

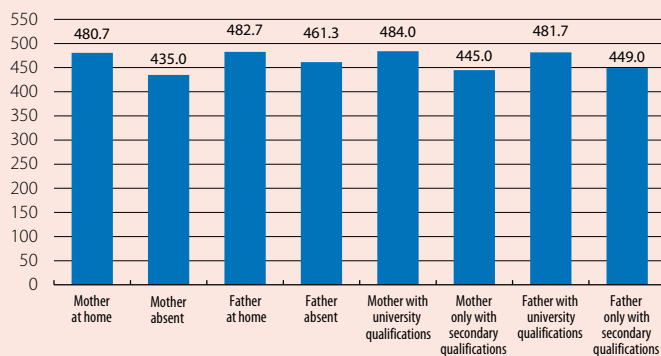
## The pillars of education: a modern view

At this very moment, a lot of people born in the second half of the 20th century are facing the huge challenge of educating their children. This is a heavy responsibility as education will vastly influence the lives of their offspring. According to the prestigious economists James Heckman and Flavio Cunha, at least 50% of people's earnings are determined by features and characteristics developed before they are 18 years of age.<sup>1</sup> An illustrative way of seeing the importance of education is imagining the education process as a blank book that gradually fills up with the knowledge, skills and lessons accumulated by an individual throughout their lifetime. Continuing the analogy, this article looks at the key factors that ensure this book is well-written and is pleasant to read in the first chapters or, in other words, that the individual receives good quality education from birth right up to the beginning of their adult life.

The education an individual receives obviously depends very much on the people around them, which we can call their «environment»: as a wise African proverb says, «it takes a whole village to raise a child». This environment is made up of three basic components: the family, teachers and peers.

### Education and family situation: the importance of parents

(Average aggregate score in PISA tests)



**Note:** The PISA test results correspond with 2012, as this is when pupils were asked about their family situation. The score ranges from 0 to 600 points and corresponds to the average marks in tests on science, reading comprehension and mathematics for all the participant countries.

**Source:** CaixaBank Research, based on OECD data.

Looking at the first component, the educational and academic community widely agree that a family is important for a child's education. For instance, according to an article by the economists Björklund and Salvanes, between 40% and 60% of students' academic achievements can be explained by family characteristics.<sup>2</sup> Another example comes from the PISA tests, globally standardised examinations carried out by 15-year-old pupils: students living with their mothers or whose mothers have a university qualification achieve much higher marks (this is also the case with fathers but to a lesser extent).

But parents are not only responsible for their children's development of cognitive skills. They also have a lot to do with non-cognitive skills such as perseverance, sociability, patience and empathy. This distinction is important because a lot of literature currently highlights the limits of the PISA tests. The fact is that, in total, the academic achievements of teenagers only determine 17% of their future income variation.<sup>3</sup> In any case, good parenting is critical for both kinds of skills, as stated by Heckman and Cunha in a series of articles confirming the importance of parents in ensuring their children do not engage in risky behaviour.<sup>4</sup> To develop cognitive skills it is vital for parents to devote time to their children and encourage activities with high educational value, such as telling them stories, talking to them constantly and involving them in domestic chores. It will come as a relief to parents with a lower level of education to know that devoting more time to children has a similar impact as having parents with a higher educational level. But what really stimulates non-cognitive skills is how children are brought up, particularly by instilling discipline (although not too strict) and providing maternal affection. In fact, mothers' decisions have important long-term effects. For instance, in an influential article, the economists Carneiro, Loken and Salvanes have studied Norway's labour reform in the 1970s which extended maternity leave entitlement, showing that the children of mothers benefitting from this reform enjoyed 8% higher average earnings at age 30.<sup>5</sup>

One possible reason why parents are so critical is the particular importance of education in the first few years of life, a time when children spend a lot of time with their parents. It has been shown that any gap in the development of cognitive and non-cognitive skills occurs in the first few years; a gap which is very difficult to narrow afterwards.

1. See Cunha, F. and Heckman, J. (2008), «A New Framework for the Analysis of Inequality», *Macroeconomics Dynamics*.

2. See Björklund, A. and Salvanes, K. (2011), «Education and Family Background: Mechanisms and Policies», *Handbook of the Economics of Education*.

3. See Heckman, J. and Kautz, T. (2012), «Hard evidence on soft skills», *Labour Economics*.

4. See, for instance, Cunha, F. and Heckman, J. (2007), «The technology of skill formation», *American Economic Review*.

5. See Carneiro, P., Loken, K. and Salvanes, K. (2015), «A Flying Start? Maternity Leave Benefits and Long-Run Outcomes of Children», *Journal of Political Economy*.

Looking specifically at Spain, the situation clearly has a lot of room for improvement. According to a sociological study carried out in 2015,<sup>6</sup> 63% of children aged between 6 and 9 wanted to spend more time with their parents. On the other hand, only 35% of families read with their children. Policies aimed at encouraging a better work-life balance would undoubtedly help a lot of parents to spend more time with their offspring.

Having looked at the importance of the family, we now focus on the second key component: teachers. These are also a basic pillar. In the US, for instance, each child taught by a high quality teacher will earn an additional EUR 36,000 in the future.<sup>7</sup> Teachers can play a particularly decisive role in the first few years of a child's life when he or she comes from a dysfunctional family. One example is the undeniable success in the US in the 1970s of the Perry Preschool educational programme<sup>8</sup> for at-risk Afro-American children aged between 3 and 4. These children had a much more successful adult life than children in a similar situation who did not take part in the programme. Teachers are powerful influencers but schools face the challenge of selecting the best professionals. This is a complex problem as it is not easy to gauge teacher performance accurately. One possible method, adopted by countries whose education systems are highly praised all over the world such as Singapore, South Korea and Finland, is to recruit 100% of the teachers from the best students and to make the teaching profession highly prestigious. Another key issue is whether good teachers are born or made. Academic literature may be able to shed some light on this since some papers show a positive relationship between good teachers and the experience acquired. This suggests that newcomers to the profession can improve their performance through mentoring with more veteran teachers.<sup>9</sup> Lastly, if a country wishes to have good teachers, it is vital for them to continue their training throughout their careers to adapt to the socioeconomic and technological changes occurring in society. In fact, continued teacher training is another issue Spain has to tackle. According to the OECD, only 50% of teachers take part in training courses and 97% believe they have already had enough training.

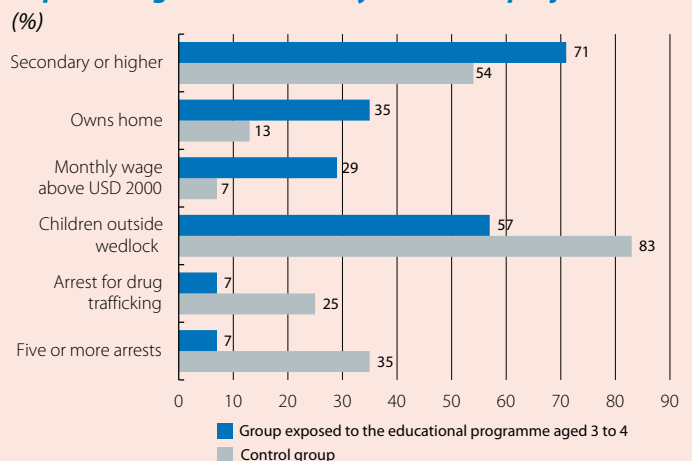
Finally, regarding the influence of peers, the evidence is not as conclusive as in the case of the family and teachers. This area warrants more in-depth study since, among other things, it would help to determine whether classes with students assigned according to their ability or rather heterogeneous classes are more effective. This said, in the area of higher education it has been shown that US university students who have been randomly assigned to a roommate who has a game console, devote less time to studying and achieve worse grades.<sup>10</sup>

In short, this article has identified the family and teachers as the pillars of education. One lesson that can be learned is the importance of the environment, since education does not depend solely on the educators but is everyone's responsibility. Ultimately, as Einstein would say «Education is what remains after one has forgotten what one has learned in school».

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### Impact at age 27 of the Perry Preschool project \*



Note: \* The Perry Preschool project is an educational programme for at-risk Afro-American children.  
Source: CaixaBank Research, based on data from the HighScope Educational Research Foundation.

6. The study in question is by TriNa and entitled *Diversión en familia*, carried out in 2015.

7. See Chetty, R., Friedman, J. and Rockoff, J. (2014), «Measuring the Impacts of Teachers: Teacher Value-Added and Student Outcomes in Adulthood», *American Economic Review*.

8. This educational programme was based on the concept of active participative learning, so that students chose what they would learn, supported by educators, and had the chance to choose the materials, ideas and people involved.

9. See Jackson, K., Rockoff, J. and Staiger, D. (2014), «Teacher Effects and Teacher-Related Policies», *Annual Review of Economics*.

10. See Stinebrickner, R. and Stinebrickner, T. (2008), «The Causal Effect of Studying on Academic Performance», *The B.E. Journal of Economic Analysis and Policy*.