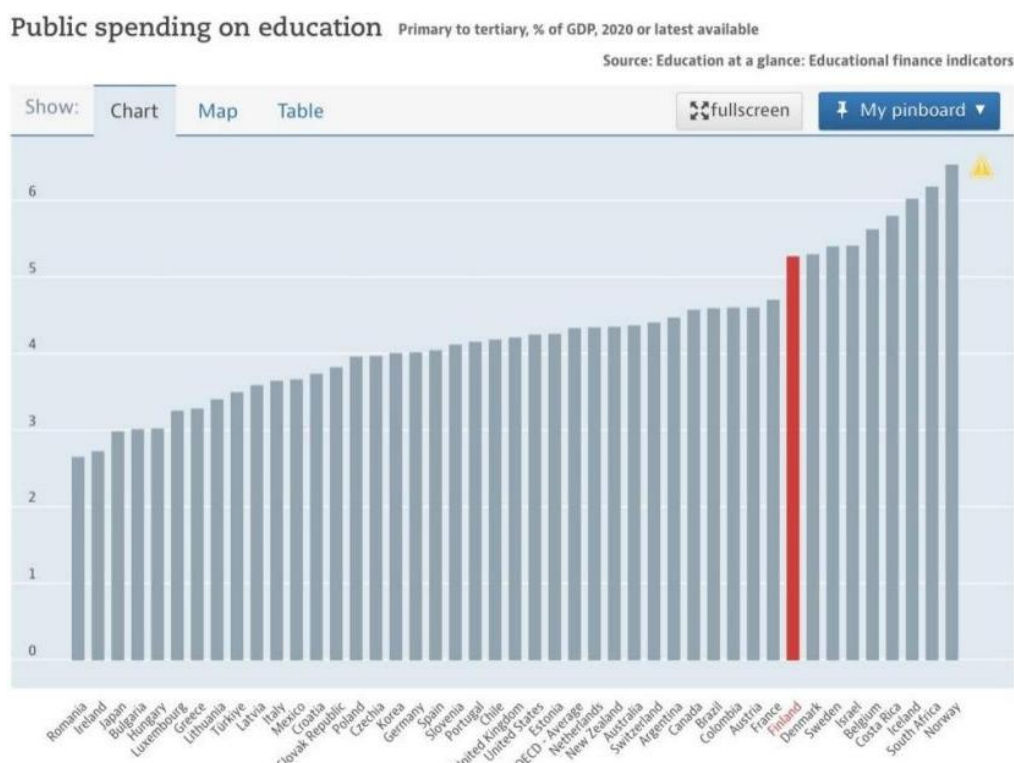


Figure 3. Public spending on education primary to tertiary, % of GDP, 2020 or latest available
Source: Education at a glance: Educational finance indicators

3.2. Government Policies

Government policies can significantly impact the performance of education systems. By investing in infrastructure, developing high-quality curricula, supporting teacher development, implementing assessment and accountability and other measures, governments can create an environment where education thrives and students achieve high performance.

Policies that promote equity and access to education are fundamental. This includes providing resources to underprivileged areas, ensuring that all students have access to quality education, and supporting students with special needs. Since the Universal Declaration of Human Rights was implemented by the United Nations, Finland has established a set of policies that promote equity. “The first notice of allowing children with special educational needs to accept education came in the Regulation on Special Care for the Mentally Handicapped. This notice guaranteed children that were not able to accept mainstream education to receive training separately until the end of their compulsory school age”.[11] With the implementation of the Basic Education Act, children with special needs were included in the education system. “It sets out goals for teaching, clarifies what special educational needs services are and that, when possible, they should be provided in a mainstream classroom, sets out conditions under which a child may be partially or completely moved to special education, and explains what the personal plans for the organization of teaching should include, along with whom should be included while drafting”.[12]

Nowadays, Finland’s education has gained worldwide attention. However, its achievements also may at risk. In the past decade of PISA assessment, Finland’s education has also exposed some potential problems. Findings of the OECD’s PISA 2022 show that overall student performance has declined as gaps among student groups and levels of school segregation have grown. In 2022, the average score in mathematics in Finland was 487 for girls and 482 for boys, down 24 and 23 points respectively from the previous assessment. Since 2012, girls in the country have consistently outperformed boys in mathematics. In view of these circumstances, the Finnish Ministry of Education and Culture is advancing several policies, particularly under the umbrella of the Right to Learning Programme, to improve the quality and equity in early childhood education and care, pre-primary and basic education. These policies include funding equity and quality in education, strengthening equity and quality in early childhood education and care, and equalizing education opportunities through strengthening the local school. Governments allocate funds to improve school infrastructure, including modern classrooms, libraries, laboratories, and technology. This investment ensures that students have access to a conducive learning environment, which is essential for high performance. They are part of Finland’s traditional commitment to universalism, social rights and equality and further promote Finland’s education high performing.[13]

3.3. Teacher Education Quality

Teaching personnel are the backbone of any education system. Teachers’ knowledge and skills, together with their commitment to the job are essential factors in providing for inclusive and sustainable education while achieving high-performing educational outcomes. Finnish education system is known throughout the world for its quality, equality and inclusiveness, with teacher education quality being a key component of its success. It has a direct impact on high performing education.

In Finland, teaching is an attractive career choice. One reason is that Finnish teachers are well paid. The table provides data on actual salaries (a weighted average of teachers’ actual earnings) of full-time, fully qualified teachers aged 25-64 in public schools. It covers the 37 European countries. [5] According to the Figure 4, Finnish teachers earn more than in many European countries, such as Italy and Portugal. And teachers’ salaries in higher education are higher than those in basic and secondary education.

**Average annual gross actual salaries (EUR)
of teachers aged 25-64 in public schools,
2021/2022 (at constant prices) (data to Figure 4)**

Source: Eurydice	ISCED 02	ISCED 1	ISCED 24	ISCED 34	GDP
BE fr	48,175	46,705	45,729	57,480	46,990
BE de	47,169	47,679	49,231	55,115	46,990
BE nl	50,912	50,192	50,115	60,033	46,990
BG	:	:	:	:	12,400
CZ	17,469	22,016	21,884	23,030	22,270
DK	54,498	66,288	66,673	78,164	63,680
DE	:	64,802	71,184	75,003	46,180
EE	15,953	20,590	20,590	20,590	27,170
IE	(-)	61,211	63,278	63,278	98,260
EL	17,593	(-)	18,765	(-)	19,670
ES	:	:	:	:	27,870
FR	38,202	37,111	41,442	45,887	33,980
HR	:	:	:	:	17,130
IT	29,151	29,151	30,982	33,036	32,390
CY	47,964	47,964	47,964	47,964	29,590
LV	14,051	17,672	17,639	18,837	20,710
LT	23,690	(-)	(-)	(-)	23,580
LU	:	:	:	:	119,230
HU	11,262	11,687	(-)	12,785	17,580
MT	27,702	34,466	32,747	32,747	31,790
NL	60,360	60,360	67,638	67,638	53,170
AT	:	54,931	60,686	64,783	49,440
PL	13,599	16,531	16,725	16,851	17,370
PT	34,037	31,218	30,515	32,815	23,290
RO	12,468	12,823	12,987	13,279	15,010
SI	24,844	30,804	31,248	31,707	24,770
SK	14,307	18,301	18,301	19,158	19,930
FI	35,539	47,031	52,076	58,619	45,220
SE	40,593	46,113	47,922	48,734	51,680
AL	:	:	:	:	:
BA	7,344	7,752	8,160	8,976	:
CH	:	:	:	:	87,410
IS	60,018	60,307	60,307	77,411	69,650
LI	:	:	:	:	:
ME	12,159	12,159	12,159	12,159	:
MK	:	:	:	:	:
NO	53,783	59,276	59,276	64,653	101,020
RS	:	9,619	9,619	9,636	8,920
TR	:	:	:	:	:

Code	:	not available
	(-)	not applicable

Figure 4. Average annual gross actual salaries (EUR) of teachers aged 25-64 in public schools, 2021/2022 (at constant prices)

Secondly, Finland rejects standardized testing and teacher accountability systems, focusing instead on fairness, professionalism, and collaboration. These heavily reduce teacher's pressure. In Finland, 14% of teachers report experiencing stress in their work "a lot", which is lower than the OECD average (18%). As shown in Figure 5.

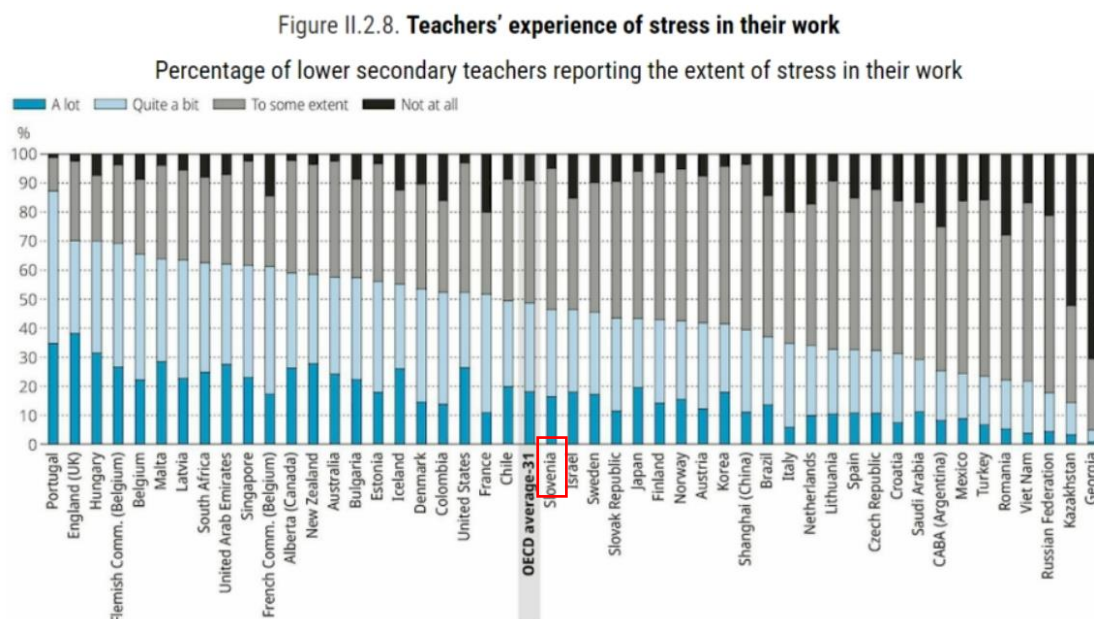


Figure 5. Teachers' experience of stress in their work

What's more, Finnish teachers enjoy great social respect and support. They are held in high regard. These influence teacher decisions not only to join the profession, but also to stay.[13] Retaining teachers and principals is crucial to the success of an education system and its schools. In Finland, 58% of teachers "agree" or "strongly agree" with the statement that their profession is valued in society, which is higher than the average across OECD countries and economies participating in the OECD Teaching and Learning International Survey (TALIS (26%)). In Finland, between 2013 and 2018, the percentage of teachers reporting that the teaching profession is valued in society has remained stable. The social respect for teachers contributes to a positive teaching environment and attracts high-quality candidates. Based on these developments, teaching has been the first-choice career for 59% of teachers in Finland and for 67% in OECD countries and economies participating in TALIS. In terms of why they joined the profession, at least 66% of teachers in Finland cite the opportunity to influence children's development or contribute to society as a major motivation. This also makes Finland's education high performing.[14] Due to the popularity of the teaching profession, teacher education institutions can select the most suitable applicants for education. For example, the intake into class teacher education is well below 20% for all applicants. In subject teacher education, the acceptance rate varies from 10% to 50% depending on the subject. In vocational teacher education, the acceptance rate is usually less than 40% for applicants. [5]

Sahlberg (2010) states that "Without excellent teachers Finland's current international success would have been impossible".[15] The high quality of teachers in Finland enjoys an excellent reputation internationally, which is due to the high value and development of teachers in the Finnish education system, including the rigorous selection process, continuing teacher education, and the trust-based educational environment. There are high standards for the selection of teachers. The most common pre-service requirement is a master's degree. Based on this, Finnish teachers are selected from the top 10% of graduates, ensuring a high level of academic achievement. Candidates undergo multiple rounds of interviews and personality assessments to ensure they possess the necessary qualities for teaching. Guidance counsellors in primary, lower secondary and upper secondary education provide support for students in their studies and other possible learning difficulties. The qualification requirements are a master's degree and guidance counsellor studies. Special needs teachers are supposed to hold a master's degree with special pedagogy as their major subject. Depending on the institution and subject, vocational teachers are supposed to have a degree from an applicable university or university of applied sciences, or to possess the highest qualifications in their field of occupation. In addition, a minimum of 3 years of work experience and teaching and research experience in the field is required. Teachers at universities of applied sciences are required to have

either a master's or a post-graduate licentiate's degree, depending on their position. [5] Meanwhile, the Finnish government invests heavily in continuing teacher education. Teacher education emphasizes research, with candidates required to undertake an independent educational research project. Moreover, Finnish teachers are given a high degree of trust and autonomy in their work, allowing them to choose their own teaching materials and methods.

4. Conclusion

Education acts as a transformative force that exerts indispensable power on the development of both countries and individuals. It has become a key element determining the rise and fall of the country. Based on the above analysis, it can be concluded that there are several factors affecting Finnish education high performing, such as economic development level, government policies, high-quality teacher education and so on. Through analyzing these factors, we can get a lot of insights. First, high-performance education requires significant financial investment. Finland spends a high proportion of GDP on education. This financial support enables Finland to provide free and high-quality education from primary school to university. Adequate financial support has also contributed to the modernisation of school facilities, the abundance of teaching and learning resources, and the high salaries of educators, all of which are important factors contributing to high-performance education. Secondly, in terms of policymaking, the Finnish government has been committed to reducing the impact of socioeconomic disparities on educational opportunities and ensuring that every child has equal access to education. To this end, the Finnish government provides a wide range of social benefits, including support for children and their families. For example, Finland has a well-developed childcare system and family welfare policies, which help to reduce the financial burden on families and enable parents to better support their children's education. Finally, the Finnish teacher education also contributes to its high-performance education through high standards of selection and training, continuing teaching education, teacher autonomy, and continuous evaluation and feedback. These factors work together to promote the outstanding performance of Finnish students in global competition.

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