

# PARENTAL EMOTIONAL SUPPORT AND ADOLESCENT WELL-BEING:

A CROSS-NATIONAL EXAMINATION OF  
SOCIO-ECONOMIC AND GENDER GAPS  
BASED ON PISA 2018 SURVEYS

OECD PAPERS ON WELL-BEING AND  
INEQUALITIES

January 2024 N°20

CHILD WELL-BEING POLICY PAPER



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## Child Well-being Policy Papers

This paper sheds light on within and between-country gaps in parental emotional support, as perceived by 15-years-old students surveyed in the 2018 Programme for International Student Assessment (PISA). It shows that within-country differences in parental emotional support, based on parents' education level and child gender, are largely explained by other characteristics such as family wealth, country of origin, and school urbanicity and private/public status. The paper also highlights that greater parental emotional support is associated with higher PISA test scores and greater subjective wellbeing outcomes. The findings suggest that a significant enhancement in parental support and related child outcomes can be sought, especially in countries with lower average levels of parental emotional support.

# Acknowledgements

This paper was written by Lawrence M. Berger (Vilas Distinguished Achievement Professor of Social Work, University of Wisconsin-Madison), Lidia Panico (Professor at Sciences Po, Centre de Recherche sur Les Inégalités Sociales, Paris), Alexandra Sheridan (French Institute for Demographic Research (INED), and Olivier Thévenon (Head of Child Well-being Unit, OECD-WISE Centre).

This paper was prepared for the OECD Centre on Well Being, Inclusion, Sustainability and Equal opportunity (WISE Centre), under the leadership of Romina Boarini (Director, OECD WISE Centre). The authors are grateful to Romina Boarini, Tiago Fragoso, Willem Adema, and Jonas Fluchtmann for valuable comments on an earlier version of the paper. Anne-Lise Faron prepared the paper for publication, and Martine Zaïda provided valuable support and advice on communication and publication.

# Abstract

Parental emotional support, alongside material and temporal support, is an important determinant of children's subjective well-being and academic success. However, not all children benefit from the same level of parental support, and there are major differences depending on families' socio-economic status and child gender. Using the PISA 2018 surveys, this paper examines differences in parental support reported by 15-year-olds both *within* countries according to social status and between girls and boys, and *between* countries. We show that differences in parental emotional support by parents' education level and child gender are substantial. Some of these differences are (largely) explained by other characteristics such as family wealth, country of origin, and school urbanicity and private/public status. Greater parental emotional support is also found to be associated with higher PISA test scores and greater subjective wellbeing, with little variation by parental education. On the whole, our findings suggest that a significant enhancement in parental support and related child outcomes, especially in countries with lower average levels of parental emotional support, can be attained through a combined effort on several fronts: by addressing monetary and material poverty within families, by facilitating parents in balancing work and taking care of their children, by promoting greater parental involvement in their children's school life, and by offering appropriate services to assist families with special needs and facing greater challenges.

# Résumé

Le soutien émotionnel des parents, au même titre que leur soutien matériel et temporel, est un déterminant important du bien-être subjectif et de la réussite scolaire des enfants. Cependant, tous les enfants ne bénéficient pas du même niveau de soutien parental et il existe des différences majeures en fonction du statut socio-économique des familles et du sexe de l'enfant. À l'aide des enquêtes PISA 2018, cet article examine les différences de soutien parental rapportées par les jeunes de 15 ans à la fois au sein des pays en fonction du statut social et entre les filles et les garçons, ainsi qu'entre les pays. Nous montrons que les différences de soutien émotionnel par les parents selon le niveau d'éducation des parents et le sexe de l'enfant sont substantielles. Certaines de ces différences s'expliquent (en grande partie) par d'autres caractéristiques telles que la richesse de la famille, le pays d'origine, l'urbanité du lieu où se trouve l'école et son statut privé ou public. Un soutien émotionnel plus important est également associé à de meilleurs résultats aux tests PISA et à un bien-être subjectif plus élevé, avec peu de variations en fonction du niveau d'éducation des parents. Dans l'ensemble, nos résultats suggèrent qu'une amélioration significative du soutien parental et des résultats des enfants, en particulier dans les pays où les niveaux moyens de soutien émotionnel parental sont plus faibles, peut être obtenue par un effort combiné sur plusieurs fronts : en s'attaquant à la pauvreté monétaire et matérielle au sein des familles, en aidant les parents à concilier travail et soins aux enfants, en promouvant une plus grande implication des parents dans la vie scolaire de leurs enfants, et en offrant des services appropriés de soutien émotionnel aux enfants, aux jeunes et aux adultes.

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# 1. Introduction

Intergenerational social mobility, measured by gains (and losses) in social status between parents and their children, is relatively limited across the OECD nations, raising concerns about factors hindering it (Balestra and Ciani, 2022<sup>[1]</sup>). The high stability of and, in some cases, widening gap in the economic returns to educational attainment is certainly one important factor: in many sectors of the economy, wage trajectories have diverged such that the income premium associated with higher educational attainment has increased considerably. Indeed, this effect dominates the fact that more recent generations now achieve higher levels of education, on average, than previous generations. Thus, wage differentials by educational attainment have remained large or increased despite that average levels of educational attainment have risen (Autor, Goldin and Katz, 2020<sup>[2]</sup>; Hanushek et al., 2020<sup>[3]</sup>). Recent data show a significant premium for people with a tertiary degree across the OECD: on average, the financial returns from tertiary education are about 1.5 times higher than the returns from upper secondary education across the OECD countries, for both men and women (OECD, 2021<sup>[4]</sup>).

Rising inequality and greater education premiums, in turn, affect parents' opportunities, constraints, and decisions for how to invest in their children's human capital. Research shows that adults with differing levels of education are adopting increasingly differing parenting styles and practices – a crucial form of investment in children's human capital – and that differences in parenting may contribute to further entrenching inequality and hindering social mobility (García and Heckman, 2023<sup>[5]</sup>). In particular, social norms and expectations around parenting styles and practices in contemporary wealthy societies have been increasingly characterized as “*child-centered, expert-guided, emotionally absorbing, labour intensive, and financially expensive*” (Hays, 1996<sup>[6]</sup>; Ulferts, 2020<sup>[7]</sup>). As such, behaviours that comprise contemporary views of ‘high-quality parenting’ are most predominantly exhibited by wealthier and more educated parents, at least in part because less advantaged parents have fewer opportunities and resources through which to do so. As a result, important differences in parenting remain strongly stratified by social and economic (dis)advantage. Yet, the extent to which differences in parenting by social position are consistent or divergent across OECD countries remains poorly documented.

Parents invest both *time* and *financial resources* in their children. Differences in parents' expenditures on goods and services for children are a first important source of unequal opportunities. For instance, in Germany, the wealthiest ten percent of parents spend three times as much on their children as the poorest ten percent (DeStatis, 2021<sup>[8]</sup>). In the United States, parental expenditures on ‘enrichment’ activities for children have increased much more quickly over the last 50 years among households in the top income quintile than those in the bottom quintile, with the average per child expenditure gap tripling from the early-1970s to the mid-2000s (Duncan and Murnane, 2011<sup>[9]</sup>). In addition, inequalities by social position in the amount of time parents (are able to) spend caring for and educating children are also large. Time investments may include physical care, playing, and engaging in cognitively and emotionally stimulating activities with children, as well as arranging for and accompanying children to extra-curricular activities. In the OECD countries for which data are available, more highly-educated parents spend significantly more time caring for children than their less-educated counterparts, on average, and the educational gradient in parental time spent with children has widened in many countries in recent decades (Sani and Treas, 2016<sup>[10]</sup>; Guryan, Hurst and Kearney, 2008<sup>[11]</sup>).



Beyond the money and time invested in children, the extent to which parents *emotionally support* their children matters crucially for child development (Kalil and Ryan, 2020<sup>[12]</sup>; OECD, 2021<sup>[13]</sup>). For example, parental warmth and responsiveness, particularly in the early years of life, are core ingredients for helping children attain a sense of security, regulate their emotions, and develop a healthy framework for exploring their environment (Morris et al., 2007<sup>[14]</sup>; Morris et al., 2017<sup>[15]</sup>; Drake, Belsky and Pasco Fearon, 2014<sup>[16]</sup>; Moullin, Waldfogel and Washbrook, 2018<sup>[17]</sup>; Sroufe, Coffino and Carlson, 2010<sup>[18]</sup>). Parental emotional support further aids children in building self-confidence and self-esteem (Zakeri and Karimpour, 2011<sup>[19]</sup>), thereby preparing them to cope with adversity (Moran, Turiano and Gentzler, 2018<sup>[20]</sup>). As such, parental emotional support has been linked to a range of child outcomes. For instance, greater parental warmth and responsiveness are associated with greater school achievement (Ogg and Anthony, 2020<sup>[21]</sup>) and are also a core mechanism linking family resources and cognitive development (Kiernan and Mensah, 2010<sup>[22]</sup>). Moreover, the COVID-19 pandemic has underscored the importance of parental emotional support to help children and adolescents cope with the consequences that the many disruptions of access to schools and other services that matter to children may have on their well-being (Bate, Pham and Borelli, 2021<sup>[23]</sup>; Pereira et al., 2021<sup>[24]</sup>; Westrupp et al., 2021<sup>[25]</sup>).

However, as with parental investments of money and time, not all children are equally well off with respect to the emotional support they receive from their parents. Research indicates that, on average, more advantaged parents (those with greater education, income, and wealth) tend to provide more emotional support to their children than their less advantaged counterparts. The former exhibit greater warmth, responsiveness, and consistency towards, and engage in less harsh discipline and greater cognitively and emotionally stimulating activities with their children (Kalil and Ryan, 2020<sup>[12]</sup>).

Notably, evidence of socioeconomic gaps in parental emotional support and their consequences for child wellbeing has primarily been generated from studies in Anglosphere countries, particularly the United States (Kalil and Ryan, 2020<sup>[12]</sup>; Duncan et al., 2022<sup>[26]</sup>). There is relatively little evidence from other countries – with a notable exception provided by Borgonovi and Montt (2012<sup>[27]</sup>) for a sample of OECD countries (2012<sup>[27]</sup>). Our paper contributes to filling this gap by examining differences in parental emotional support by parental education, and the association between parental emotional support and various dimensions of adolescents' well-being, both within and across a large range of OECD countries. We also examine whether there is heterogeneity in these relations by child gender, given that social and gender norms, both within and between countries, may shape parental emotional support patterns, as well as the 'influence' of parental emotional support on child development, for boys and girls.

Our analyses leverage the 2018 data of the Programme for International Student Assessment (PISA) surveys that include information on family socioeconomic status, parental emotional support, and multiple domains of adolescent wellbeing, as well as PISA reading, math, and science test scores and a range of youth-reported subjective-wellbeing measures on adolescents' sense of belonging at school, meaning in life, attitudes towards competition, fear of failure, self-efficacy, affect, and life satisfaction. This paper provides new insights into cross-national differences in parental emotional support (as perceived by youth), within- and between-country variation in (perceived) parental emotional support by parental educational attainment and child gender, and within- and between-country variation in the association of (perceived) parental emotional support with youth well-being for country populations as a whole and for population subgroups defined by parental educational attainment and child gender.

The remainder of the paper is organized as follows. We first review the literature on parenting styles and practices with a particular focus on relations among socio-economic status, child gender, parental emotional support, and adolescent well-being within and across countries (Section 2). We then describe the data used in our empirical analyses (Section 3) and our empirical strategy (Section 4). Finally, we present our results (Section 5) and discuss their implications for cross-national research and policy (Section 6).

The key findings of this paper are:

- Cross-country differences in the average levels of perceived parental emotional support by 15-year-old adolescents are substantial: the gap between the country in which youth report the highest level of parental emotional support (Iceland) and that in which they report the lowest (Poland) is approximately two-thirds of a standard deviation. These variations do not appear to reflect any known differences in social or cultural context between large groups of countries, but rather reflect the specific characteristics of individual countries.
- Within-country gaps in parental emotional support by parental education are substantial, but they vanish almost completely in most countries when other individual socio-demographic factors, such as family wealth, migration background, and the public/private type of school attended by the adolescent, are taken into account. This lends support to the view that economic difficulties and psychological distress experienced by the least affluent households act as critical factors to hamper parent's ability to support children emotionally and materially, while parents' educational attainment seems much less relevant. Beyond socio-economic determinants, important cultural and institutional factors seem to shape parenting behaviours and how they are perceived by adolescents at population level and contribute to substantial cross-national differences in average levels of perceived parental support.
- The same conclusions apply to differences found by child gender: girls tend to receive higher levels of parental emotional support than boys, with a difference of 0.14 standard deviations in average parental emotional support. However, these differences are largely explained by other socio-demographic characteristics. This possibly suggests that gender differences in perceived parental support also have socio-economic determinants.
- Greater parental emotional support is associated with higher PISA test scores and greater subjective well-being, with the strongest relations found for reading skills, a sense of belonging at school, meaning in life, self-efficacy, positive feelings, and life satisfaction – after controlling for the above-mentioned socio-demographic characteristics. Cross-country variation in these associations is limited and does not appear to be explained by differences in individual socio-demographic characteristics nor to be systematically related to the average level of parental emotional support.
- The strength of the associations between parental emotional support and cognitive skills and subjective well-being does not appear to vary by parental educational attainment. This finding is consistent with previous studies suggesting positive relations between parental support and academic achievement, regardless of family socio-economic background. In other words, better child outcomes are associated with a higher perceived parental emotional support, regardless of the parents' educational background. Thus, policies may seek to enable parents with a lower level of education to provide the same emotional support to adolescents as their counterparts with a higher level of education.
- The associations of parental emotional support with subjective wellbeing differ by child gender in a few domains. Most notably, in about half of the OECD countries, these associations are larger in size for boys with respect to a greater taste for competition and for girls with respect to greater life satisfaction. These differences may reflect differences in how boys and girls are educated as well as gendered norms in how boys and girls should approach life. On the one hand, boys are more likely to be educated according to a social norm expecting them to be prepared for competition. On the other hand, care values and connections to others are often central in educational norms for girls. This may help explain why their life satisfaction in life appears as more visibly and strongly linked to the support they perceive from parents than for boys.
- The substantial associations of parental emotional support with greater adolescent cognitive skills and subjective wellbeing found in the vast majority of countries suggest that interventions to increase parental emotional support may have the potential to improve both – especially in countries exhibiting lower average levels of parental emotional support.

- Targeted interventions designed to increase parental emotional support among disadvantaged families may hold the potential to reduce socio-economic gaps in both parental emotional support and adolescent development. Specifically, financial and housing assistance aimed at low-income families can enhance family wealth which, in turn, may be a mechanism for improving perceived parental support and the educational and socioemotional well-being outcomes of adolescents. Parenting support services and other family supports may also aid parents and teenagers in cultivating supportive relationships, particularly in socially complex situations or when communication between parents and teenagers is strained. However, the mixed evidence regarding the effectiveness of parenting support programs in enhancing adolescents' well-being suggests that they should be viewed as one among a other policy options to promote parenting practices that improve both children's perceptions of parental support and other child outcomes.
- To foster more supportive relationships between parents and their children, a nurturing environment is essential. This entails addressing family poverty which, in addition to offering material assistance, can alleviate the family stress stemming from economic insecurity, which often affects family dynamics. For working parents, this also involves the ability to balance work and parental responsibilities, especially through allowing for working hours and flexible schedules that enable parents to be present for their children when needed. Furthermore, schools can make efforts to engage parents more in their children's learning activities and schoolwork monitoring.

## 2. Literature review

### 2.1 Parental perceived support

A large research literature links parenting styles and practices with children's well-being and development at different life stages. On the whole, this research converges on three key dimensions of parenting that predict children's positive outcomes from preschool to late adolescence (Bornstein, 2019<sup>[28]</sup>; Ulferts, 2020<sup>[7]</sup>). The first dimension, parental warmth and responsiveness, connotes affectionate, supportive, and accepting parenting such that parents perceive children's needs, interpret their signals, and respond promptly and appropriately. The second, parental support for child autonomy, necessitates that parents take children's perspectives into account, provide them with choices, and encourage them to take independent initiative. Parental support for autonomy is particularly salient during middle childhood and adolescence. The third dimension, parental support for behavioural structure, requires that parents provide clear expectations for behaviour and positive, process-oriented feedback. Parental performance in these dimensions shapes how youth perceive the level and quality of emotional support they receive from their parents and has been empirically linked with children's cognitive skills and socioemotional and behavioural development (Kiernan and Mensah, 2010<sup>[22]</sup>; Moullin, Waldfogel and Washbrook, 2018<sup>[17]</sup>).

These parenting domains are highly relevant to the well-established framework of permissive, authoritarian, and authoritative parenting styles (Baumrind, 1971<sup>[29]</sup>; Bornstein, 2019<sup>[28]</sup>; Ulferts, 2020<sup>[7]</sup>). Permissive parenting consists of exhibiting limited control and regulation over children and considerably refraining from interfering in their choices. Permissive parenting tends to be warm, responsive, and supportive, such that parents are typically attuned to their children's needs. However, parents engaged in permissive parenting also tend to set low expectations for their children and exhibit a high tolerance of misbehaviour. In contrast, authoritarian parenting is highly controlling of children and tends to impose the parent's will by restricting children's choices through coercion and strict discipline. Authoritarian parents tend to value obedience and set strict rules without fully considering children's needs or communicating to children the rationale behind their rules and demands. Such parents tend to be highly demanding and express limited warmth and supportiveness. Authoritative parenting is characterized by a balance of supportiveness and limit setting. Authoritative parents tend to be warm and responsive to children, and to provide them with support in their explorations and pursuits. Whereas they are also demanding, they set clear, reasonable rules that are consistent with children's abilities, and attempt to guide children's decisions and behaviours through reasoning and persuasion rather than coercion or unexplained demands. For example, authoritative parents tend to invest considerable time helping young children learn to self-regulate and interact with others, thereby building a child's self-confidence, decision making, and social skills. Compared to permissive and authoritarian parenting, authoritative parenting is likely to be viewed by children and adolescents as being particularly emotionally supportive.

Notably, parenting "styles" and their influence on child outcomes may vary with respect to particular domains of children's lives. For example, some parents may be more (less) permissive, authoritarian, or authoritative, and demonstrate associated variation in emotional supportiveness, with respect to children's schooling and academic achievement compared to their extracurricular or social activities. Thus, it is important to consider parental emotional support in relation to specific domains of child development. For

instance, authoritative parenting has been found, in particular, to be associated with better educational outcomes (Smetana, 2017<sup>[30]</sup>; Steinberg et al., 1992<sup>[31]</sup>; Shute et al., 2011<sup>[32]</sup>; Walker and MacPhee, 2011<sup>[33]</sup>; Chan and Koo, 2011<sup>[34]</sup>; Doepke and Zilibotti, 2019<sup>[35]</sup>) in that it promotes higher levels of proactive, independent problem solving, critical thinking, and self-confidence, and is less likely to generate expectations of failure for children (Gray and Steinberg, 1999<sup>[36]</sup>; Grolnick and Ryan, 1989<sup>[37]</sup>; Aunola, Stattin and Nurmi, 2000<sup>[38]</sup>; Larzelere, Morris and Harrist, 2013<sup>[39]</sup>; Pinguart, 2017<sup>[40]</sup>).

The ways in which parents support their children and how their children perceive this support changes with age. Adolescence is a particularly critical period for children, marked by profound physical, psychological, and relational changes. On one hand, puberty brings with it intense physical and emotional changes, with teenagers experiencing the transformation of their bodies, discovering their sexuality, and exploring their sexual identity. Parents are not the sole source of support for adolescents during this period of transformation, but they play a crucial role in showing empathy and reassuring teenagers that they can trust their parents to engage in difficult conversations without fear of judgment or embarrassment (Hombrados-Mendieta et al., 2012<sup>[41]</sup>).

During adolescence, children also enter middle school and then high school, where they learn new ways of working and have to make decisions about their schooling that will have a major impact on their future studies and careers. Parents are crucial in helping children adapt to their new schooling environment, shaping expectations and decisions about their future, in gaining confidence and motivation, and feeling supported in their educational choices (Song and Jo, 2019<sup>[42]</sup>; Covacevich et al., 2021<sup>[43]</sup>). The positive association between parental support and children's academic performance appears to hold regardless of family socioeconomic status (although the strength of the relation may vary thereby), and influences academic performance independently of child cognitive ability (Wilder, 2014<sup>[44]</sup>; Topor et al., 2010<sup>[45]</sup>). Meta-analyses also suggest that the positive relation between parental support and academic achievement is stronger if it contributes to raising expectations for academic achievement, and weaker if parental involvement consists primarily of homework assistance (Wilder, 2014<sup>[44]</sup>; Castro et al., 2015<sup>[46]</sup>). It is thus important to capture how much children and adolescents feel supported in their educational efforts and achievements.

The social lives of children undergo significant changes during their teenage years as adolescents naturally expand their social circles and explore new environments, including the digital realm. While parents are not the sole guides in this domain, they play a crucial role in helping teenagers safeguard themselves from potential risks and develop the skills to navigate these novel social landscapes. However, the teenage years are characterized by a growing desire for independence and autonomy. Adolescents increasingly seek a voice in decisions affecting their lives, necessitating ongoing renegotiation and redefinition of the parent-child relationship. This process can sometimes lead to reduced closeness and heightened conflict.

The literature underscores the importance of a strong parent-adolescent relationship and parenting practices that emphasize effective conflict resolution, clear communication of expectations and rules, and appropriate boundary setting and monitoring (UNICEF, 2021<sup>[47]</sup>). Such practices serve as key protective factors against various adolescent issues, including truancy, externalising behaviours, early initiation of sexual activity, and alcohol and drug use (Burke et al., 2021<sup>[48]</sup>). Conversely, a strained parent-adolescent relationship is associated with social and academic disengagement, involvement in criminal activities, and persistent challenges in relationships and employment throughout adulthood.

In short, although adolescence leads to major changes in parent-child relationships, parents still play a critical role in scaffolding their adolescents during this period by providing them opportunities for exercising autonomy, gaining self-confidence, and receiving support through the trials and tribulations of puberty and early adulthood. At the same time, however, this can lead to miscommunication and conflict. As a result, not all teenagers receive the same type of support from their parents, nor do they feel supported to the same extent.

Research also points to a positive link between parental support and child and adolescent subjective well-being, which is important in its own right, and is also linked to better academic outcomes. Notably, higher levels of parental support, whether observed or perceived by adolescents, are found to impact various aspects of adolescent subjective well-being (Hombrados-Mendieta et al., 2012<sup>[41]</sup>; Chentsova Dutton, Choi and Choi, 2020<sup>[49]</sup>). For instance, adolescents who receive more emotional support from parents also use more effective coping strategies (Barrera and Li, 1996<sup>[50]</sup>; Rueger et al., 2016<sup>[51]</sup>), and parents are key to moderating distress and supporting adolescents' autonomy while also having a role in supporting adolescents' sense of social connectedness (Chentsova Dutton, Choi and Choi, 2020<sup>[49]</sup>; Inguglia et al., 2015<sup>[52]</sup>). More broadly, the family emotional climate, especially parenting styles and relationship quality, serves as the foundation for, and thus directly influence, parenting practices, the way they are perceived by teenagers, and their relations to adolescent outcomes (Kapetanovic and Skoog, 2020<sup>[53]</sup>). For example, it is possible that, in the context of a family's positive emotional climate, adolescents perceive their parents' questions about their whereabouts as signs of love and caring, while in the context of a family's poor emotional climate, the same practices might be perceived as intrusive and therefore have disadvantageous effects on adolescent psychological functioning. Adolescents' perceptions of parental emotional support thus are key to understanding if and how parenting practices influence adolescents' outcomes.

Parental emotional support over the adolescence years is particularly important given that some teens experience drops in self-esteem (Huang, 2010<sup>[54]</sup>; Erol and Orth, 2011<sup>[55]</sup>) and increases in emotional distress (e.g., depression, anxiety, (Costello et al., 2011<sup>[56]</sup>)) during this period. Indeed, parental warmth and social support during adolescence and emerging adulthood are associated with greater self-esteem and other positive self-beliefs, as well as with fewer socioemotional problems, particularly for girls (Moore II and Shell, 2017<sup>[57]</sup>; Chentsova Dutton, Choi and Choi, 2020<sup>[49]</sup>). Moreover, this relation appears to hold across different cultural contexts (Chentsova Dutton, Choi and Choi, 2020<sup>[49]</sup>). Parental emotional support is also associated with greater overall life satisfaction among adolescents (Borgonovi and Montt, 2012<sup>[27]</sup>; Piko and Hamvai, 2010<sup>[58]</sup>).

Parent-child relationships are significantly influenced by a variety of personal, social, and environmental factors, including socioeconomic status, physical and mental health, parents' employment and working conditions, and children's school environments, community safety, and cultural norms. These factors are interconnected and their combination can profoundly impact the quality of interactions between parents and adolescents. For instance, many parents living in poverty not only face substandard material living conditions but also struggle with challenging working conditions, high levels of stress, and potential social stigma as they strive to meet their families' basic needs. These difficulties can affect the amount of time they can devote to their children and may also have an impact on the quality of parent-child interactions and the emotional support parents are able to provide to their children.

Yet, there has been little research assessing potential variation in parental emotional support and its association with child and adolescent wellbeing across countries, nor comparing cross-national variation in (within-country) differences in parental emotional support and its associations with adolescent wellbeing by level of social and economic (dis)advantage or child gender. The PISA data used in our analyses include information on multiple domains of well-being for large samples of students in a substantial number of countries. Thus, they are exceptionally well-suited to this line of inquiry.

## 2.2 Determinants of parental emotional support and its influence on child development

Both parental emotional support and its influence on children's development and wellbeing may vary within- and across-countries by a range of parent, family, and child characteristics, such as social and economic (dis)advantage and child gender, given differences in population characteristics and variation in cultural norms and practices. A large literature has established that there is variation in parenting styles

and practices, including emotional support for children, by family sociodemographic characteristics (Kalil and Ryan, 2020<sub>[12]</sub>). In particular, research has documented that income and material resources have both direct and indirect effects on parenting. In terms of direct effects, limited income and scarce material resources mechanically limit the goods and services parents can provide their children. Evidence also suggests that material resources indirectly influence parental warmth and responsiveness, such that parents facing economic difficulties and related stressors often experience psychological distress that can disrupt parent-child interactions and undermine the quality of parental emotional support (Crnic and Coburn, 2019<sub>[59]</sub>). Moreover, less advantaged families tend to reside in lower quality and less safe neighborhoods than their higher income counterparts and evidence suggests that, when faced with lower quality and less safe neighborhoods, parents may respond by being more authoritarian (Doepke and Zilibotti, 2019<sub>[35]</sub>). Cognitive bias (Kalil and Ryan, 2020<sub>[12]</sub>), such that, in the context of economic scarcity and time deprivation, parents may be more likely to make decisions that emphasize short- rather than long-term objectives and less likely to engage in purposeful, goal-directed parenting, which may further contribute to differential provision of emotional support by socioeconomic status.

Differences in parenting styles and practices may also reflect differences in parents' life experiences, including the parenting they experienced as children. In particular, more- and less-advantaged parents may have different parenting habits given differences in their own upbringings, which may reflect differences in their families' social and economic contexts and group-specific factors such as perceptions of children's developmental needs and normative approaches to childrearing. Research indicates that highly educated parents have traditionally emphasized independent thinking and self-direction more so than their less-educated counterparts, who have traditionally put greater emphasis on obedience and conformity (Kalil and Ryan, 2020<sub>[12]</sub>; Lareau, 2011<sub>[60]</sub>). Whereas the former is associated with authoritative parenting and a high level of parental emotional support, the latter is associated with authoritarian parenting and lesser parental emotional support. This means that, in their everyday interactions with children, relative to higher-SES parents, lower-SES parents may have less nuanced ideas about how to promote child development, and may underestimate the benefits of time spent promoting child development despite that parents of all SES levels seem to value and understand the importance of engaging in enriching behaviour, such as reading with their children to fairly similar degrees and appear to enjoy this time in equal measure (Kalil and Ryan, 2020<sub>[12]</sub>; Duncan et al., 2022<sub>[26]</sub>). At the same time, studies suggest that lower-SES families are more concerned that their children conform to societal expectations, create a home atmosphere in which it is clear that parents have authority over children, are more directive of their children's behaviour, and are less conversational and more punitive than are higher-SES parents (Hoff and Laursen, 2019<sub>[61]</sub>). As a result, it is likely that children of parents with lower social status, on average, feel less emotionally supported than those from more socially advantaged families.

These differences may influence youths' own behaviours and, in turn, their development. For example, more advantaged youths may be taught to request extra teacher assistance and attention in school when needed, whereas less-advantaged youths may be encouraged to follow rules and not to disturb their teachers for extra help (Calarco, 2018<sub>[62]</sub>). Clearly, these differences may have implications for differentials in cognitive development and achievement and, more broadly, school performance. Additionally, data from the World Value Survey on parental perceptions of the qualities that children should be encouraged to learn at home indicate that a large proportion of parents, particularly in countries with high levels of inequality, place a high priority on teaching children the value of "hard work" (Doepke and Zilibotti, 2019<sub>[35]</sub>). Yet, how this value is communicated to and instilled in children may differ in that parents may engage in highly emotionally supportive (authoritative) or less emotionally supportive (authoritarian) strategies and, as discussed above, these differences may reflect differences in family social and economic (dis)advantage.

Parental emotional support and its association with child outcomes may vary cross-nationally due to differences between countries in population characteristics, as well as in the economic, social, and cultural contexts that shape parenting attitudes and behaviours. Regarding the first aspect, economic literature

suggests that the distribution of social and economic advantages within a country's population, along with the level of disadvantage experienced by less educated youth, may serve as significant incentives for parents to invest both materially and emotionally in their children's education (Doepke and Zilibotti, 2019<sup>[35]</sup>). Specifically, countries with larger disadvantaged populations or higher levels of disadvantage may, on average, exhibit greater levels of parental emotional support due to the incentive it provides for parents to invest in their children, ensuring they reach their full potential. Moreover, some of these effects may be dynamic. For instance, in a context of high or increasing income inequality, parents may adopt a more authoritative approach, encouraging their children to work harder and become more independent (Doepke and Zilibotti, 2019<sup>[35]</sup>). Indeed, data suggests that the 'value of hard work' is particularly pronounced in high-inequality countries, where parents may have stronger motivations to invest intensively in their children's education and support them in their schoolwork.

Cultural aspects also matter, and parenting norms and values vis-à-vis child-rearing may be an important source of variation in parenting styles and practices across countries, including with respect to socioeconomic variation therein (Checa and Abundis-Gutierrez, 2018<sup>[63]</sup>; Bornstein, 2012<sup>[64]</sup>). Cross-national 'cultural' studies suggest, for instance, that while in western societies, authoritative parenting is perceived as most appropriate and beneficial, some cultures are more inclined toward authoritarian parenting (Keshavarz and Baharudin, 2009<sup>[65]</sup>; Akinsola, 2011<sup>[66]</sup>; Pinquart and Kauser, 2018<sup>[67]</sup>). Also, the western view of the benefits of authoritative parenting is not necessarily shared by societies with a stronger emphasis group on development and interdependence rather than personal development and independence (Bush et al., 2002<sup>[68]</sup>; Davids, Roman and Leach, 2016<sup>[69]</sup>; Supple and Small, 2006<sup>[70]</sup>).

Finally, there are reasons to expect within- and between-country differences in parental emotional support and, potentially, its relation to child outcomes by child gender. Societal gender norms are important elements that shape expectations and influence parenting and parents' attitudes towards (male and female) children (Carter, 2014<sup>[71]</sup>; Raley and Bianchi, 2006<sup>[72]</sup>). Indeed, some evidence suggests that parents are more likely to perceive boys as requiring more physical discipline and girls as requiring more affection and sensitivity in childrearing. From a cross-national perspective, Doepke et al. (2019<sup>[35]</sup>), in analyses of relations between parenting and gender attitudes, found that authoritarian parents are particularly likely to express traditional gender attitudes towards work and childcare, and that gender-based occupational segregation in a country's labour market is important vis-à-vis perpetuating gender stereotypes in abilities and academic potential of boys and girls. If within-country differences in gender segregation in the labour market engender more traditional gender norms and differential parental expectations for boys and girls, gender differences in parental emotional support and, potentially, its influence on youth development may be more marked in countries with more segregated labour markets. More generally, evidence suggests that, on average, parents have tended to take more authoritarian approaches to parenting boys and more authoritative approaches to parenting girls (Endendijk et al., 2016<sup>[73]</sup>). This may suggest greater emotional support for girls than boys. Yet, there has also been a substantial shift in recent decades towards increasingly autonomy-supportive parenting irrespective of child gender, which may suggest similar levels of parental emotional support for girls and boys (Brown and Tam, 2019<sup>[74]</sup>). Finally, whereas research suggests that parenting styles and practices have differential associations by child gender with developmental domains such as behaviour problems (Braza et al., 2015<sup>[75]</sup>), college adjustment (Bendikas, 2010<sup>[76]</sup>) and cyberviolence victimization (Elsaesser et al., 2017<sup>[77]</sup>; Moreno-Ruiz, Martínez-Ferrer and García-Bacete, 2019<sup>[78]</sup>), we are aware of no prior research to examine cross-national differences by gender in associations of parental emotional support and child outcomes in a broad range of domains.



# 3. Data

## 3.1 Sample

Our analyses use 2018 Programme for International Student Assessment (PISA) data ([see PISA 2018 Technical Report](#) for a complete description of the sample and measures). PISA is a multi-country survey designed to assess of youths' knowledge and skills in reading, mathematics, and science at approximately age 15, as well as to provide information on various aspects of their well-being and their home, family, and school backgrounds. PISA surveys provide information for between ~4 500 and ~35 000 students per country, following a two-stage sampling procedure for most participants selecting schools in the first stage and students within schools in the second stage.

The 2018 PISA survey included 81 countries and 612 005 students. Our analyses focus on the subsample of 294 527 youth from the 37 OECD countries in 2018 at the time of data collection. From this subsample, we excluded Canada and Israel, which did not assess parental emotional support in their country-specific surveys. This resulted in a sample of 35 OECD countries covering 219 612 students. In addition, reading survey are not available for Spain, such that we use a sample of 34 countries and 191 525 students for that measure. Several additional countries (Australia, Belgium, Denmark, Italy, Norway, and New Zealand) did not include in their survey one or more of the subjective wellbeing measures on which we focus. As such, for the analyses of subjective wellbeing, we exclude these countries, resulting in a sample of 29 countries and 163 015 students for those analyses.

## 3.2 Measures

### *Parental emotional support*

Our key predictor of interest is parental emotional support as reported by youth at approximately age 15. This variable has the advantage of centring on young people's perceptions, delving into how they view the emotional and material resources provided by their parents. It is not possible to ascertain to what extent it reflects objectively identifiable differences in actual support whether or not linked to differences in communication or family functioning (Gaspar et al., 2022<sup>[79]</sup>). However, akin to other forms of social support, we are navigating a domain where perceived support is likely to hold greater significance for well-being than the actual receipt of support (Hobfoll, 2002<sup>[80]</sup>).

Specifically, respondents were asked whether they “strongly agree”, “agree”, “disagree”, or “strongly disagree” with three statements: (1) “My parents support my educational efforts and achievements”, (2) “My parents support me when I am facing difficulties at school,” and (3) “My parents encourage me to be confident.” The PISA data include a combined measure of parental emotional support constructed by the study team from these items using Item Response Theory (IRT) scaling, with a higher score indicating greater parental emotional support. Cronbach's Alphas for sample countries ranged from .85 to .94, indicating a high level of internal consistency (reliability) of the measure of parental emotional support based on these three items (see Table 16.39 of [see PISA 2018 Technical Report](#)). Notably, however, this measure provides only a general assessment of global parental emotional support, with no distinction

between support from mothers and fathers, despite evidence that, on average, mothers and fathers differ in terms of parenting styles and practices (Simons and Conger, 2007<sup>[81]</sup>).

### ***PISA reading, math and science scores***

The PISA surveys administer a series of reading, math and science tests to students to assess achievement these areas (OECD, 2019<sup>[82]</sup>). The reading literacy test aims to assess a student's ability to understand, use, evaluate, reflect on, and engage with a text to achieve one's goals and to develop one's knowledge and potential and to participate in society. The mathematical performance test measures ability to formulate, employ, and interpret mathematics in a variety of contexts to describe, predict and explain phenomena, and demonstrate recognition of the role that mathematics plays in the world. The scientific performance test measures students' capacity to use scientific knowledge to identify questions, acquire new knowledge, explain scientific phenomena, and draw evidence-based conclusions about science-related issues.

Scores on each test are scaled to fit approximately normal distributions, with means for OECD countries at roughly 500 and about two-thirds of students across the OECD countries scoring between 400 and 600 points (OECD, 2019<sup>[82]</sup>). Less than 2% of students, on average, score above 700 and, at best, a handful of students in the PISA sample for any country score above 800. Standard deviations on each test are approximately 100 points such that a 10-point difference in performance corresponds to an effect size of 0.10. There is considerable uncertainty about how PISA score-point differences translate into a metric such as "years of schooling", and the empirical evidence here is limited to a few countries and subjects. However, as a rule of thumb, the expected one-year learning gain on most national and international tests is equal to between one-quarter and one-third of a standard deviation, which corresponds to 25-30 points on the PISA scale (Woessmann, 2016<sup>[83]</sup>).

### ***Subjective well-being***

Subjective well-being refers to how individuals think and feel about their lives, such as whether they are satisfied with their lives, whether they feel their lives have meaning and purpose, whether they have confidence in their abilities, and whether they believe that the things they do in life are worthwhile (Clark et al., 2019<sup>[84]</sup>; Boarini, Johansson and d'Ercole, 2006<sup>[85]</sup>). It includes self-perceptions of autonomy, capabilities, competence, sense of purpose, locus of control, resilience, and other aspects of psychological well-being or flourishing. These attributes begin to develop in early childhood, but adolescence is a key, malleable, period for their concretization given that core developmental tasks during adolescence include increased autonomy from the family and advancement of one's personal and social identity (OECD, 2021<sup>[13]</sup>).

Our analyses focus on 7 domains of adolescent subjective well-being assessed in the PISA surveys, including: sense of belonging at school, attitudes towards competition, meaning in life, fear of failure, self-efficacy (resilience), positive feelings, and life satisfaction.

- *Sense of belonging at school* consists of six items: (1) "I feel like an outsider (or left out of things) at school"; (2) "I make friends easily at school"; (3) "I feel like I belong at school"; (4) "I feel awkward and out of place in my school"; (5) "Other students seem to like me"; and (6) "I feel lonely at school." Country-specific Cronbach's alphas for this measure ranged from .68 to .87.
- *Attitudes towards competition* is assessed via three measures: (1) "I enjoy working in situations involving competition with others"; (2) "It is important for me to perform better than other people on a task"; and (3) "I try harder when I'm in competition with other people" (alphas= .72 to .88).
- *Meaning in life* includes three items: (1) "My life has clear meaning or purpose"; (2) "I have discovered a satisfactory meaning in life"; and (3) "I have a clear sense of what gives meaning to my life" (alphas= .79 to .92).

- *Fear of failure* is measured by three items: (1) “When I am failing, I worry about what others think of me”; (2) “When I am failing, I am afraid that I might not have enough talent”; and (3) “When I am failing, this makes me doubt my plans for the future” (alphas= .75 to .89).
- The *self-efficacy* index includes five items: (1) “I usually manage one way or another”; (2) “I feel proud that I have accomplished things”; (3) “I feel that I can handle many things at a time”; (4) “My belief in myself gets me through hard times”; and (5) “When I’m in a difficult situation, I can usually find my way out of it” (alphas= .67 to .87).
- *Positive feelings* is assessed via three items for which youth indicated how often they feel (1) happy; (2) joyful; and (3) cheerful (alphas= .59 to .89). Response categories for all items in these indices took the form of a 4-point Likert-like scale.
- *Life satisfaction* is measured by a single item, “Overall, how satisfied are you with your life as a whole these days”, to which youth responded on a scale of 0 to 10.

IRT scaling was used to create a composite score for each measure except the single item assessment of life satisfaction. The composite score was then converted to standard deviation units, normalized across countries to have a mean of 0 and standard deviation of 1. For consistency with the other subjective well-being measures, we converted the life satisfaction raw scores to standard deviation units for the analysis sample, normalized to have a mean of 0 and standard deviation of 1.

### **Covariates**

The PISA 2018 surveys include information on a range of individual, parent/family, and school characteristics for each adolescent. We include many such characteristics as covariates in our regressions. *Individual characteristics* include adolescent age, gender, grade, immigrant status, and immigrant region of origin. Students take the PISA test at approximately age 15, with actual age at assessment varying from 15 years and 3 months to 16 years and 2 months. Thus, we include a continuous measure of student age in our models. We also include an indicator that the adolescent is a boy or a girl given that emotional support may differ by child gender. Adolescent grade is measured by indicators for whether, at the time of the survey, the student is in their country’s modal grade for their age (reference category) or whether they are below or above the modal grade. Eleven percent of sample students are below their country’s modal grade and 10% are above it (students may be up to 3 grades above or below their country’s mode). Adolescent immigrant status is assessed via indicators that the student is a second-generation (born in their survey country of residence, but to immigrant parents) or first-generation (both the youth and their parents were born outside of their survey country of residence) immigrant, with adolescents born in their survey country of residence to parents who were also born in that country serving as the reference group. We also account for region of adolescent or parent birth for (first- or second-generation) immigrants via indicators for Western Europe, Central and Eastern Europe, Asia & the Pacific Islands, Middle East & Africa, Latin America & the Caribbean, or North America.

*Parent/family characteristics* include parental educational attainment and family wealth. Parental educational attainment is represented by the educational attainment of the most educated parent for adolescents living in a two-parent family and the educational attainment of the resident parent for adolescents living in a single-parent family. It is coded in three categories: low education includes parents with, at most, a “general upper secondary education” (ISCED 3A in the ISCED 1997 classification<sup>1</sup>); medium education characterizes parents who have achieved, at most, a vocational tertiary education

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<sup>1</sup> ISCED 1997 classification is as follows: ISCED 0 (No formal education), ISCED 1 (primary education), ISCED 2 (lower secondary), ISCED 3B or 3C (vocational/pre-vocational upper secondary), ISCED 3A (general upper secondary), ISCED 4 (non-tertiary post-secondary), ISCED 5B (vocational tertiary), ISCED 5A (theoretically oriented tertiary), or ISCED 6 (post-graduate).

(ISCED 5B); and high education is defined as a parent achieving tertiary education (ISCED 5A (theoretically oriented tertiary) or higher degree.

Family wealth is assessed by whether adolescents' homes included 12 items, nine of which were commonly assessed for all countries and three of which were country specific. The common items included: (1) a room of the adolescent's own, (2) a link to the Internet, (3) television(s), (4) car(s), (5) room(s) with a bath or shower, (6) cell phone(s) with Internet access (smartphones), (7) computer(s) (desktop, laptop, notebook), (8) tablet computer(s) (iPad, BlackBerry), and (9) e-book reader(s) (Kindle, Kobo, Bookeen).

The country-specific measures assessed items such as whether the student has their own computer, enjoys an extracurricular activity paid for by their parents, has travelled abroad for one week or more, and whether there is a guest room, a high-speed internet connection, or a musical instrument in their home, along with other household-level indicators of material wealth. It should be noted that this measure does not take into account specific resources for the education of children, such as a desk for studying or books to assist with schoolwork. The intention behind using this measure is to capture differences in family's material resources that adolescents can use – either independently or with other family members – not only for schoolwork but also for leisure activities and relaxation. Cultural possessions, such as books on art, music, or classic literature, are also not included in this measure. This omission is because these goods may not always serve as resources that teenagers can utilize for pleasure. Instead, they often reflect variations in social capital between families, a factor that is already partially accounted for by the parents' level of education.

A composite score for family wealth was created using IRT scaling. Country-specific Cronbach's alphas ranged from .55 to .83. The composite score was then converted to standard deviation units, normalized across countries to have a mean of 0 and standard deviation of 1. We model family wealth with indicators for whether an adolescent's family was in the bottom, middle, or top tercile for family wealth within their country. Ideally, we would also control for family income, family structure, and family or household size, each of which may be associated with parental support. However, the PISA survey does not provide such information, nor does it include information on the presence of siblings in the household. Thus, we are unable to account for these factors in our analyses.

*School characteristics* include the urbanicity of the youth's school and whether it is private or public. Schools are characterized as being in a village, hamlet, or rural area of fewer than 3 000 people, a small town of 3 000 to 15 000 people, a town of 15 000 to 100 000 people, a city of 100 000 to 1 000 000 people, or a large city with over 1 000 000 people. We include in our regressions an indicator for urban schools, which is equal to 1 for schools in communities of at least 100 000 people. We also include in our regressions an indicator equal to 1 if the youth attends a private school.

Several of the covariates contained missing values at either the country (because the item was not asked in the country-specific survey) or individual level. At the country level, Belgium, Ireland, Norway, and Sweden did not assess whether the respondent's school was public or private, resulting in 30 276 missing cases (13.79%); Norway and Sweden did not assess school urbanicity, resulting in 18 501 missing cases (8.42%); and Japan did not assess youth immigrant status, resulting in 8 963 missing cases (4.08%). Missing value rates at the individual level were quite small. In all, among our primary analysis sample of 35 countries covering 219 612 students, missing values on the covariates were: adolescent age (0%), adolescent gender (0%), adolescent grade (0.36%), adolescent immigrant status (4.08% overall; 1.41% among countries that included this item), country of origin for first or second generation immigrant adolescent (0.74%), parental educational attainment (1.61%), family wealth (0.08%), school urbanicity (8.42% overall; 3.92% among countries that included this item), and private/public school status (13.79% overall; 3.83% among countries that included this item). As such, we replaced missing values on continuous covariates with the sample mean and missing values on categorical covariates with zero. For each variable with initially missing data, we included in our regression models a dummy variable indicating that the missing value had been replaced.

### 3.3 Empirical strategy

We present results from three sets of analyses. We first present raw and regression adjusted mean differences in parental emotional support between countries. The adjusted differences are estimated by a pooled regression of the form:

$$ES_{ic} = \alpha + \delta COUNTRY_c + \beta COVS_{ic} + \varepsilon_{ic} \quad \text{Equation 1}$$

where  $ES_{ic}$  is parental emotional support perceived by student  $i$  in country  $c$ ,  $COUNTRY_c$  is a vector of country indicators (Hungary, which is located at the OECD mean for parental emotional support is the reference country),  $COVS_{ic}$  is a vector of the full set of covariates (adolescent age, grade, immigrant status, and country of origin; parental educational attainment and family wealth; and the urbanicity of the youth's school and whether it is a private school), and  $\varepsilon_{ic}$  is the error term. Our primary coefficients of interest are  $\delta$ , which represent the adjusted country-specific mean difference in average emotional support between a country and the reference country, Hungary (at the OECD mean).

Second, we present cross-country differences in the average association of parental emotional support with PISA math, reading, and science scores. These are estimated from separate country-specific regressions of the form:

$$PISA_i = \alpha + \gamma ES_i + \beta COVS_i + \varepsilon_i \quad \text{Equation 2}$$

where PISA is the math, reading, or science test score for individual  $i$ , as measured by the estimated first plausible score value in each domain (OECD, 2020<sup>[86]</sup>).

Third, we present cross-country differences in the average association of parental emotional support with subjective wellbeing. The regressions used to produce these estimates take the same form as those for the PISA test score estimates (Equation 2) but with the outcomes being each of the subjective wellbeing estimates.

We present results from each of the three analyses for the full sample, as well as for subsamples defined by parental educational attainment and child gender.

# 4. Results

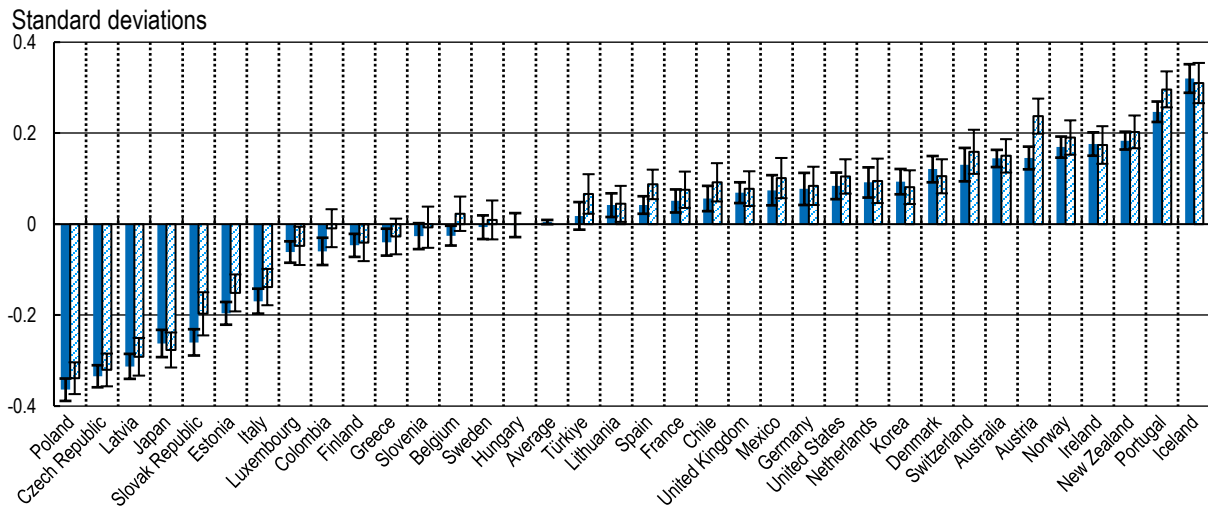
## 4.1 Cross-country differences in parental emotional support

Figure 1 presents raw mean (blue bars) and regression-adjusted (hatched bars) levels of parental emotional support by country. The scale has been standardized to have a mean of 0 and standard deviation (SD) of 1 using the full sample of countries. Countries have been ordered in this and all subsequent figures to range from the country with the lowest (raw) mean level of parental emotional support (far left) to the country with the highest mean level of parental emotional support (far right).

We find considerable variation in mean parental emotional support across countries with no clear pattern therein by geographic location, with the exception that the Anglo/English speaking countries are clustered above the mean and the Eastern European countries below the mean. Even among these groups of countries, however, we find considerable variation in average level of parental emotional support. Belgium, Sweden, Hungary, and Türkiye exhibit levels of parental emotional support that are close to the sample mean, whereas Poland, the Czech Republic, Latvia, Japan, Slovakia, Estonia, and Italy are characterized by particularly low levels of parental emotional support; Norway, Ireland, New Zealand, Portugal, and Iceland exhibit particularly high levels thereof. The gap between the country with the lowest (Poland) and highest (Iceland) average level of parental emotional support is quite large at .68 SDs.

To examine the extent to which average differences may largely reflect sociodemographic differences across countries, we also estimated regression-adjusted means (hatched bars) in which we controlled for adolescent age, grade, immigrant status and region of origin; parental education and family wealth; and school urbanicity and private/public status. These adjustments tended to slightly reduce the magnitude of the country means, such that the gap between the country with the lowest (Poland) and highest (Iceland) average level of parental emotional support was reduced from .68 SDs to .65 SDs. In addition, the regression-adjusted means suggest some changes in the ordering of countries from lowest-to-highest mean emotional support. However, the overall pattern is relatively consistent with that of the simple means. Finally, although not the focus of our analyses, estimates for the covariates indicate that older youth, those at or above grade level, those attending private schools, those whose parents are more highly educated and whose families have greater wealth, and in some countries those whose parents are native to the country in which they reside tend broadly but not in all countries to report greater parental emotional support (see Table A.A.1 in Annex A).

Figure 1. Mean levels of parental emotional support, in selected OECD countries



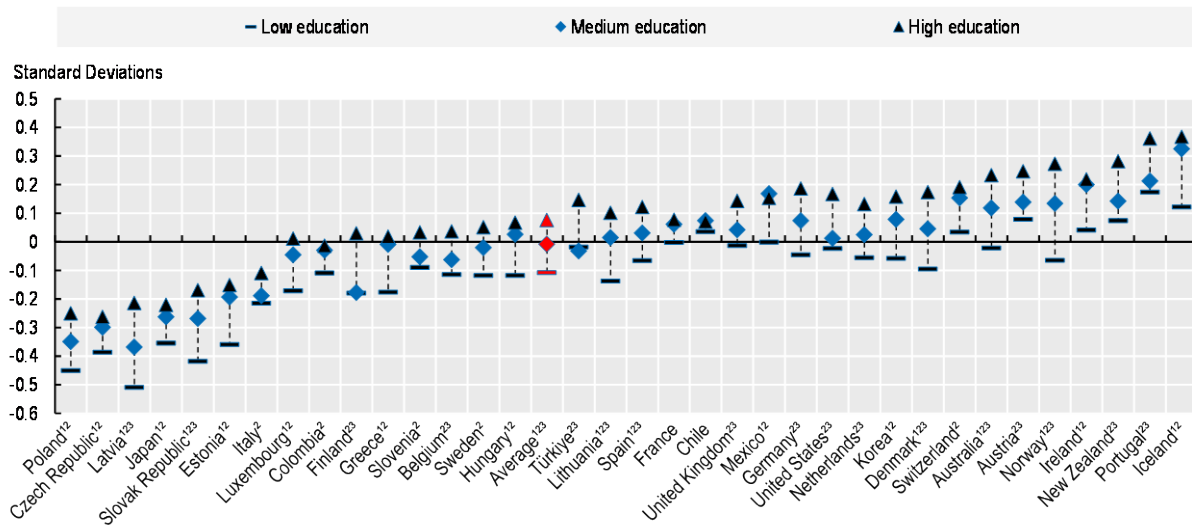
Note: The blue bars show the raw means, and the hatched bars show the regression-adjusted values. From the raw means (blue bars), one can read that in Iceland, the mean level of reported support from parents is 0.32 Standard Deviations (SD) higher than on average across the OECD (the OECD weighted average being set at 0); by contrast in Poland, the mean level of parental emotional support is 0.36 SD lower than the OECD average.

Source: Authors calculations based on PISA 2018 Surveys.

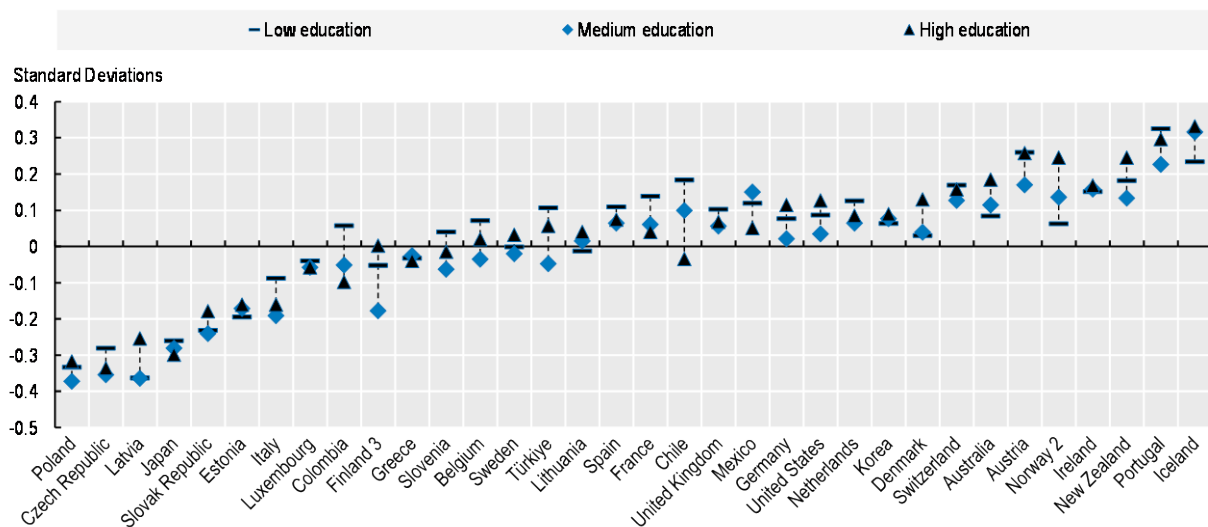
In Figure 2, we examine cross-country variation in raw (Panel A) and regression-adjusted (Panel B) mean levels of emotional support by parental education. Panel A shows that there is a clear gradient in parental emotional support by parent education when considering raw means such that, in all sample countries, children of the most highly educated parents report greater parental emotional support than those of the lowest educated parents. However, there is considerable heterogeneity in the magnitude of difference, which ranges from .03 SDs in Chile to .33 SDs in Norway. Of particular note, in 19 of 35 countries, children of the highest educated parents receive levels of emotional support that are above the sample mean while children of low- (14 countries) and, in some cases, middle-educated parents (14 countries) receive levels of emotional support that are below the sample mean. Finally, despite considerable within-country heterogeneity in the magnitude of the gap in emotional support by parent education, we find that, within each education category, the cross-country pattern of mean levels of emotional support is quite consistent with the overall country pattern. For example, in Poland, Czech Rep, Latvia, Japan and Slovakia, Estonia, and Italy, parental emotional support is lower than average regardless of parental education. By contrast, parental support is above the OECD average in Switzerland, Austria, Ireland, New Zealand, Portugal, and Iceland regardless of parental education. Differences across countries are therefore particularly marked and probably reflect cultural differences, in addition to differences in the level of education of parents within countries.

Figure 2. Mean parental emotional support in selected OECD countries, by parental education

Panel A: Non-adjusted means



Panel B: Regression adjusted means



Note: The numbers next to countries' name reflect statistically significant differences (at  $p < 0.10$  in mean levels of parents' emotional support by parental education as follows: 1 stands for significant difference between low and medium education; 2 means significant difference between low and high education, and 3 stands for significant difference between medium and high education. In Panel B, we observe very few statistically significant differences by parental education.

Source: Authors calculations based on PISA 2018 Surveys.

Finally, a comparison of Figure 1 and Figure 2 suggests that, in a considerable number of countries, relatively high mean levels of parental emotional support for the population as a whole are driven by high levels of emotional support in families with highly educated parents, whereas families with low-educated parents exhibit relatively low levels of parental emotional support. While this pattern is clearly evident in the raw means (Panel A), we find no differences in parental emotional support within any country when considering the regression-adjusted means (Panel B), indicating that the mean difference likely reflects other factors (e.g. wealth and immigration status) that are correlated with both parent education and



parental emotional support. Low family wealth, in particular, is quite consistently associated with lower reported parental support across countries, suggesting that economic hardship and the stress associated with it may be an important impediment to providing children with emotional support <sup>2</sup> (Figures A.A.1 and Table A.A.1 in Annex A).

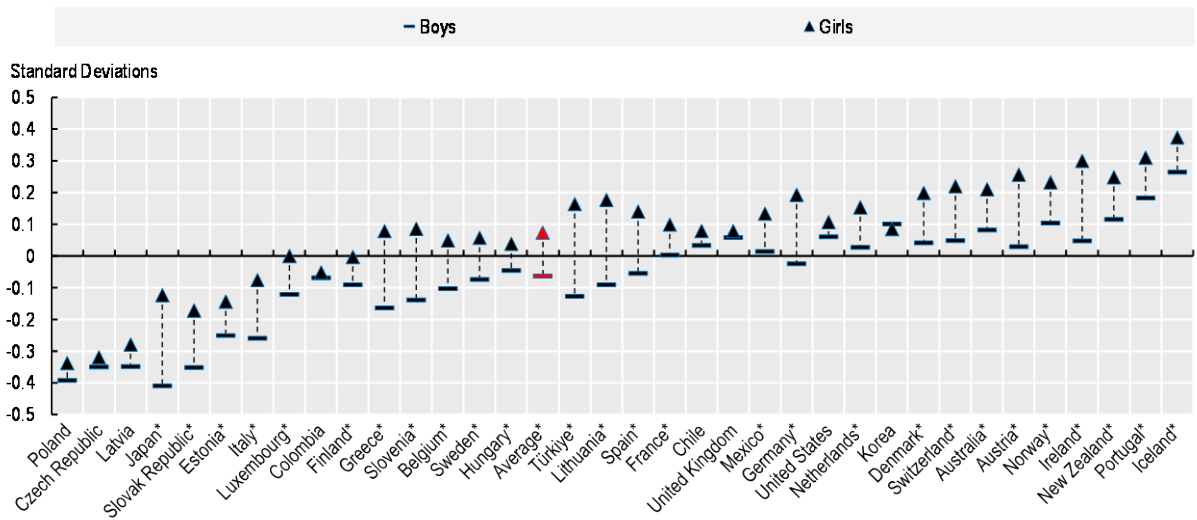
Turning to heterogeneity by child gender, Panel A of Figure 3 indicates that, in most countries, girls report higher levels of parental emotional support than boys – although it is unclear whether this reflects actual differences in parenting practices or difference in perceptions by gender. The mean girl-boy difference in average parental emotional support is .14 SDs across sample countries. Again, however, the magnitude of difference varies considerably across countries from .08 SDs in Hungary to .29 SDs in Türkiye. Moreover, in 10 countries, boys receive average levels of parental emotional support that are lower than the OECD mean at the same time that girls receive emotional support that is above the OECD mean, with particularly large gaps favouring girls in Türkiye, Greece, Lithuania, and Slovenia. As was the case for parental education, whereas there is considerable within-country variation in the girl-boy gap in average parental emotional support, the cross-country pattern is largely consistent for girls and boys. Notably, in the 9 countries in which parental support is highest, on average, girls report a much higher level of support than boys, particularly in Ireland, Austria, Switzerland, and Denmark. However, we find no significant differences in parental emotional support by child gender after adjusting for the covariates (Panel B), indicating that such within-country differences are driven by other difference in the characteristics of the population.

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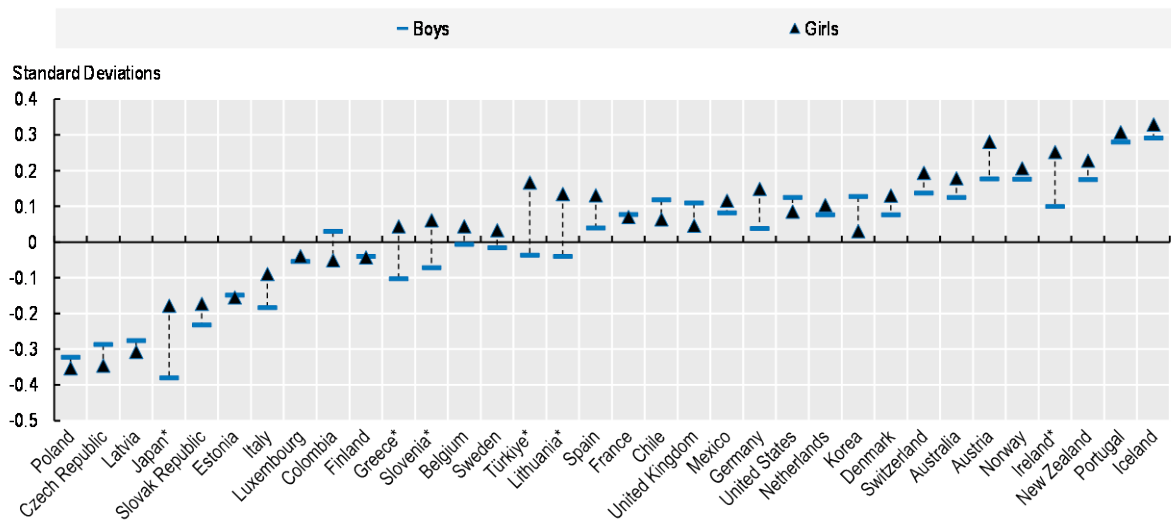
<sup>2</sup> Results from country-specific regressions of parental emotional support are reported in Table A.A.1 in Annex A. They indicate that, all else equal, low wealth is quite consistently associated with lower emotional support (0.12 SD on average across countries). Moreover, although in some countries students from wealthier families report higher parental support than those in the middle of the distribution of wealth, this gap does not show up consistently across countries, and is also smaller than that between low and middle wealth. In a few countries, students with an immigrant background report lower (as especially in Czech Republic, Iceland, Lithuania, Poland and Portugal) or higher emotional support than native-born students (as in Hungary and Slovakia); however, in most countries, the origin of the family is not associated with a significant difference in reported parental emotional support when other characteristics are accounted for.

Figure 3. Mean parental emotional support in selected OECD countries, by child gender

Panel A: Non-adjusted means



Panel B: Regression adjusted means



Note: In countries marked with an \*, the difference in mean levels of parents' emotional support reported by boys and girls is statistically significant at  $p < 0.1$ .

Source: Authors calculations based on PISA 2018 Surveys.

## 4.2 Cross-country differences in associations of parental emotional support with PISA math, reading, and science scores by country parental emotional support ranking

A large literature has documented cross-country differences in PISA scores (e.g., PISA reports (Jerrim et al., 2018<sup>[87]</sup>; Jerrim and Micklewright, 2014<sup>[88]</sup>; Agasisti, Longobardi and Regoli, 2017<sup>[89]</sup>). Thus, we primarily assess whether there are cross-country differences in associations of emotional support with PISA scores rather than focusing on cross-country differences in PISA scores themselves. Notably, however, the raw data suggest no cross-country pattern of PISA score differences by average level of emotional support (see Annex B Figures B1-B3 for raw and regression-adjusted mean differences). Indeed, of the 21 countries with the highest (raw) mean test scores (above 500 for math, reading, or science), 8 are characterized by below average parental emotional support (Poland, Czech Republic, Japan, Estonia, Finland, Slovenia, Belgium, Sweden) and 14 by above average parental emotional support (France, UK, Germany, United States, Netherlands, Korea, Denmark, Australia, Austria, Ireland, New Zealand, Switzerland, Norway). Likewise, of the 3 countries with the lowest mean test scores (below 450 in any subject), Chile and Mexico exhibit parental emotional support that is above the sample mean, whereas Colombia is characterized by below sample mean parental emotional support.

At the same time, the data show a clear gradient in test scores by parental educational attainment such that children of more highly educated parents fare better in all countries, with test score gaps between children of the highest and lowest educated parents averaging 48 points for math, 47 points for reading, and 47 points for science across countries (see Annex B Figures B4-B6), roughly corresponding to a PISA test score difference associated with one year of schooling. Again, however, there is considerable heterogeneity across countries in the size of the within-country parental education gap in test scores, which ranges from 18 points (for science in Italy) to 64 points (for math in Slovak Republic). Yet, the magnitude of these differences does not appear to have a relation to a country's average level of parental emotional support. Likewise, we see no clear patterns in boy-girl test score gaps by average level of parental emotional support (see Annex B Figures B7-B9). In most countries, boys tend to score slightly better than girls in math, girls tend to score better than boys in reading, and girls and boys generally score similarly in science, though there are exceptions to this general pattern. The girl-boy test score gap averages 8 points for math (favouring boys), 27 points for reading (favouring girls), and 0 points for science, and ranges from -23 points (favouring boys for maths in Columbia) to 47 points (favouring girls for reading in Finland).

To examine cross-country patterns in the association between parental emotional support and children's test scores, we estimated, separately for each country, models in which children's PISA math, reading, or science score was regressed on parental emotional support, controlling for youth age, grade, immigrant status and region of origin, parental education and family wealth, and school urbanicity and private/public status. We estimated these models for the full sample of youth in each country and for subsamples defined by parental education and child gender.

Table 1 presents a concise summary of these results, which are depicted in Figures 4-6. Figure 4 depicts the country-specific parental emotional support coefficients and 95% confidence intervals from these regressions. Notably, the association of parental emotional support with PISA test scores is positive in direction for all countries and statistically significant for all but 7 (Poland [math], Luxembourg [math], Colombia [math, science], Belgium [math, science], France [science], the United Kingdom [math], Germany [math, science], and the Netherlands [math]). However, the magnitude of association varies considerably across countries and this variation does not appear to be systematically associated with a country's mean parental emotional support ranking. The coefficient magnitudes, indicating the number of points on the test that are associated with one SD greater parental emotional support, range from 2.7 (Japan) to 14.5 (Korea) for math, 2.7 (Belgium) to 21.5 (Iceland), and 2.6 (Spain) to 17.2 (Slovakia), representing small to modest effects (e.g., from 2-12 weeks of additional schooling).

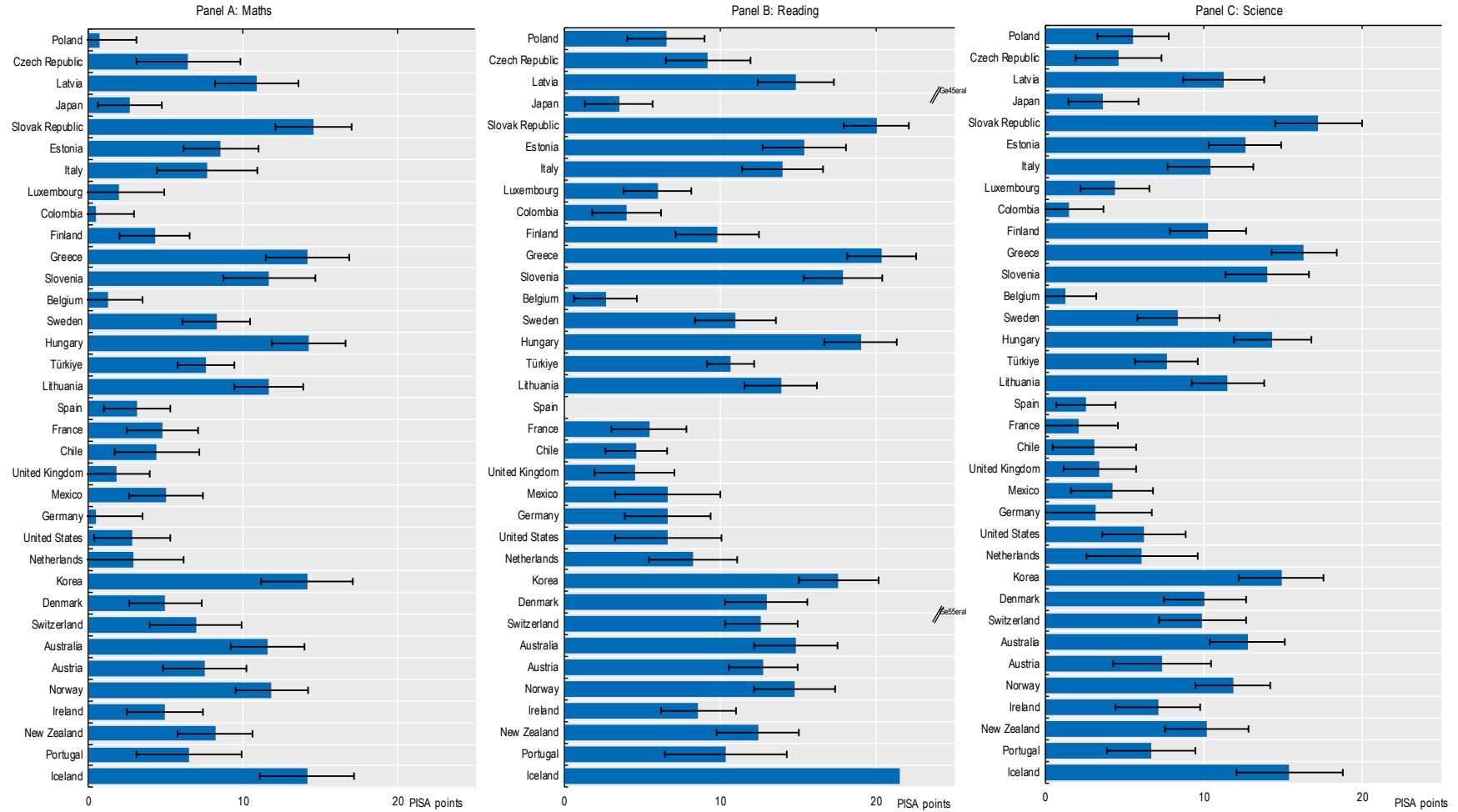
**Table 1. Summary of associations of parental emotional support with achievement (PISA math, reading, and science scores)**

	<b>Full Sample Association of Parental Emotional Support with PISA Test Score (Figure 4)</b>	<b>Within-Country Differences in Association by Parental Education (Figure 5)</b>	<b>Within-Country Differences in Association by Child Gender (Figure 6)</b>
PISA Math	Significant association in 26 of 35 countries with effect size for one SD greater parental emotional support ranging from 2.7 (Japan) to 14.5 (Korea) points higher test score	Significant variation in 3 of 35 countries (Luxembourg, Mexico, Austria) such that association is larger for children of more highly educated parents, with effect size ranging from 8.5 (Austria) to 10.0 (Luxembourg) points	Significant variation in 1 of 35 countries (Lithuania) such that association is .2 points larger for boys than girls
PISA Reading	Significant association in all 34 countries, with effect size for one SD greater parental emotional support ranging from 2.7 (Belgium) to 21.5 (Iceland) points higher test score	Significant variation in 7 of 34 countries (Estonia, Italy, Luxembourg, Greece, Chile, Austria, New Zealand) such that association is larger for children of more highly educated parents, with effect size ranging from 7.7 (Estonia) to 10.5 (Italy) points	Significant variation in 5 of 34 countries (Poland, Japan, Slovenia, Lithuania, New Zealand) such that association is larger for boys with the boy-girl difference with effect size ranging from 6.3 (Japan) to 9.0 (Slovenia) points
PISA Science	Significant association in 31 of 35 countries (all but Colombia, Belgium, France, Germany) with effect size for one SD greater parental emotional support ranging from 2.6 (Spain) to 17.2 (Slovakia) points higher test score	Significant variation in 5 of 35 countries (Poland, Italy, Luxembourg, Greece, Austria) such that association is larger for children of more highly educated parents, with effect size ranging from 7.5 (Greece) to 10.2 (Austria) points	Significant variation in 4 of 35 countries (Poland, Slovenia, Lithuania, Austria) such that association is larger for boys with the boy-girl difference ranging from 6.9 (Poland) to 8.9 (Slovenia) points

Note: Results from country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.

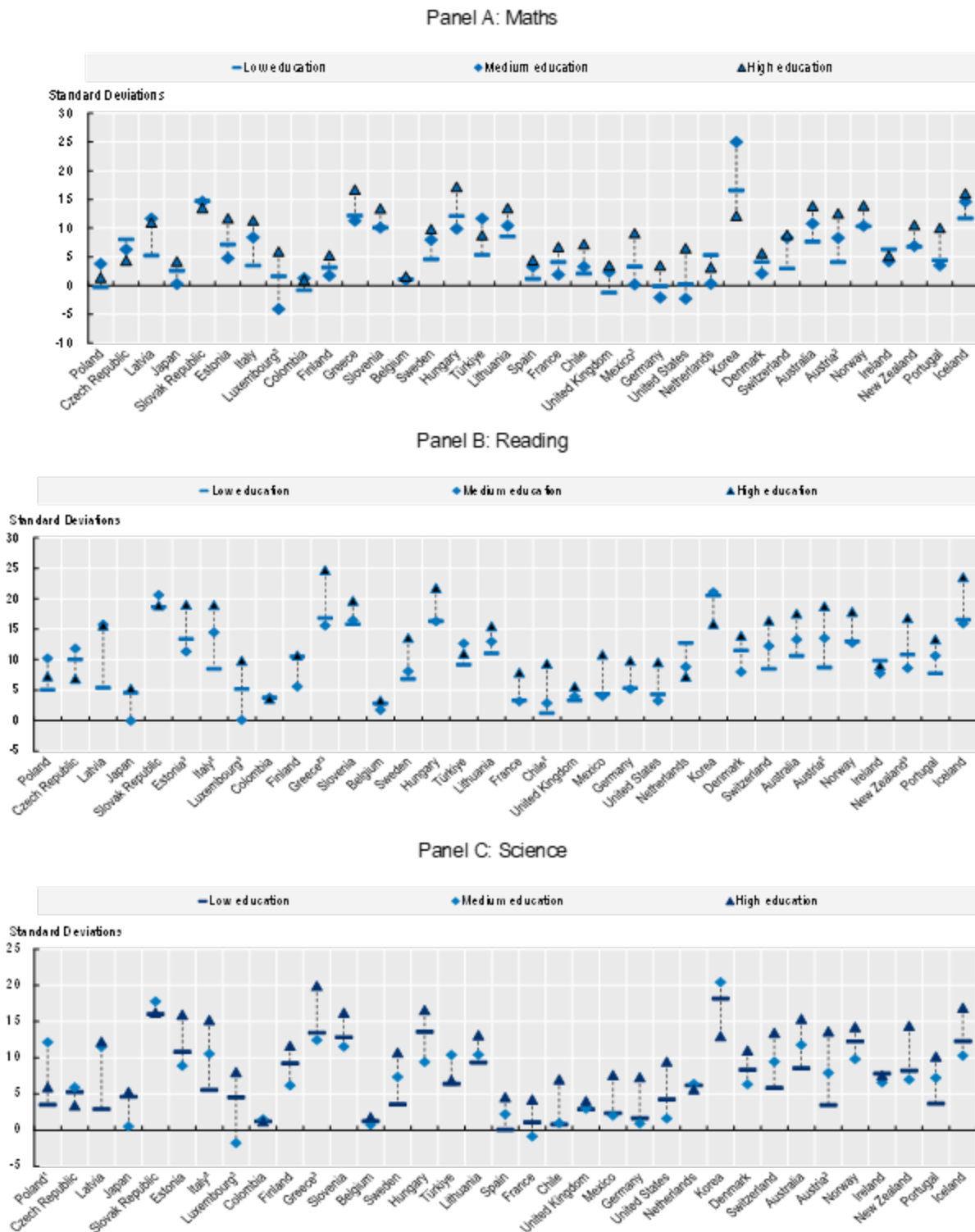
Source: Authors calculations based on PISA 2018 Surveys.

Figure 4. Association between parents' emotional support and PISA scores across OECD countries



Note: Countries are ranked by mean levels of reported parental support, as reflected in Figure 1.  
 Source: Authors calculations based on PISA 2018 Surveys.

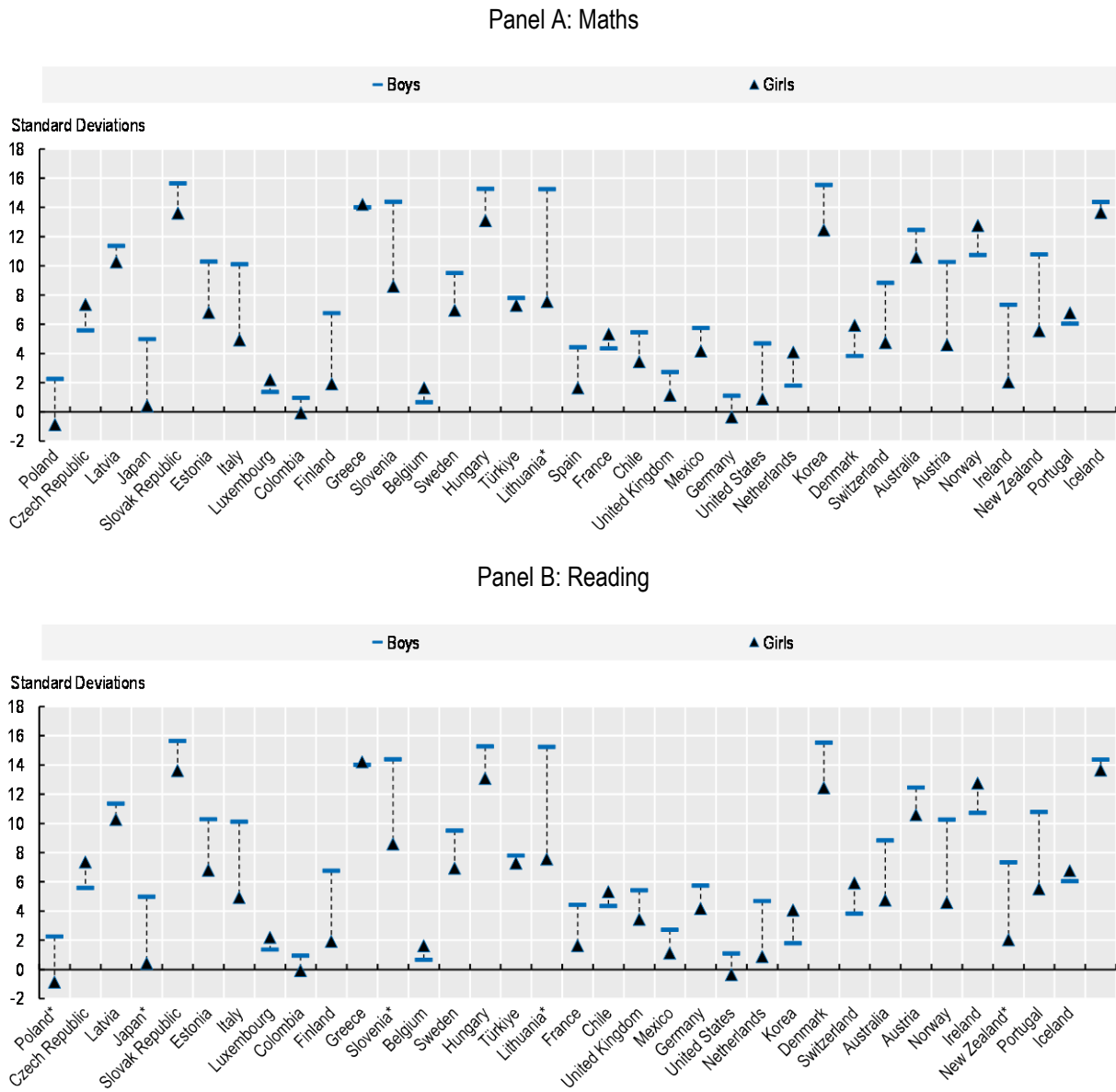
**Figure 5. Association between parental emotional support and PISA scores across OECD countries, by parental education**



Note: The numbers next to countries' names reflect statistically significant differences (at  $p < 0.10$ ) in mean levels of parents' emotional support by parental education as follows: 1 stands for significant difference between low and medium education; 2 means significant difference between low and high education, and 3 stands for significant difference between medium and high education.

Source: Authors calculations based on PISA 2018 Surveys.

**Figure 6. Association between parental emotional support and PISA scores across OECD countries, by child gender**



Note: Countries are ranked by mean levels of reported parental support, as reflected in Figure 1  
 Source: Authors calculations based on PISA 2018 Surveys.

Figure 5 and Figure 6 show results for within country variation in the association of parental emotional support with PISA scores by parental education and child gender. Despite differences between countries in the overall association of emotional support with child test scores, we find very few statistically significant differences in the association of parental emotional support with math, reading, or science scores by either parental education (Figure 5) or child gender (Figure 6). Indeed, we find significant differences by parental education, such that the association between parental emotional support and test performance is larger on at least one test subject among children with more educated parents, in only 9 of 35 countries: Poland (science), Estonia (reading), Italy (reading, science), Luxembourg (math, reading, science), Greece (reading, science), Chile (reading), Mexico (math), Austria (math, science), and New Zealand (Math). The magnitude of difference ranges from 8.5 (Austria) to 10.0 (Luxembourg) points for math, 7.7 (Estonia) to 10.5 (Italy) points for reading, and 7.5 (Greece) to 10.2 (Austria) points for science, which roughly translate to 2-8 weeks of additional schooling.

### 4.3 Cross-country differences in associations of parental emotional support with subjective well-being

Our final set of analyses focuses on cross-country patterns in associations of perceived parental support with 7 domains of youth-reported subjective wellbeing: sense of belonging at school, attitude toward competition, meaning in life, fear of failure, self-efficacy, positive feelings, and life satisfaction. Table 2 summarizes these results, which are presented in detail in Annex Figures A10-A16. On the whole, we find associations between greater parental emotional support and greater subjective well-being for the vast majority of countries on each well-being measure. These associations are small-to-modest for attitude toward competition (ranging from .03 SDs in Portugal to .21 SDs in Japan) and (lesser) fear of failure (ranging from .03 SDs in the Czech Republic to .12 SDs in Finland), and modest-to-large for sense of belonging at school (ranging from .16 SDs in France to .37 SDs in Korea), meaning in life (ranging from .16 SDs in Hungary to .35 SDs in Luxembourg and the United States), self-efficacy (ranging from .18 SDs in France to .38 SDs in Korea), positive feelings (ranging from .19 SDs in Latvia to .36 SDs in Korea), and life satisfaction (ranging from .18 SDs in Slovakia to .35 SDs in Korea). Of the 29 countries considered, we find a non-significant association of parental emotional support with subjective well-being for only 5 countries (Germany for attitude toward competition, and Japan, Slovakia, Türkiye, and France for fear of failure) and for only one of the 7 domains of subjective wellbeing in each of these countries.

Interestingly, we find relatively few significant differences in the association between parental emotional support and any domain of subjective well-being by parental education and, in the relatively few instances in which we do find differences, we do not detect a strong or consistent pattern therein. We do, however, find that the association differs for boys and girls on several of the subjective well-being measures in multiple countries. Specifically, whereas we find no difference by child gender in any country for sense of belonging in school or meaning in life, we find evidence of differences by child gender for the other five measures. For example, the association of greater parental emotional support with positive attitudes toward competition is larger for boys than girls in 15 countries (with the boy-girl difference ranging from .05 SDs in Spain to .11 SDs in Slovakia, Greece, and Ireland), whereas the association of greater parental emotional support with greater life satisfaction is larger for girls than boys in 13 countries (with the girl-boy difference ranging from .07 SDs in Lithuania and the Netherlands to .14 SDs in Hungary, Türkiye, and Mexico). We also find a larger association for boys than girls with respect to self-efficacy in three countries (Luxembourg, Slovenia, Türkiye), with the boy-girl difference ranging from .07 SDs in Luxembourg and Slovenia to .10 SDs in Türkiye, and a larger association for girls than boys with respect to less fear of failure in six countries (Japan, Slovenia, Spain, Mexico, Germany, and the United States with the girl-boy difference ranging from .09 SDs in Spain to .12 SDs in Germany), and with respect to greater positive feelings in three countries (Spain, Mexico, and Ireland, with the girl-boy difference ranging from .06 SDs in Spain to .11 SDs in Mexico).



**Table 2. Summary of associations of parental emotional support with subjective wellbeing**

	<b>Full Sample Association of Parental Emotional Support with Subjective Wellbeing</b>	<b>Within-Country Differences in Association by Parental Education</b>	<b>Within-Country Differences in Association by Child Gender</b>
Sense of belonging at school (Annex Figure B10)	Significant association in all countries with effect size for one SD greater parental emotional support ranging from .16 (France) to .37 (Korea) SDs greater sense of belonging at school	Significant variation in 6 of 29 countries (Sweden, France, Chile, Mexico, United States, Iceland), typically favoring children with more highly educated parents, with differences ranging from .08 (France) to .12 (Sweden) SDs; in Iceland, however, low parental educational attainment is associated with .24 SDs greater sense of belonging at school relative to medium parental educational attainment	Significant variation in 2 of 29 countries (Finland, Türkiye) such that boys exhibit .08 SDs greater sense of belonging at school in Finland and girls exhibit .05 SDs greater sense of belonging at school in Türkiye
Attitude toward competition (Annex Figure B11)	Significant association in all countries except Germany with effect size for one SD greater parental emotional support ranging from .03 (Portugal) to .21 (Japan) SDs greater preference for competition	Significant variation in 5 of 29 countries (Estonia, Luxembourg, Hungary, Lithuania, Mexico) with no consistent cross-country pattern	Significant variation in 15 of 29 countries such that the association is larger for boys with the boy-girl difference ranging from .05 (Spain) to .11 (Slovakia, Greece, Ireland) SDs
Meaning in life (Annex Figure B12)	Significant association in all countries with effect size for one SD greater parental emotional support ranging from .16 (Hungary) to .35 (Luxembourg, United States) SDs greater meaning in life	No evidence of variation in association by parental education	No evidence of variation in association by parental education
Fear of failure (Annex Figure B13)	Significant association in 25 of 29 countries (all except Japan, Slovakia, Türkiye, and France) with effect size for one SD greater parental emotional support ranging from .03 (Czech Republic) to .12 (Finland) SDs less fear of failure	Significant variation in 4 of 29 countries (Lithuania, France, Chile, Mexico) favoring children with more highly educated parents, with differences ranging from .09 (Mexico) to .12 (Lithuania, France) SDs	Significant variation in 6 of 29 countries (Japan, Slovenia, Spain, Mexico, Germany, United States) such that the association is larger for girls with the girl-boy difference ranging from .09 (Spain) to .12 (Germany) SDs
Self-efficacy (Annex Figure B14)	Significant association in all countries with effect size for one SD greater parental emotional support ranging from .18 (France) to .38 (Korea) SDs greater self-efficacy	Significant variation in 1 of 29 countries (Hungary) such that children of medium educated parents exhibit .11 SDs greater self-efficacy than those of low educated parents	Significant variation in 3 of 29 countries (Luxembourg, Slovenia, Türkiye) such that the association is larger for boys with the boy-girl difference ranging from .07 (Luxembourg, Slovenia) to .10 (Türkiye) SDs
Positive feelings (Annex Figure B15)	Significant association in all countries with effect size for one SD greater parental emotional support ranging from .19 (Latvia) to .36 (Korea) SDs greater positive feelings	No evidence of variation in association by parental education	Significant variation in 3 of 29 countries (Spain, Mexico, Ireland) such that the association is larger for girls with the girl-boy difference ranging from .06 (Spain) to .11 (Mexico) SDs
Life satisfaction (Annex Figure B16)	Significant association in all countries with effect size for one SD greater parental emotional support ranging from .18 (Slovakia) to .35 (Korea) SDs greater life satisfaction	Significant variation in 1 of 29 countries (Iceland) such that children of low educated parents exhibit .22 SDs greater life satisfaction than those of medium educated parents	Significant variation in 13 of 29 countries such that association is larger for girls with the girl-boy difference ranging from .07 (Lithuania, Netherlands) to .14 (Hungary, Türkiye, Mexico) SDs

Note: Results from country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.

Source: Authors calculations based on PISA 2018 Surveys.

# 5. Discussion

This study offers new evidence of both cross-national patterns of parental emotional support and cross-national patterns of associations of parental emotional support with cognitive skills and subjective wellbeing for youth in over 30 OECD countries at approximately age 15. It also assesses both within- and between-country differences in these patterns by parental educational attainment and child gender. It is important to recognize that our results are purely descriptive and do not lend themselves to causal interpretation. That is, these patterns may reflect differences between countries, or between population subgroups within countries, in factors for which our models do not control. Moreover, our measure of perceived parental emotional support is relatively simple, being comprised of only three items (“My parents support my educational efforts and achievements”, “My parents support me when I am facing difficulties at school”, “My parents encourage me to be confident”). As such, it is unlikely that it captures the expansive range of ways parents may express warmth, responsiveness, and supportiveness. It may also have limited sensitivity and specificity. Nonetheless, it grasps important dimensions of emotional support that are consistent with authoritative parenting and positively associated with youth academic achievement (Wentzel, Russell and Baker, 2016<sup>[90]</sup>; OECD, 2017<sup>[91]</sup>). It is also a useful proxy for assessing parental emotional support and its association with youth well-being between countries, as well as by social (dis)advantage and child gender, both within- and between-countries. We are aware of no prior study that make such large-scale comparisons, nor of any other data source with which they can be made.

With these caveats in mind, our results point to several overarching conclusions. First, there is large variation in parental emotional support levels across the OECD countries and this variation does not appear to particularly reflect geographic differences. In addition, between-country differences in parental emotional support are robust to adjustment for the characteristics of youths and their families in each country, including parental education, family wealth, immigrant background, urbanicity, private school attendance, and child age and grade. At the same time, we cannot rule out that they reflect differences in country-specific cultural or social norms, which we are unable to control in our regressions. Moreover, the gap between high- and low-parental emotional support countries is quite large in magnitude, with the difference between the country in which youths report the highest level of parental emotional support (Iceland) and that in which they report the lowest (Poland) being approximately two-thirds of a SD.

Second, the non-adjusted data indicate a strong within-country gradient in parental emotional support by parental educational attainment such that, within all countries, children with more educated parents report greater parental emotional support. However, after adjusting for other youth and family characteristics, we find no within-country differences in parental emotional support levels by parental education, indicating that other factors that are correlated with both parental education and parental emotional support (family wealth, immigrant background, private school attendance) ‘explain’ the gradient. Overall, no systematic association of perceived parental support with parents’ level of education is observed here, except for that which is mediated by family wealth, origin, and type of school within countries. This lends support to the view that economic difficulties and psychological distress experienced by the least affluent households act as critical factors to hamper parent’s ability to support children emotionally and materially, while parents’ educational attainment seems much less relevant. Beyond socio-economic determinants, important cultural and institutional factors seem to shape parenting behaviours and how they are perceived by

adolescents at population level and contribute to substantial cross-national differences in average levels of perceived parental support.

Likewise, the non-adjusted data indicate that, in the majority of countries, girls tend to report higher levels of parental emotional support than boys. However, this pattern, too, does not hold in our regression analyses, again suggesting that other characteristics of countries' populations may "explain" mean differentials by child gender. Of additional note, although mean differences in parental emotional support vary considerably in magnitude by parental education and child gender across countries, the size of these gaps does not appear to be systematically related to a country's average level of parental emotional support, nor to its geographic location or policy orientation.

Third, we find no consistent evidence to suggest that variation in countries' mean levels of parental emotional support have implications for between-country differences in PISA test scores or subjective wellbeing. Nor do we find evidence to suggest that differences in within-country gradients in PISA scores or subjective wellbeing by parental educational attainment or child gender systematically vary by countries' mean levels of parental emotional support.

Fourth, we find consistent evidence that, in the majority of OECD countries analysed, greater parental emotional support is associated with higher PISA test scores and greater subjective wellbeing, with the strongest relations for reading skills, sense of belonging at school, meaning in life, self-efficacy, positive feelings, and life satisfaction. Notably, although the magnitude of these associations varies (generally modestly) between countries, this variation does not appear to be explained by differences in population characteristics nor to be systematically related to average parental emotional support level. Moreover, we find very little evidence that associations of parental emotional support with cognitive skills vary by parental educational attainment or child gender, and little evidence that associations of parental emotional support with subjective wellbeing vary by parental educational attainment. These findings are consistent with former studies pointing out the positive relationships between parental support and academic achievement, irrespective of families' socio-economic background (Wilder, 2014<sup>[44]</sup>) and suggesting positive associations between perceived parental support and a range of subjective well-being outcomes, including life satisfaction, and other important dimensions of youth empowerment (Morton and Montgomery, 2011<sup>[92]</sup>; Chinman, Linney and Chinman, 1998<sup>[93]</sup>). We do, however, find some evidence that associations of parental emotional support with subjective wellbeing differ by child gender in a few domains. Most notably, in about half of the OECD countries, this association is larger for boys with respect to a greater preference for competition and for girls with respect to greater life satisfaction. These differences are not surprising as they may reflect gender norms in how boys and girls should approach life. On the one hand, boys are more likely to be educated according to a social norm expecting them to be prepared for competition (Kågesten et al., 2016<sup>[94]</sup>). On the other hand, care values and connections to others are often central in educational norms for girls (Davis and Greenstein, 2009<sup>[95]</sup>; Eckes and Trautner, 2012<sup>[96]</sup>). This may help explain why their life satisfaction in life appears as more visibly and strongly linked to the support they perceive from parents than for boys.

On the whole, these results point to several implications for intervention. First, that associations of parental emotional support with greater adolescent cognitive skills and subjective wellbeing are found in the vast majority of countries implies that interventions to increase parental emotional support may have the potential to improve both. This may be particularly salient for countries exhibiting low levels of emotional support. Moreover, such strategies may contribute to reducing cross-country differences in academic skills and subjective wellbeing. Second, that we find few differences by parental educational attainment in associations of parental emotional support with test scores, and no differences in associations with subjective wellbeing, at the same time that, on average, less-educated parents provide less emotional support than more-educated parents implies that targeted interventions to increase parental emotional support among disadvantaged families may have the potential to reduce within country socioeconomic disparities in both.

The fact that greater family wealth is linked to greater perceived parental emotional support lends credence to the idea that home material living conditions are crucial determinants of the quality of parental caregiving and support for their children (Kalil et al., 2022<sup>[97]</sup>; Hoff and Laursen, 2019<sup>[61]</sup>). This is also in line with the literature on child poverty that suggests that material deprivation seems to primarily affect parenting behaviours through an increase in parental stress, which is then associated with higher incidence of children's poor health and behavioural issues (Gershoff et al., 2007<sup>[98]</sup>; Heflin and Iceland, 2009<sup>[99]</sup>; Lee and Lee, 2016<sup>[100]</sup>; Newland et al., 2013<sup>[101]</sup>; Lai et al., 2019<sup>[102]</sup>; Schenck-Fontaine and Panico, 2019<sup>[103]</sup>).

The family wealth variable used here is a composite index that includes material goods useful for adolescents' activities and their families at home, as well as meeting their need for independence and intimacy, which increases with age. For example, at the higher end of the wealth distribution, children often have their own private space, allowing them to spend time alone when desired. They also have access to digital resources such as computers, cell phones, or tablets, as well as other expensive materials suitable for both schoolwork and leisure activities. In contrast, teenagers from families with limited wealth are unlikely to have a dedicated bedroom or access to digital tools that could aid their schoolwork or leisure activities. Families with the lowest levels of material wealth may also experience material deprivation and elevated levels of family stress, factors that the literature identifies as having a negative impact on parenting, children's health and behavioural outcomes, primarily (Gershoff et al., 2007<sup>[98]</sup>; Heflin and Iceland, 2009<sup>[104]</sup>; Schenck-Fontaine and Panico, 2019<sup>[105]</sup>; Lai et al., 2019<sup>[102]</sup>). As a result, it's unsurprising that low wealth is associated with adolescents perceiving lower levels of support from their parents. Nevertheless, it is likely that some aspects of family wealth are more important than others for enhancing adolescents' well-being and their perception of being supported, which we are not able to pinpoint here.

Policies in various complementary areas can enhance families' living conditions and promote the well-being of adolescents. Among these, housing policies for families are essential in ensuring not only decent living conditions but also non-overcrowded accommodations, providing adolescents with comfortable space. Income support and cash assistance policies are also key to enhance families' living standards, improve their material living conditions and cover the costs of raising children which is found to increase with the adolescent years, due to increased expenditures on housing, transportation, and leisure activities.

Beyond material and financial assistance aimed at improving home living conditions, it is the overall environment in which adolescents and their parents live, work, study, and socialize that can be made more conducive to the development of parents-child supportive relationships (Faircloth and Rosen, 2020<sup>[106]</sup>). On one hand, parents' employment status and working hours significantly influence both the quantity and quality of time they can spend with their children. Poor working conditions can also affect parents' stress levels, which, in turn, impact their ability to provide appropriate emotional support to their children. Those with low socioeconomic status often face a higher likelihood of exposure to adverse working conditions, including irregular hours. Moreover, they frequently work in occupations with limited opportunities for family-friendly, flexible schedules (OECD, 2021<sup>[107]</sup>). Expanding access to flexible working arrangements in low-skilled or low-paying occupations is one of several factors that can enhance the capacity of low-SES parents to support their children and reduce socioeconomic disparities.

The school environment is also key for enabling parents to provide the support that teenagers require for their schoolwork, learning outcomes, and academic orientation (OECD, 2023<sup>[108]</sup>; 2012<sup>[109]</sup>). Involving parents, guardians, and families is also important for schools to identify and address the needs of disadvantaged or marginalized students (Cerna et al., 2021<sup>[110]</sup>). In practice, schools can play a significant role in assisting parents and guardians in supporting their child's development and in connecting them with other social services that may be pertinent to their progress (Guthrie et al., 2019<sup>[111]</sup>). Nevertheless, several factors can serve as barriers to effectively engaging with students' families (OECD, 2023<sup>[108]</sup>). Navigating the education system can be particularly challenging for parents from lower social classes who may not be aware of or proficient in the codes of conduct required to engage with the school community (Lareau, 2011<sup>[60]</sup>). Some parents may also face time constraints that prevent them from meeting with teachers or school leaders during designated times (Guthrie et al., 2019<sup>[111]</sup>). Additionally, the expectations and

experiences of certain parents and guardians may not align with those of teachers and the education system, making it challenging to establish shared goals.

The education system can help cope with these challenges by encouraging schools to incorporate parental involvement as an integral part of the school planning process, and providing guidance to schools on how to engage parents and guardians from diverse backgrounds within the school community (OECD, 2023<sup>[108]</sup>). Dedicated liaison workers can also enhance communication between schools and parents, potentially connecting them with the services necessary to address children's specific needs. For example, in Ireland, the Home School Community Liaison (HSCL) scheme introduced in 1990 specifically targets schools in disadvantaged areas and offers support to families to enhance their involvement in their child's education. The HSCL Coordinator, who is a teacher from the child's school, provides support through home visits, parent classes/courses (both recreational and educational), and offers information on other local family support services available (OECD, 2023<sup>[108]</sup>).

Last but not least, the provision of specialised family support services plays a vital role in nurturing supportive parent-child relationships. These services cater to the unique needs of parents and children across various aspects of life, encompassing material, physical, and psychological well-being (Riding et al., 2021<sup>[112]</sup>). Previous research underscores the importance of connecting families with the diverse support services that parents and children may require, especially when dealing with complex situations (Riding et al., 2021<sup>[112]</sup>). Among the array of services that may be needed, parenting support services are instrumental in assisting parents in enhancing their parenting skills. This is particularly pertinent during the teenage years when established family dynamics and communication norms are often challenged, leading to heightened conflicts between parents and children (Skeen et al., 2023<sup>[113]</sup>; Medlow et al., 2016<sup>[114]</sup>; Champion et al., 2022<sup>[115]</sup>). However, while empirical evidence demonstrates that well-designed parenting services can improve parenting and child outcomes, there remains an insufficiency in understanding the characteristics, delivery methods, and conditions necessary for the effective implementation of such programs on a large scale.

Therefore, overall, whether a more parent-friendly environment can lead to a more equal distribution of perceived parental support across the socioeconomic spectrum and a reduction in cross-national differences remains an open question. The fact that the present analysis finds little variation in perceived parental support based on parental education, not accounted for by other socio-demographic characteristics, suggests that differences related to social background within each country are limited. However, significant differences in cultural norms persist between countries regarding the qualities children should acquire, the ways in which parents exercise their parental roles and authority, and how they communicate with children and adolescents. While these norms and values are not explicitly addressed in this work, they are likely to be among the most important unobserved factors that influence the average level of perceived emotional support from parents and the differences observed both between and within countries.

The development of an institutional environment that enables parents to fulfil their parental role under better conditions can, nevertheless, help reduce these disparities. This is to be achieved by alleviating the material challenges faced by disadvantaged families in adequately investing in the well-being of their family and children, as well as in fostering quality time and exchanges to nurture mutually supportive relationships with their children. Such an enabling environment can also contribute to the gradual dissemination of parenting standards that are more favourable to the emotional support parents can provide, thus positively impacting children's well-being more broadly.

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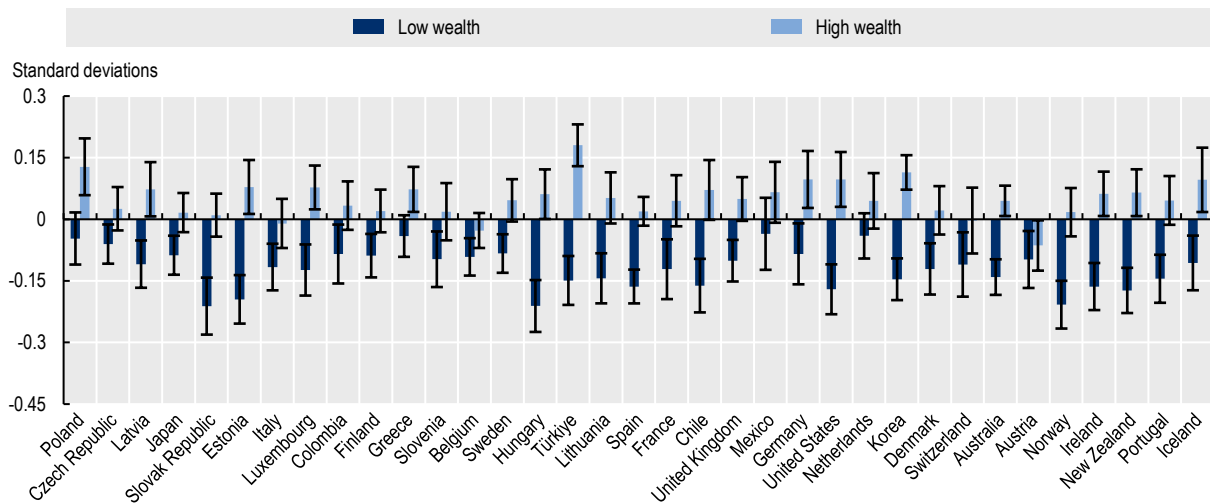
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 Behavioral Sciences*, Vol. 29, pp. 758-761, <https://doi.org/10.1016/j.sbspro.2011.11.302>.

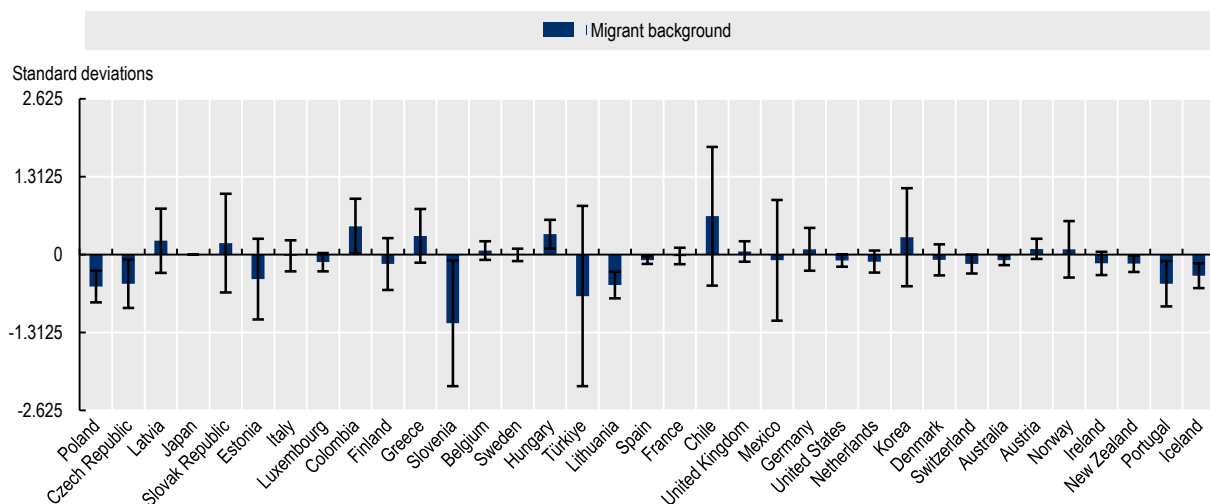
# Annex A. Associations of parental emotional support with family wealth and origin

Figure A A.1. Associations of parental emotional support with family wealth



Note: Estimated associations from country-specific regressions including adolescent age, grade, immigrant status, and country of origin; parental educational attainment and family wealth, the urbanicity of the youth’s school and whether it is a private school as determinants of parental emotional support – detailed results reported in Table A1 below.  
 Source: Authors calculations based on PISA 2018 Surveys.

Figure A A.2. Associations of parental emotional support with families’ country of origin



Note: Estimated associations from country-specific regressions including adolescent age, grade, immigrant status, and country of origin; parental educational attainment and family wealth, the urbanicity of the youth’s school and whether it is a private school as determinants of parental emotional support – detailed results reported in Table A1 below.  
 Source: Authors calculations based on PISA 2018 Surveys.

Tableau A A.1. Detailed results of country-specific regressions of parental emotional support

	Poland	Czech Republic	Latvia	Japan	Slovakia	Estonia	Italy	Luxembourg	Colombia	Finland	Greece	Slovenia	Belgium	Sweden	Hungary	Turkey	Lithuania	Spain
Low education	-0.082* (0.045)	-0.070** (0.032)	-0.116 (0.059)	-0.083** (0.039)	- 0.113*** (0.037)	- 0.150*** (0.052)	-0.014 (0.034)	-0.067* (0.039)	-0.019 (0.040)	0.003 (0.045)	- 0.112*** (0.037)	-0.019 (0.039)	-0.041 (0.036)	-0.092 0.044	-0.093 0.045	0.073 0.040	-0.133 0.053	-0.037 0.023
High education	0.078* (0.045)	0.031 (0.045)	0.121*** (0.030)	0.031 (0.031)	0.051 (0.038)	0.036 (0.031)	0.047 (0.034)	0.017 (0.033)	-0.007 (0.044)	0.170*** (0.032)	0.003 (0.030)	0.060* (0.035)	0.082*** (0.028)	0.062 (0.046)	0.008 (0.040)	0.130** (0.054)	0.048 (0.034)	0.041 (0.026)
Low wealth	-0.047 (0.039)	-0.060** (0.029)	- 0.109*** (0.035)	- 0.087*** (0.029)	- 0.211*** (0.042)	- 0.195*** (0.036)	- 0.116*** (0.034)	-0.123*** (0.038)	-0.085** (0.044)	-0.089** (0.032)	-0.041** (0.031)	-0.097** (0.041)	-0.091** (0.028)	-0.083** (0.029)	-0.211** (0.038)	-0.149** (0.036)	-0.144** (0.037)	-0.164** (0.025)
High wealth	0.128*** (0.042)	0.026 (0.032)	0.073* (0.040)	0.016 (0.029)	0.010 (0.032)	0.079** (0.040)	-0.010 (0.036)	0.078** (0.032)	0.033 (0.036)	0.020 (0.032)	0.073** (0.033)	0.018 (0.042)	-0.027 (0.026)	0.046 (0.031)	0.061 (0.037)	0.180*** (0.031)	0.052 (0.038)	0.019 (0.021)
Migrant background	- 0.539*** (0.162)	-0.492** (0.248)	0.233 (0.328)	- -	0.193 (0.506)	-0.412 (0.413)	-0.021 (0.160)	-0.128 (0.094)	0.477* (0.282)	-0.159 (0.265)	0.315 (0.276)	-1.157* (0.643)	0.067 (0.096)	-0.007 (0.063)	0.345** (0.148)	-0.698 (0.922)	-0.512*** (0.137)	-0.093** (0.039)
Below the modal grade	-0.195** (0.091)	-0.254*** (0.078)	-0.093 (0.057)	- -	- 0.155*** (0.046)	-0.026 (0.040)	- 0.357*** (0.055)	-0.039 (0.057)	-0.126*** (0.032)	-0.059 (0.063)	- 0.480*** (0.105)	-0.110 (0.127)	- 0.087*** (0.029)	-0.037 (0.128)	- 0.445*** (0.103)	- 0.140*** (0.042)	0.051 (0.159)	- 0.243*** (0.022)
Above the modal grade	-0.267** (0.136)	0.105*** (0.029)	-0.062 (0.094)	- -	0.220*** (0.069)	0.122 (0.144)	0.147** (0.059)	0.174*** (0.032)	0.086** (0.036)	- 0.943*** (0.197)	- -	-0.032 (0.205)	0.014 (0.115)	0.299** (0.150)	0.130*** (0.045)	0.155** (0.074)	-0.081 (0.054)	-0.086 (0.353)
Age	0.045 (0.045)	-0.123** (0.060)	-0.103 (0.055)	-0.068 (0.051)	-0.172** (0.077)	0.037 (0.061)	-0.017 (0.051)	-0.101* (0.054)	-0.107** (0.050)	-0.049 (0.056)	0.063 (0.050)	0.020 (0.066)	0.026 (0.036)	-0.093* (0.052)	- 0.277*** (0.056)	-0.096* (0.051)	0.064* (0.051)	0.002 (0.030)
Urban area	0.020 (0.037)	-0.001 (0.029)	0.010 (0.038)	0.038 (0.036)	0.056 (0.047)	- 0.119*** (0.030)	-0.013 (0.038)	0.034 (0.033)	-0.039 (0.036)	0.163*** (0.038)	0.035 (0.036)	0.092** (0.040)	0.085*** (0.032)	- -	0.062 (0.041)	0.064 (0.042)	0.009 (0.031)	-0.007 (0.019)
Private school	-0.054 (0.065)	0.045 (0.066)	-0.139 (0.138)	0.005 (0.042)	0.087 (0.058)	0.079 (0.100)	-0.007 (0.082)	-0.035 (0.041)	0.105** (0.045)	0.097 (0.068)	0.129** (0.055)	0.173* (0.098)	- -	- -	0.092* (0.052)	-0.016 (0.074)	0.110** (0.053)	0.057*** (0.021)
Constant	-1.076	1.620	1.297	0.803	2.570	-0.666	0.178	1.566	1.691	0.598	-0.999	-0.351	-0.423	1.442	4.410	1.428	-0.946	0.122



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R2	0.018	0.020	0.015	0.005	0.025	0.030	0.030	0.032	0.014	0.025	0.025	0.014	0.009	0.011	0.051	0.025	0.015	0.030
N	5169	6415	4654	5961	4998	4879	9175	4777	5624	5143	5666	5248	7476	4924	4410	6675	5697	28087

	France	Chile	United Kingdom	Mexico	Germany	United States	Netherlands	Korea	Denmark	Switzerland	Australia	Austria	Norway	Ireland	New Zealand	Portugal	Iceland	Pooled sample
Low education	-0.032 (0.039)	0.009 (0.041)	-0.042 (0.028)	-0.124** (0.052)	-0.086* (0.052)	-0.002 (0.045)	-0.077 (0.078)	-0.104* (0.061)	-0.113** (0.055)	-0.077 (0.050)	-0.123*** (0.029)	-0.044 (0.036)	-0.154*** (0.043)	-0.134*** (0.044)	-0.044 (0.038)	-0.002 (0.043)	-0.162** (0.068)	-0.071** (0.008)
High education	0.014 (0.038)	-0.050 (0.041)	0.085*** (0.030)	-0.052 (0.056)	0.074 (0.050)	0.098** (0.041)	0.092** (0.043)	0.046 (0.055)	0.120*** (0.043)	0.033 (0.051)	0.081*** (0.026)	0.116** (0.034)	0.120*** (0.030)	-0.001 (0.033)	0.112*** (0.036)	0.095** (0.048)	0.028 (0.054)	0.058** (0.007)
Low wealth	-0.122*** (0.044)	-0.162*** (0.040)	-0.101*** (0.031)	-0.035 (0.053)	-0.084* (0.045)	-0.170** (0.037)	-0.040 (0.034)	-0.146*** (0.031)	-0.121*** (0.038)	-0.110** (0.048)	-0.141*** (0.026)	-0.098** (0.042)	0.208*** (0.035)	0.164*** (0.035)	-0.173*** (0.033)	-0.145*** (0.036)	0.106*** (0.040)	-0.121** (0.006)
High wealth	0.045 (0.038)	0.071 (0.044)	0.049 (0.032)	0.066 (0.045)	0.097** (0.042)	0.097** (0.041)	0.045 (0.041)	0.114*** (0.026)	0.022 (0.036)	-0.003 (0.049)	0.045** (0.022)	-0.064* (0.037)	0.017 (0.036)	0.062* (0.033)	0.065* (0.035)	0.046 (0.036)	0.096** (0.048)	0.050** (0.006)
Migrant background	-0.024 (0.085)	0.646 (0.710)	0.052 (0.105)	-0.096 (0.619)	0.091 (0.219)	-0.099 (0.065)	-0.118 (0.113)	0.292 (0.502)	-0.089 (0.160)	-0.159 (0.098)	-0.095 (0.052)	0.095 (0.104)	0.088 (0.288)	-0.149 (0.119)	-0.154 (0.083)	-0.491** (0.232)	-0.356*** (0.126)	-0.093* (0.056)
Below the modal grade	-0.076 (0.047)	-0.107*** (0.041)	0.033 (0.057)	-0.227** (0.065)	-0.136 (0.085)	-0.034 (0.055)	-0.035 (0.036)	-0.014 (0.061)	-0.122*** (0.043)	-0.120 (0.075)	0.029 (0.034)	-0.112** (0.046)	0.038 (0.302)	-0.080 (0.115)	-0.005 (0.062)	-0.192*** (0.039)	-0.120** (0.016)	-0.120** (0.016)
Above the modal grade	-0.093 (0.068)	0.131* (0.076)	0.020 (0.091)	-0.368 (0.273)	0.079 (0.052)	0.070 (0.056)	0.088 (0.112)	0.192 (0.324)	0.116 (0.120)	0.039 (0.052)	0.022 (0.033)	0.031 (0.259)	-0.566 (0.463)	-0.009 (0.041)	0.065 (0.069)	-0.004 (0.247)	0.486*** (0.073)	0.009 (0.029)
Age	-0.033	-0.008	0.045	0.001	-0.198	-0.107	-0.155***	0.038	-0.119***	-0.060	-0.015	-0.050	0.029	0.030	0.063	-0.028	0.045	-0.042** *

	(0.047)	(0.057)	(0.050)	(0.062)	(0.089)	(0.076)	(0.055)	(0.046)	(0.043)	(0.073)	(0.038)	(0.073)	(0.051)	(0.061)	(0.056)	(0.046)	(0.056)	(0.010)
Urban area	-0.015	-0.059	0.032	0.090**	0.120** *	-0.008	0.025	-0.006	0.027	0.066	0.006	-0.019	-	0.097**	0.027	0.078**	0.037	0.030** *
	(0.042)	(0.044)	(0.027)	(0.040)	(0.041)	(0.036)	(0.046)	(0.044)	(0.040)	(0.062)	(0.024)	(0.041)	-	(0.041)	(0.031)	(0.035)	(0.037)	(0.007)
Private school	0.068**	0.106***	-0.063**	0.137** *	0.046	0.069	-0.021	0.109***	0.058	-0.132	0.134***	0.012	-	-	0.134***	-0.032	0.146	0.048**
	(0.034)	(0.039)	(0.028)	(0.045)	(0.083)	(0.066)	(0.043)	(0.038)	(0.046)	(0.140)	(0.024)	(0.062)	-	-	(0.044)	(0.047)	(0.231)	(0.014)
Constant	0.606	0.220	-0.606	0.085	3.162	1.750	2.484	-0.534	1.948	1.181	0.338	1.031	-0.243	-0.228	-0.820	0.726	-0.368	0.686
R2	0.009	0.015	0.012	0.019	0.024	0.021	0.009	0.029	0.020	0.017	0.025	0.012	0.027	0.021	0.026	0.034	0.032	0.021
N	5109	5353	12528	4272	2680	4602	3681	6565	6367	3928	10900	5631	5365	4764	5243	5084	2562	6274

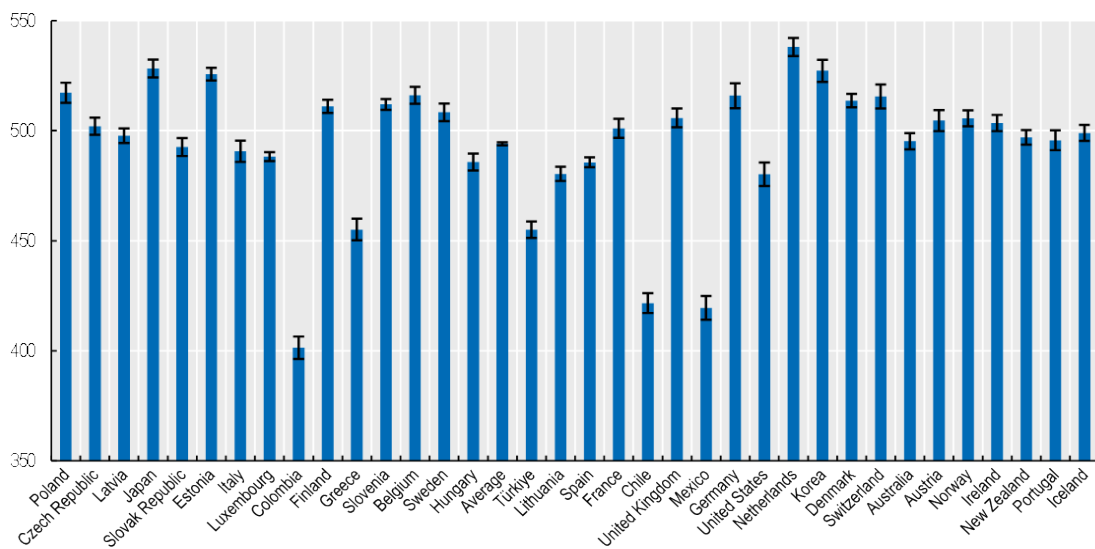
Note: Results from country-specific regressions; \*\*\*: p < 0.01, \*\*: p < 0.05, \*: p < 0.1

Source: Authors calculations based on PISA 2018 Surveys.

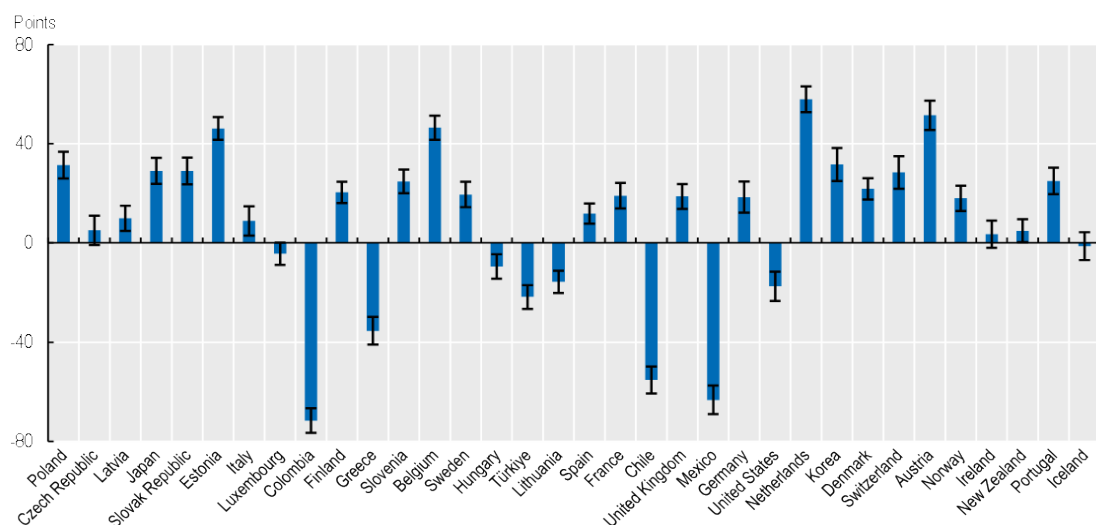
# Annex B. Associations of parental emotional support with PISA scores and subjective well-being outcomes

Figure A B.1. Mean PISA math scores in OECD countries

Panel A: Raw means



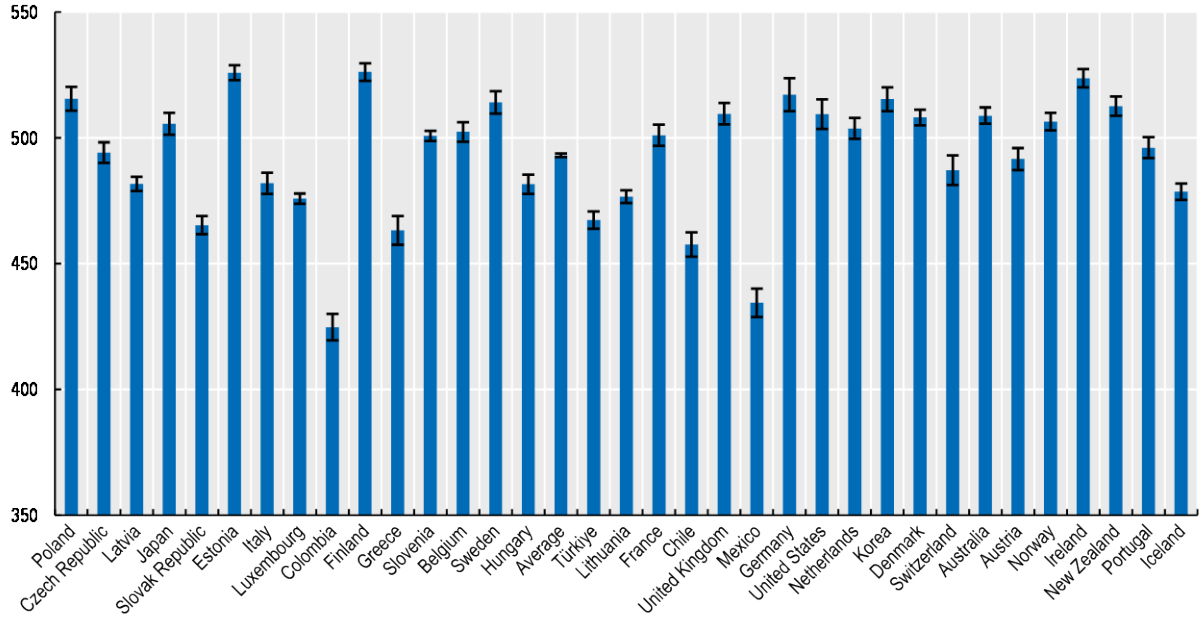
Panel B: Regression adjusted mean differences



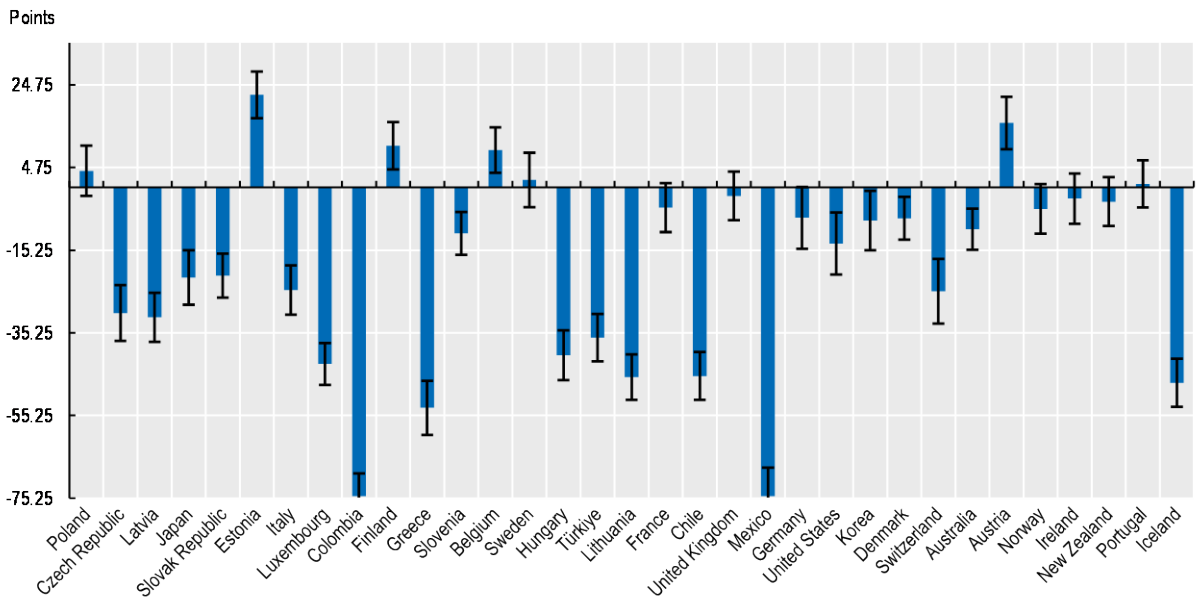
Note: Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.  
 Source: Authors calculations based on PISA 2018 Surveys.

Figure A B.2. Mean PISA reading scores in OECD countries

Panel A: Raw means



Panel B: Regression adjusted mean differences

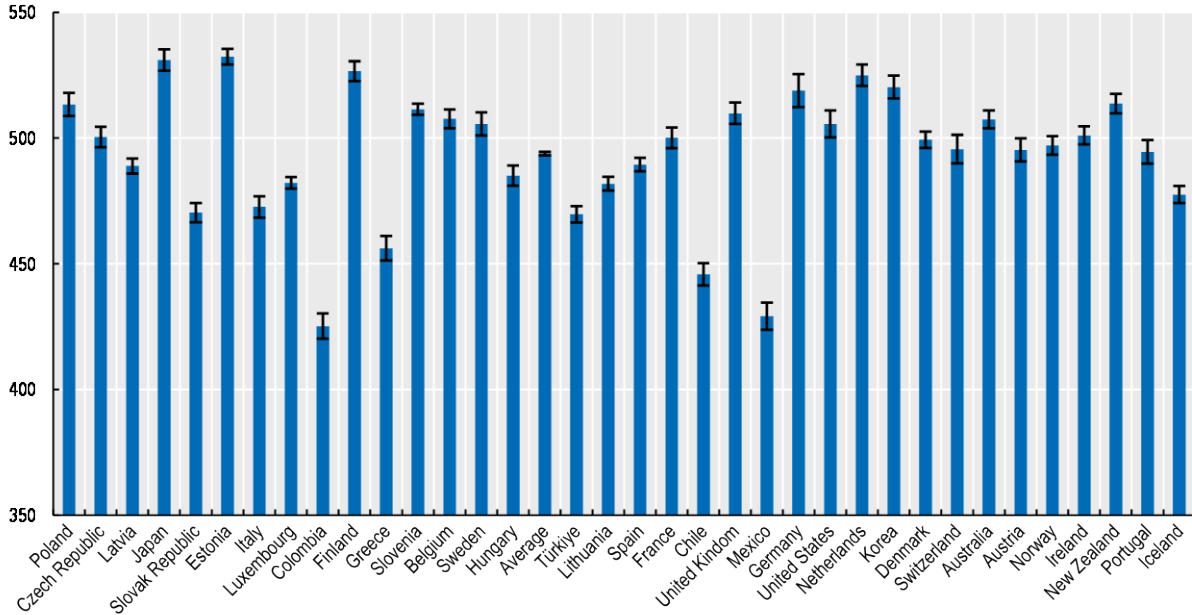


Note: Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.

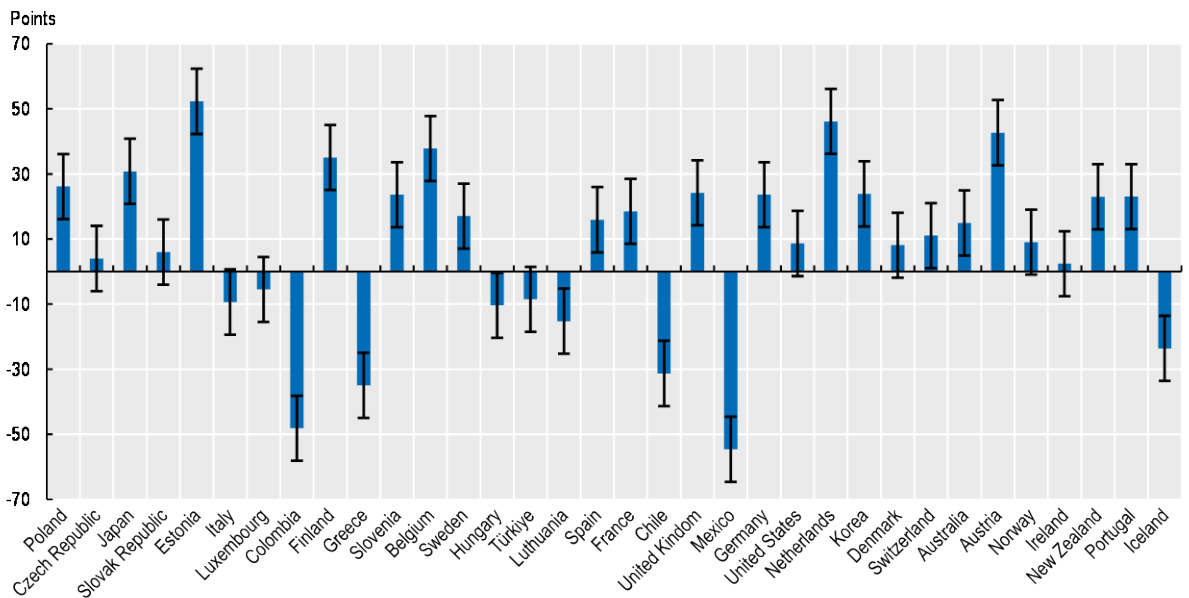
Source: Authors calculations based on PISA 2018 Surveys.

Figure A B.3. Mean PISA science scores in OECD countries

Panel A: Raw means



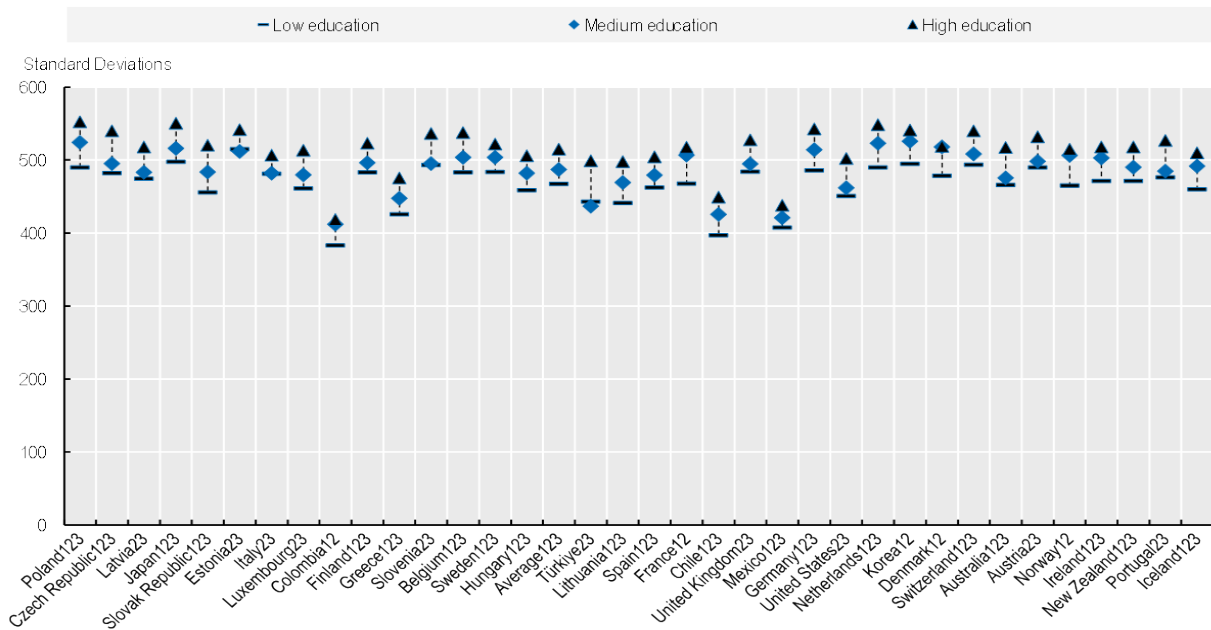
Panel B: Regression adjusted mean differences



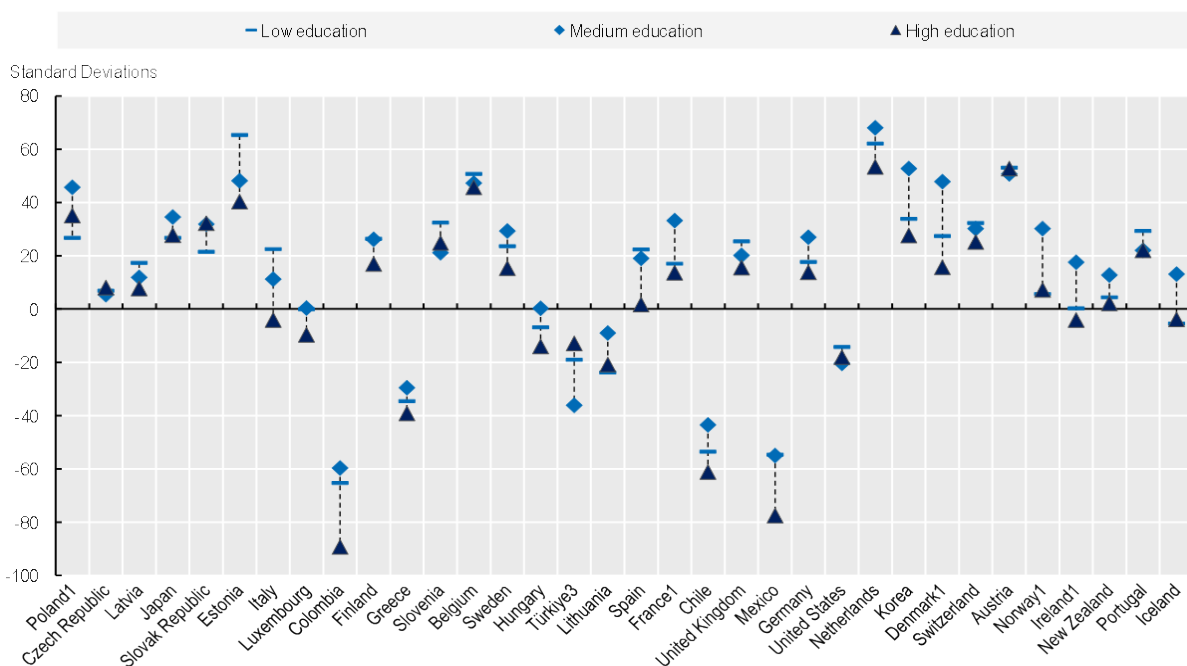
Note: Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.  
 Source: Authors calculations based on PISA 2018 Survey.

Figure A B.4. Mean PISA math scores in OECD countries, by parental education

Panel A: Mean maths scores by parents' level of education



Panel B: Regression-adjusted means

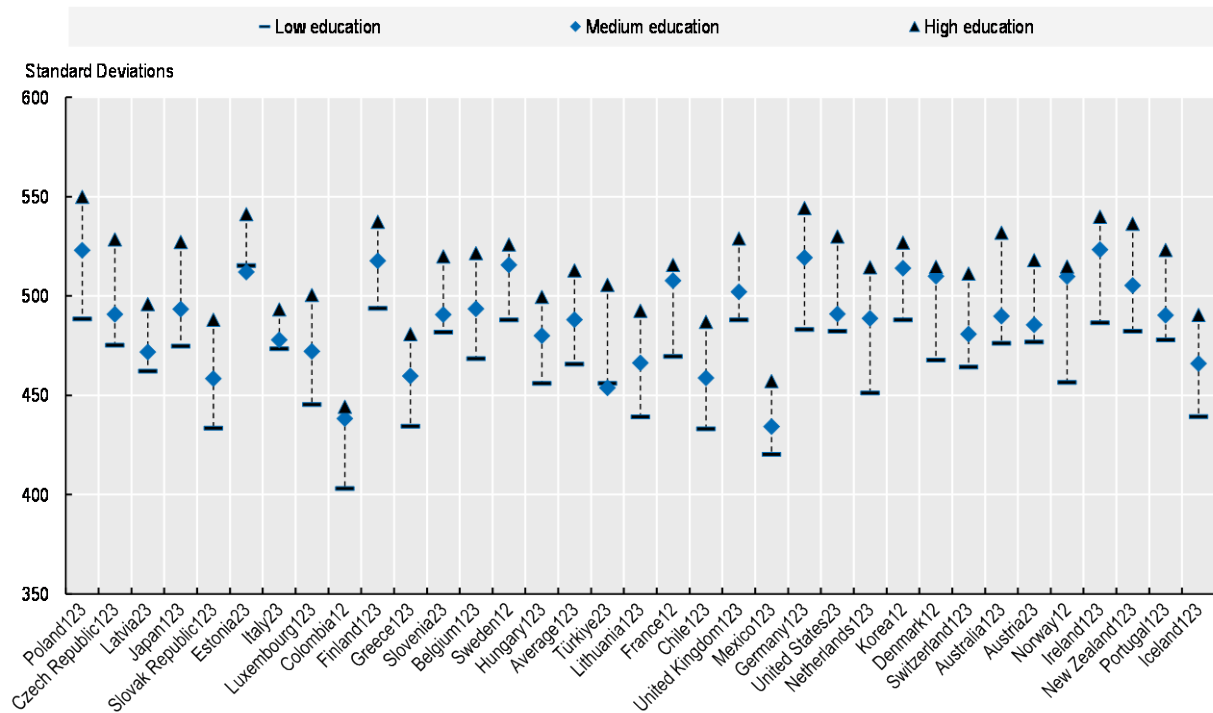


Note: 1 stands for significant difference between low and medium education; 2 means significant difference between low and high education, and 3 stands for significant difference between medium and high education. Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.

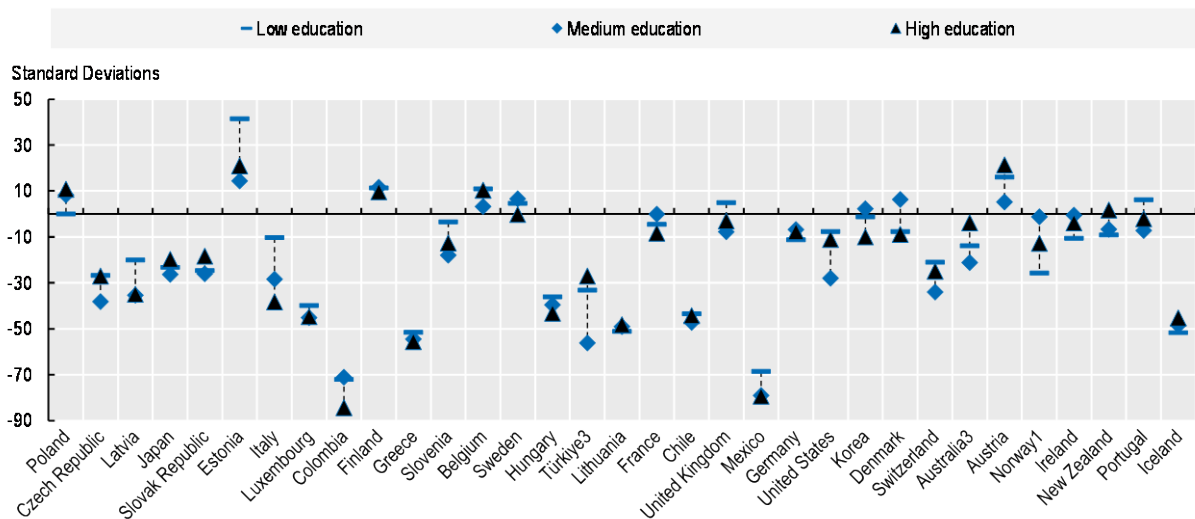
Source: Authors calculations based on PISA 2018 Surveys.

Figure A B.5. Mean PISA reading scores in OECD countries, by parental education

Panel A: Raw mean reading scores by parents' level of education



Panel B: Regression-adjusted means

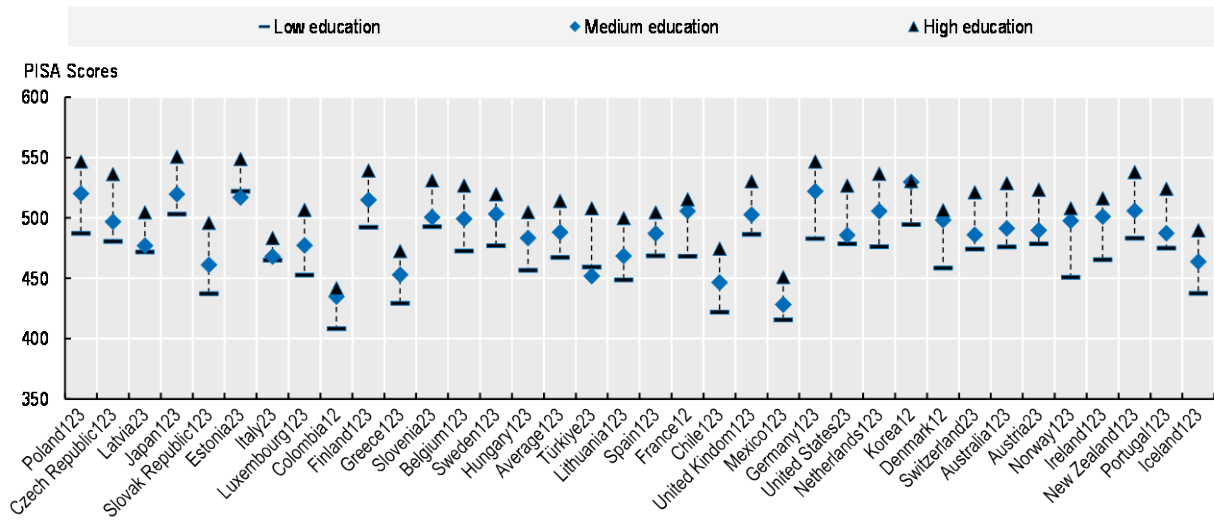


Note: 1 stands for significant difference between low and medium education; 2 means significant difference between low and high education, and 3 stands for significant difference between medium and high education. Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.

Source: Authors calculations based on PISA 2018 Surveys.

Figure A B.6. Mean PISA science scores in OECD countries, by parental education

Raw mean science scores by parents' level of education



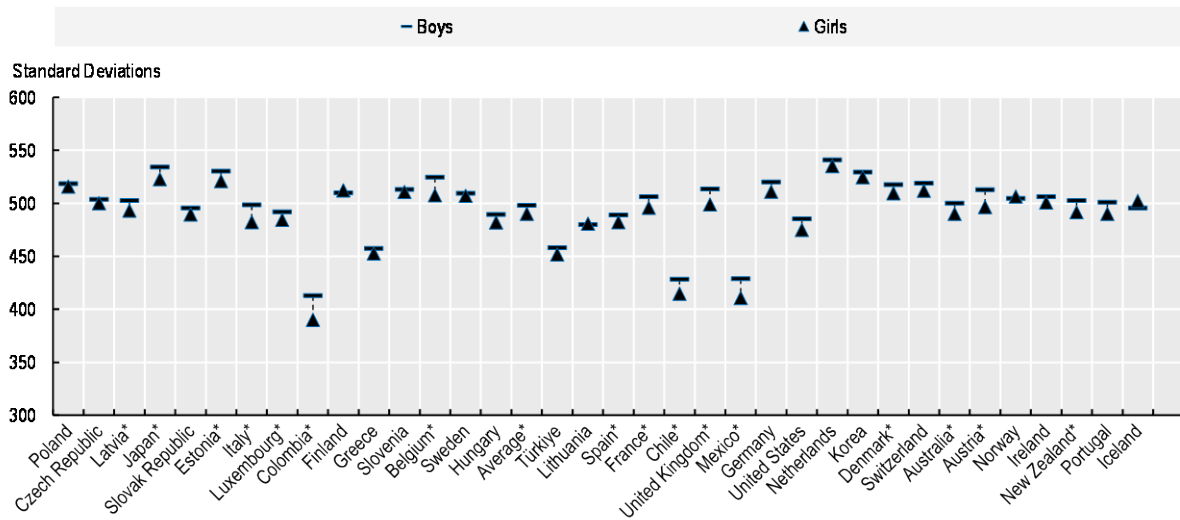
Note: 1 stands for significant difference between low and medium education; 2 means significant difference between low and high education, and 3 stands for significant difference between medium and high education. Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.

Source: Authors calculations based on PISA 2018 Surveys

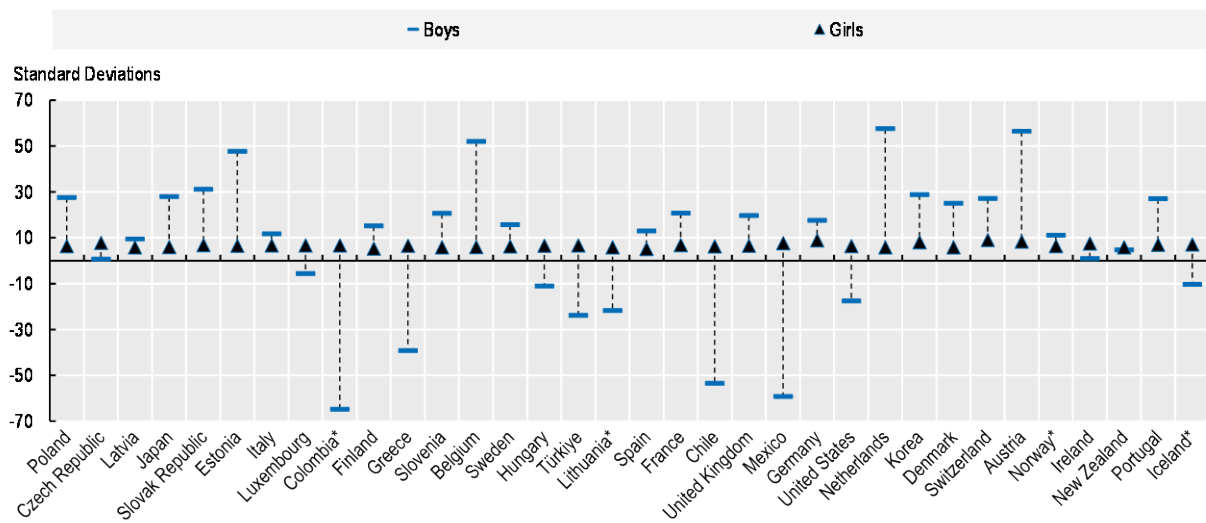


Figure A B.7. Mean PISA math scores in OECD countries, by child gender

Panel A: Raw mean math scores by child gender



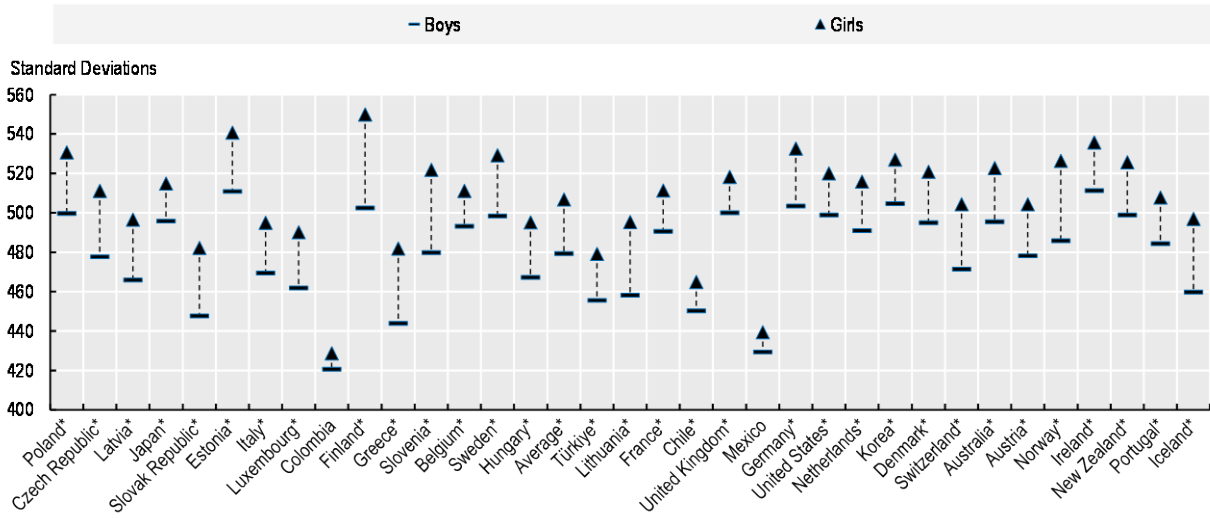
Panel B: Regression-adjusted means



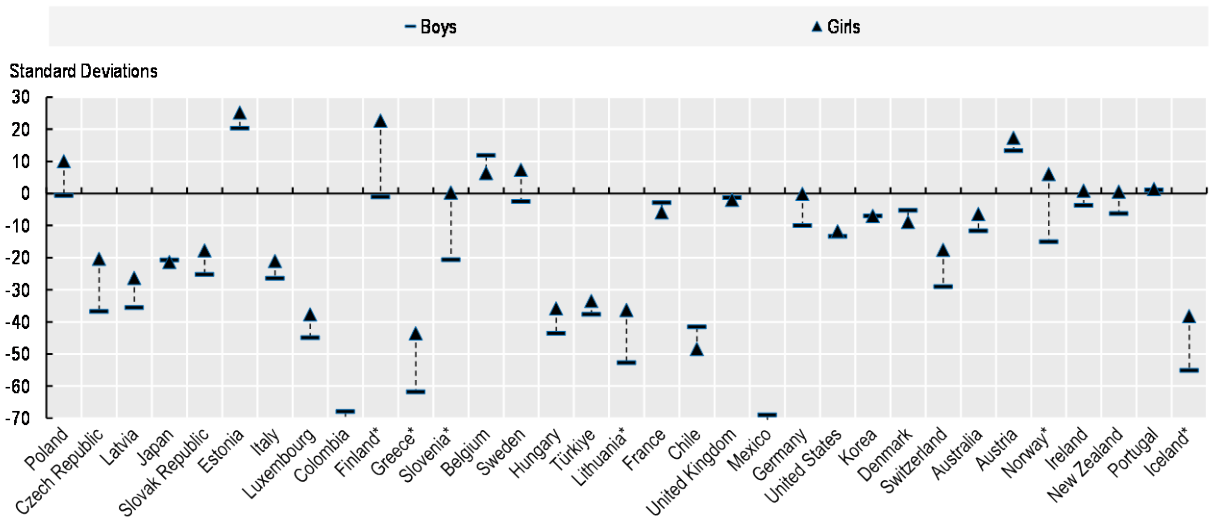
Note: In countries marked with an \*, the difference in mean levels of parents' emotional support reported by boys and girls is statistically significant at  $p < 0.1$ . Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school. Source: Authors calculations based on PISA 2018 Surveys.

Figure A B.8. Mean PISA reading scores in OECD countries, by child gender

Panel A: Raw mean reading scores by child gender



Panel B: Regression-adjusted means

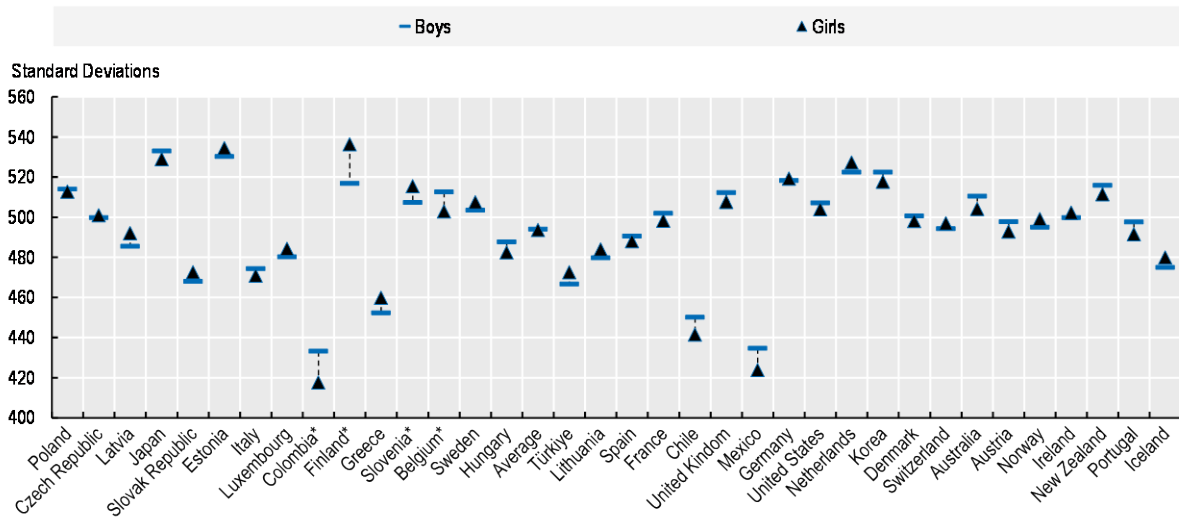


Note: In countries marked with an \*, the difference in mean levels of parents' emotional support reported by boys and girls is statistically significant at  $p < 0.1$ . Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.

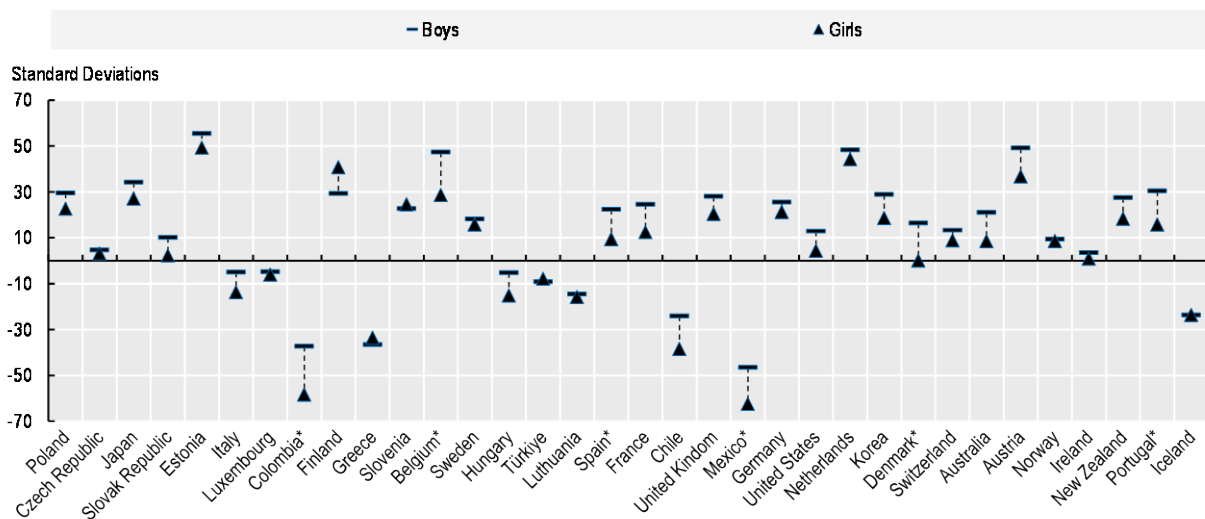
Source: Authors calculations based on PISA 2018 Surveys.

Figure A B.9. Mean PISA science scores in OECD countries, by child gender

Panel A: Raw mean science scores by child gender



Panel B: Regression-adjusted means

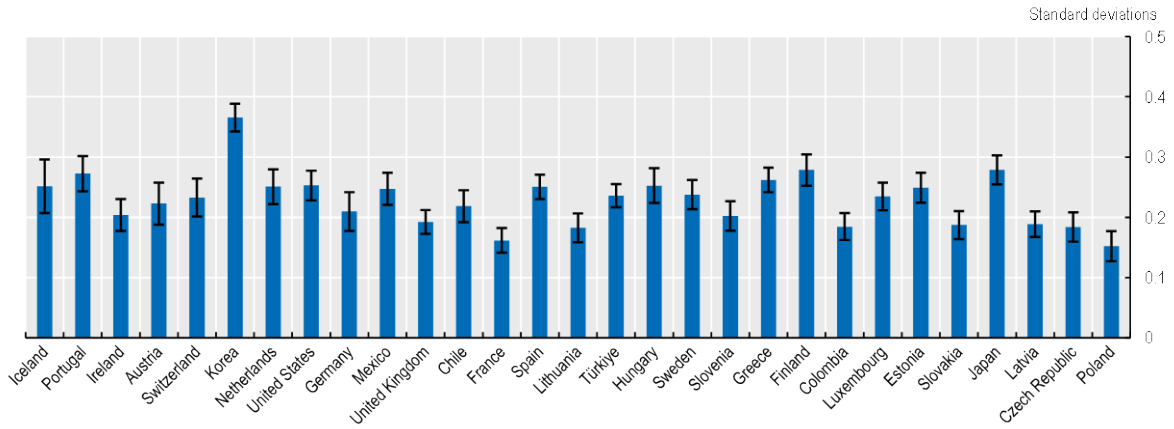


Note: In countries marked with an \*, the difference in mean levels of parents' emotional support reported by boys and girls is statistically significant at  $p < 0.1$ . Panel B refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth's school and whether it is a private school.

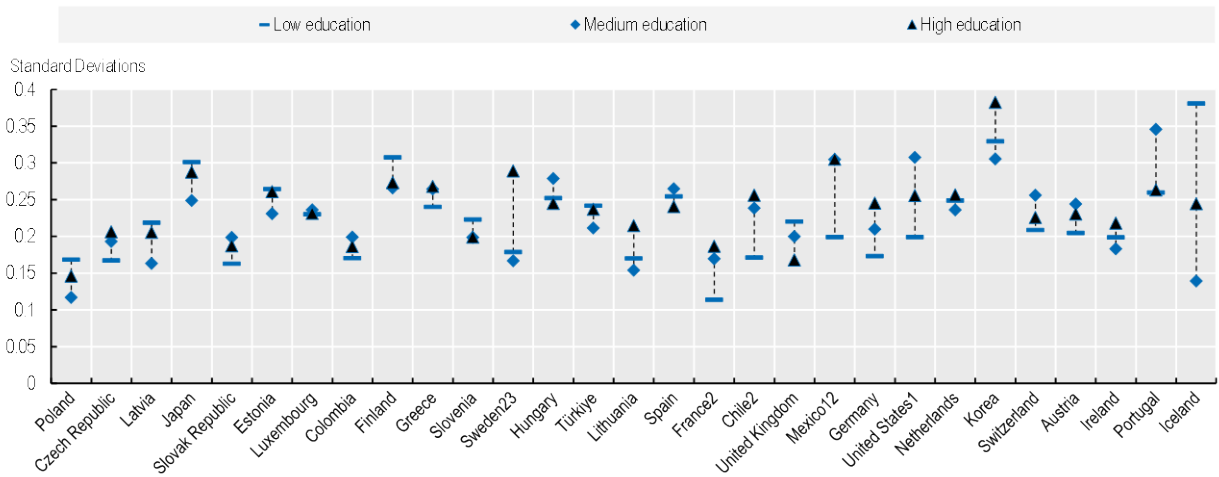
Source: Authors calculations based on PISA 2018 Surveys.

**Figure A B.10. Association between parental emotional support and youth sense of belonging at school across OECD countries**

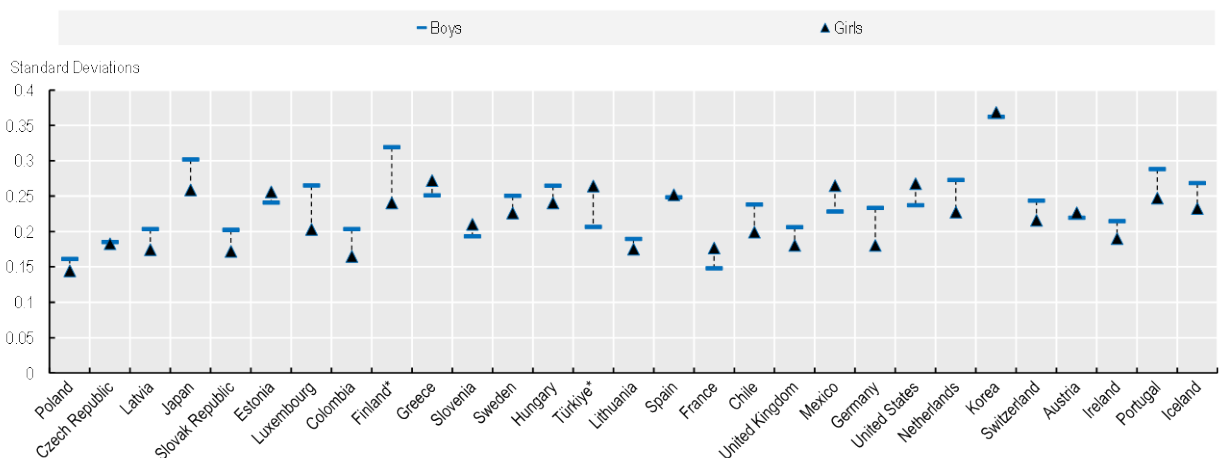
Panel A: All youth



Panel B: Effect of parental emotional support on sense of belonging, by parental education

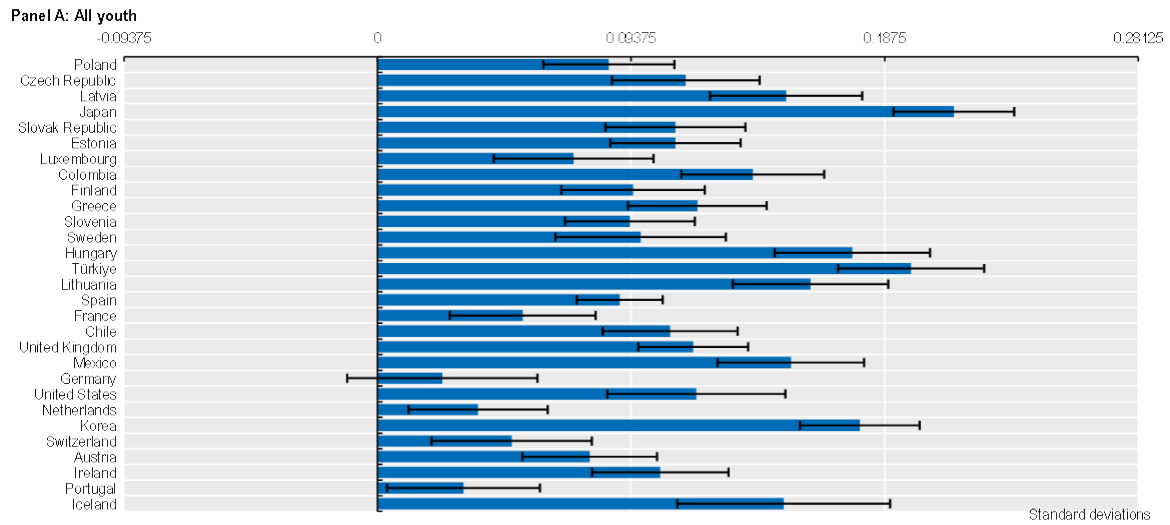


Panel C: Association between parents' emotional support and sense of belonging across OECD countries, by child gender

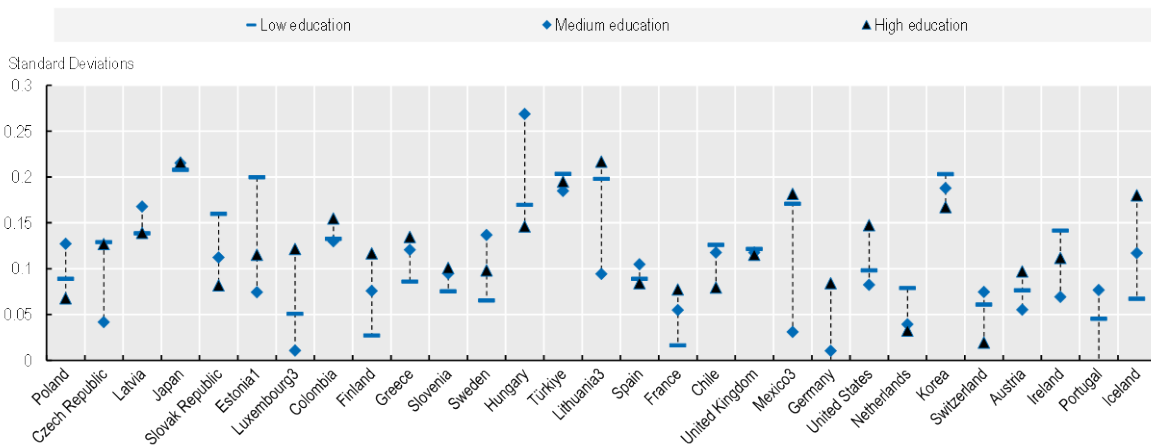


Note: see reading note in Figure A.B16  
 Source: Authors calculations based on PISA 2018 Surveys.

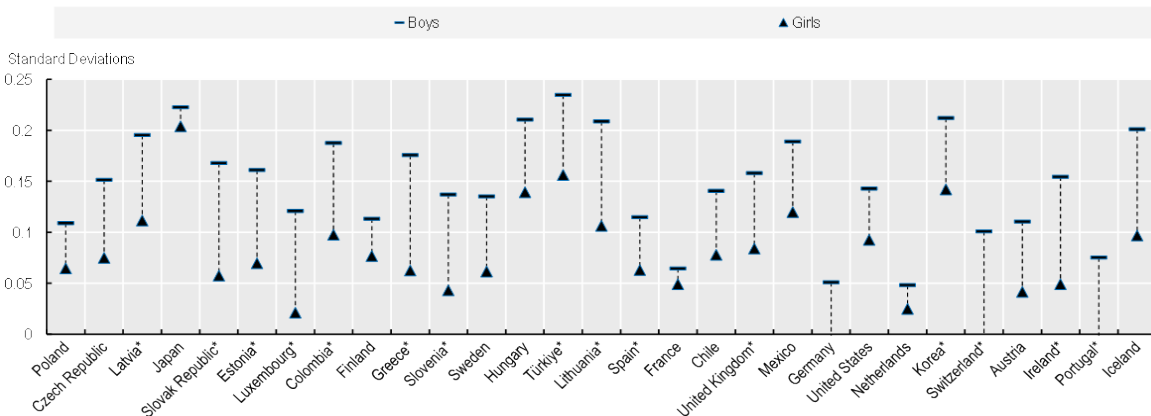
**Figure A B.11. Association between parental emotional support and youth attitudes towards competition across OECD countries**



**Panel B: Association between parental emotional support on taste for competition, by parental education**



**Panel C: Association between parental emotional support and taste for competition, by child gender**

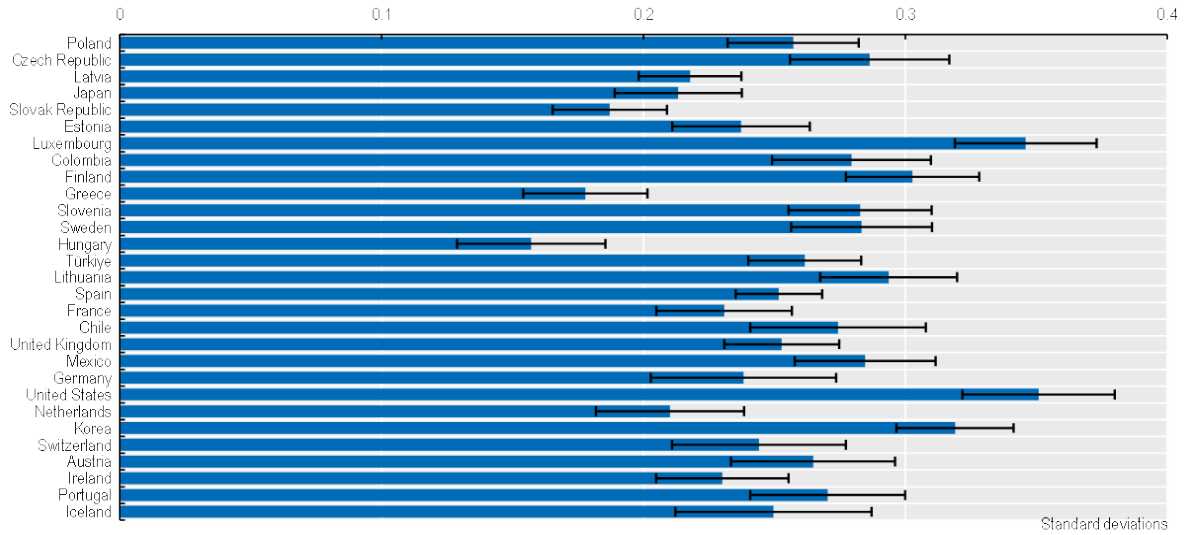


Note: see reading note in Figure A.B16

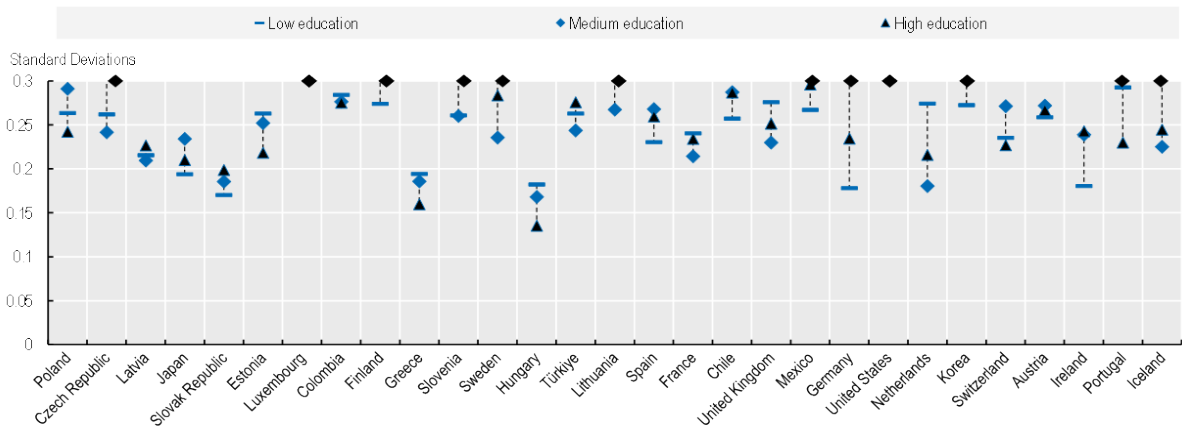
Source: Authors calculations based on PISA 2018 Surveys.

**Figure A B.12. Association between parental emotional support and youth meaning in life across OECD countries**

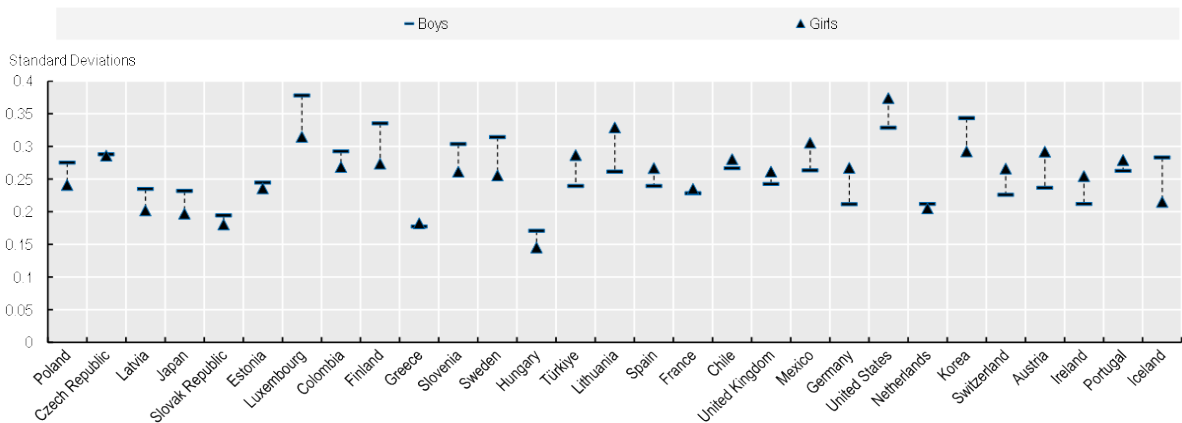
Panel A: All youth



Panel B: Association between parental emotional support on eudemonia, by parental education



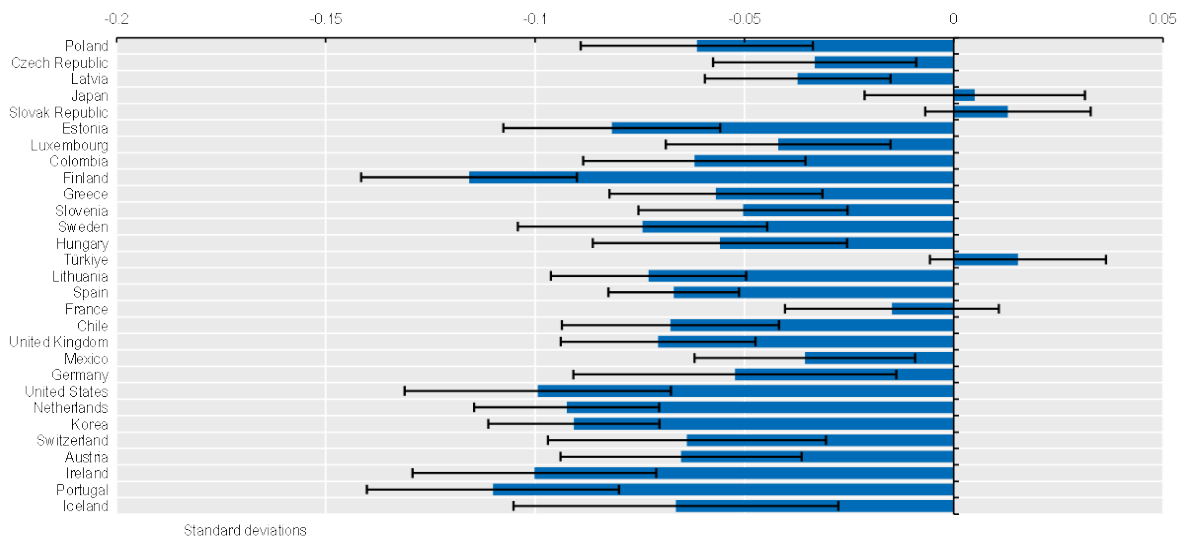
Panel C: Association between parental emotional support on eudemonia, by child gender



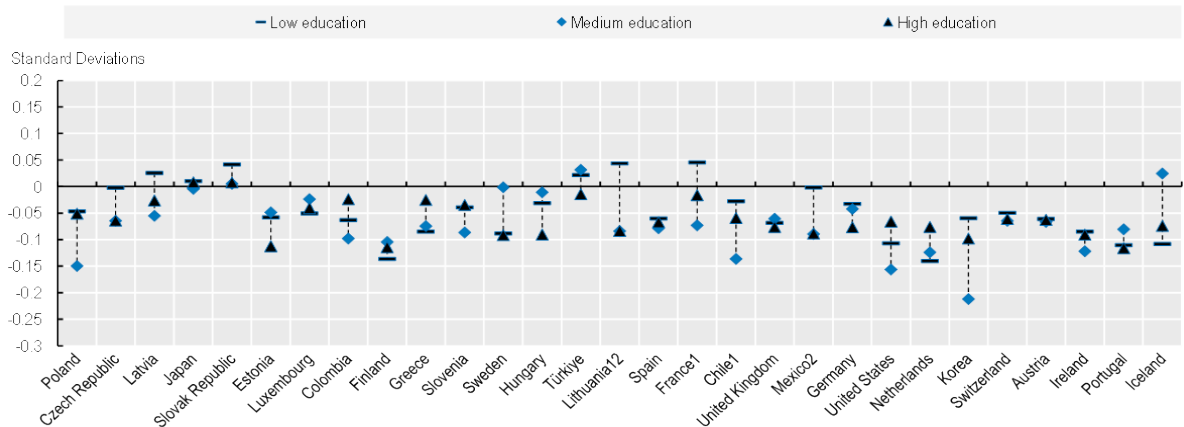
Note: see reading note in Figure A.B16  
 Source: Authors calculations based on PISA 2018 Surveys.

Figure A B.13. Association between parental emotional support on fear of failure

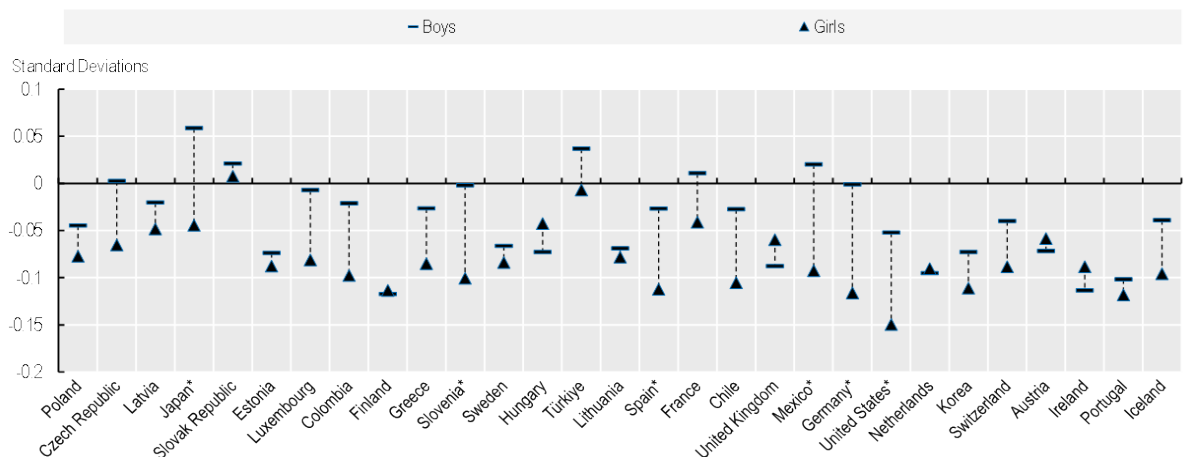
Panel A: All youth



Panel B: Association between parental emotional support and fear of failure, by parental education

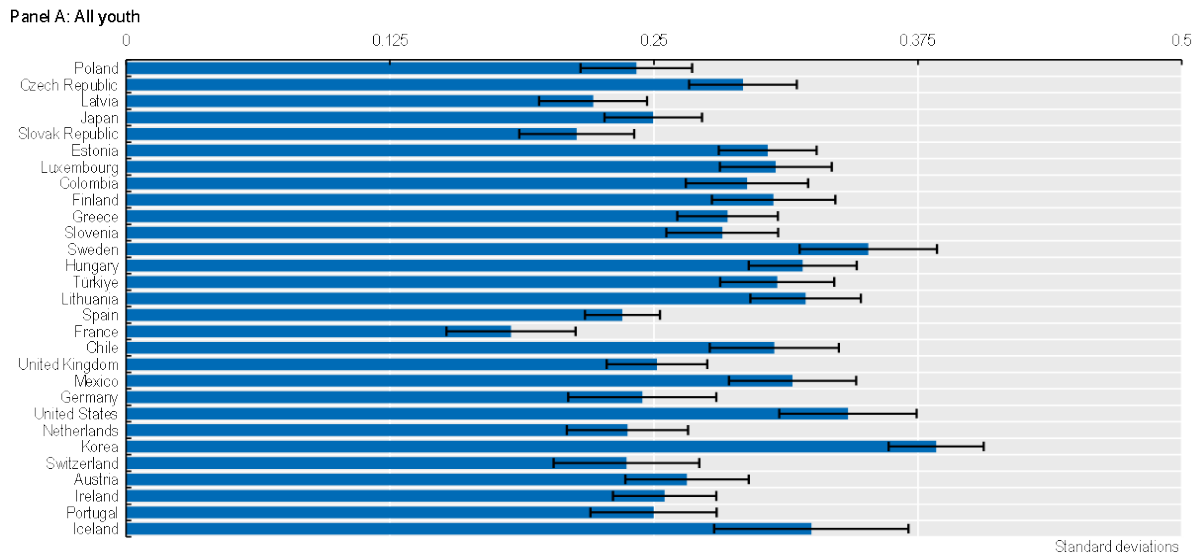


Panel C: Association between parental emotional support and fear of failure, by child gender

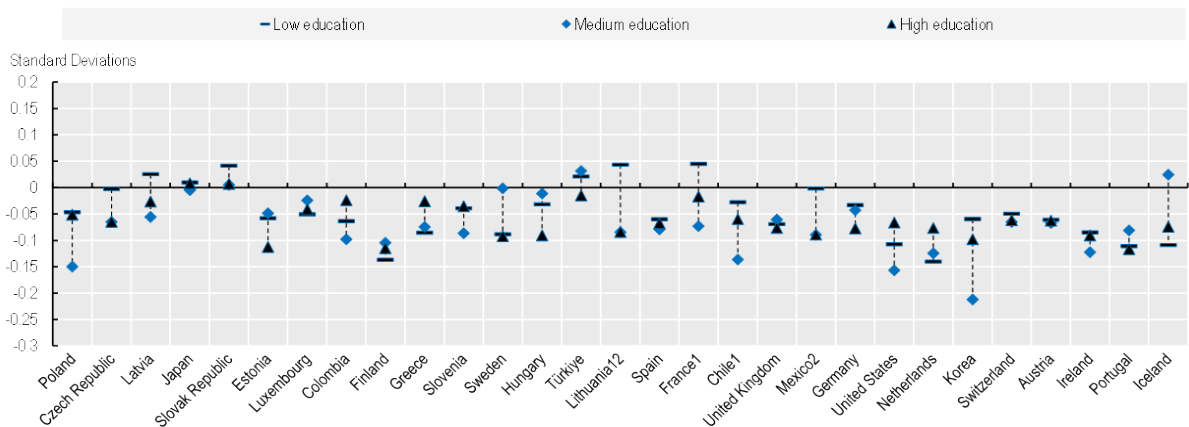


Note: see reading note in Figure A.B16  
 Source: Authors calculations based on PISA 2018 Surveys.

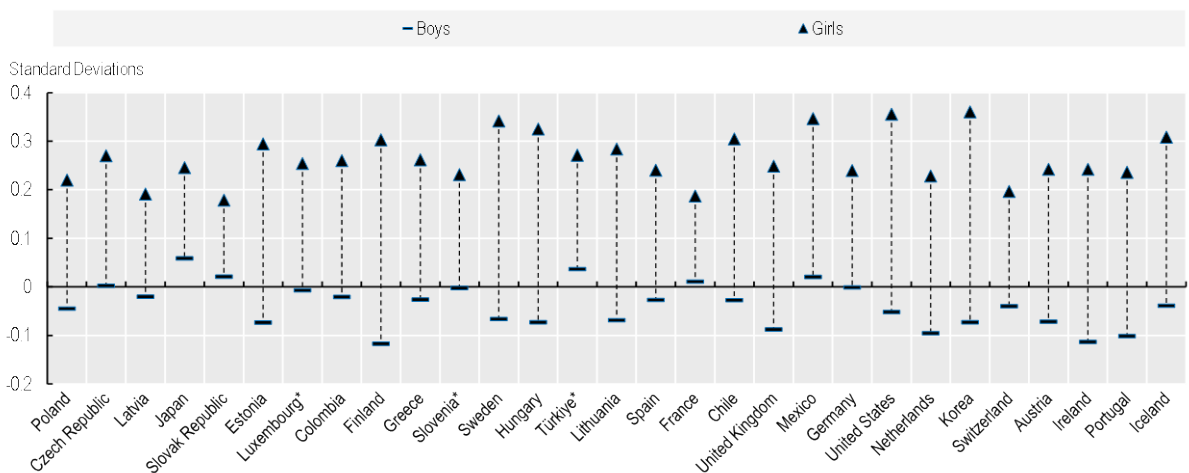
Figure A B.14. Association between parental emotional support and youth self-efficacy



Panel B. Association between parental emotional support and youth self-efficacy, by parental education



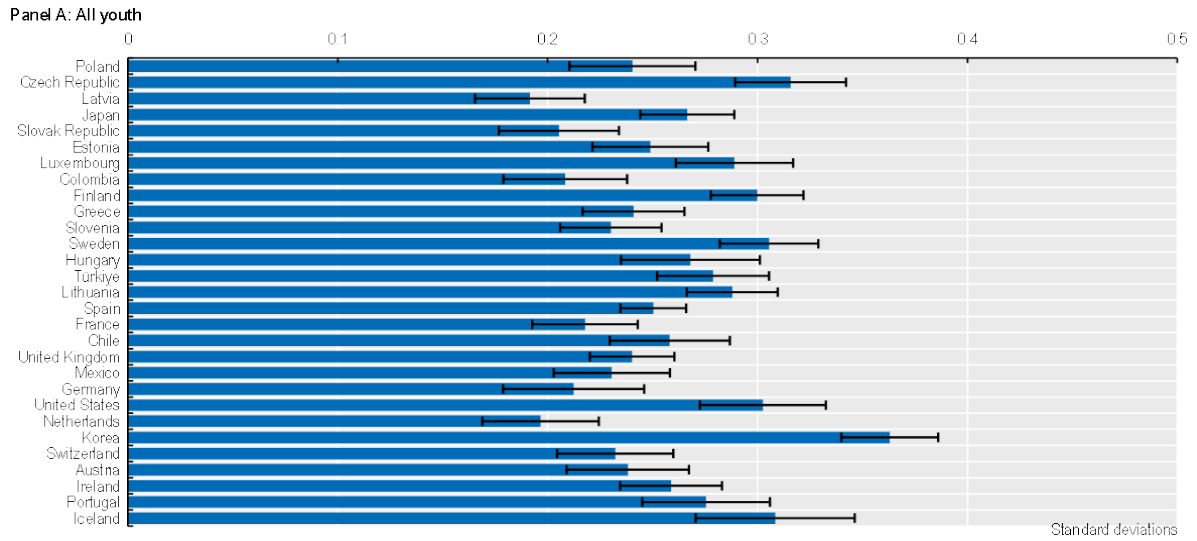
Panel C: Association between parents' emotional support and resilience, by child gender



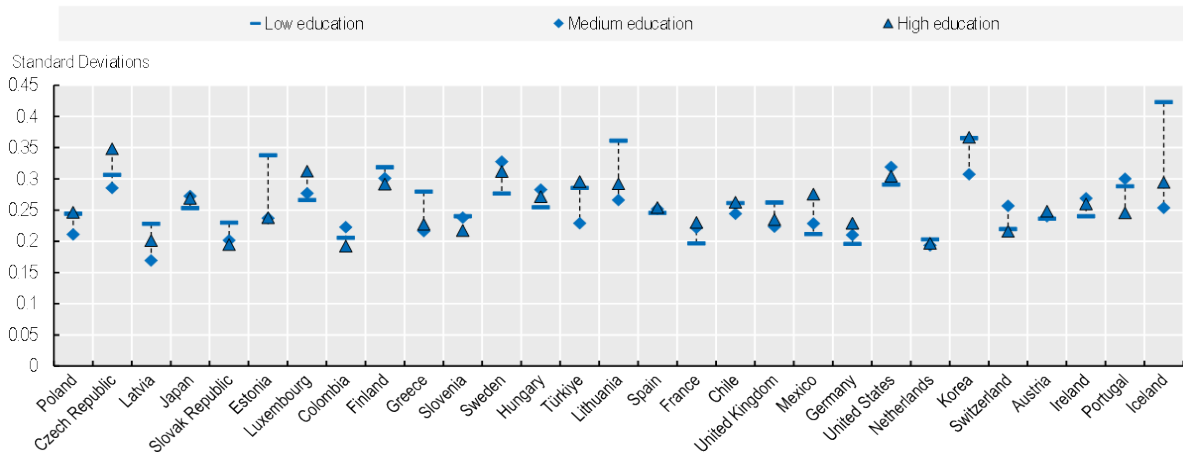
Note: see reading note in Figure A.B16  
 Source: Authors calculations based on PISA 2018 Surveys.



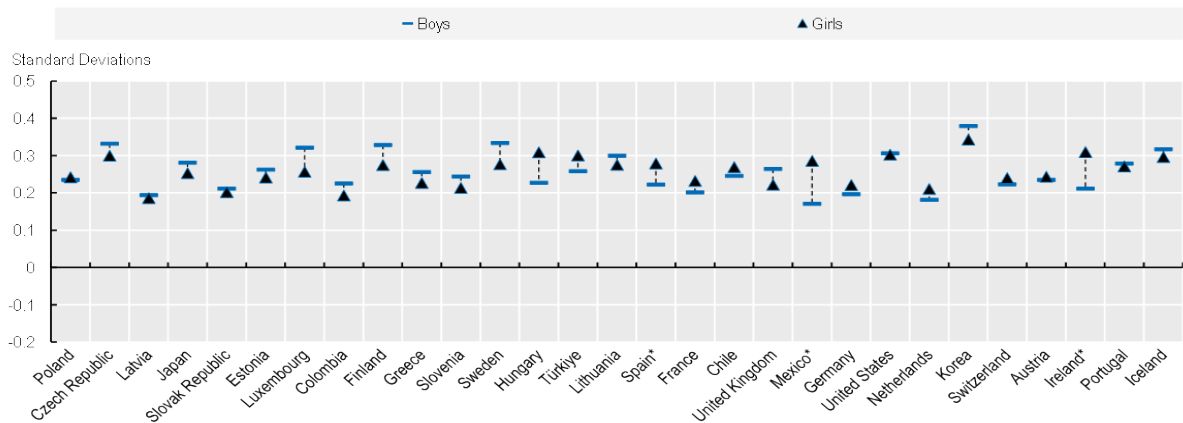
Figure A B.15. Associations between parental emotional support and youth positive feelings



Panel B. Associations between parental emotional support and youth positive feelings, by parental education

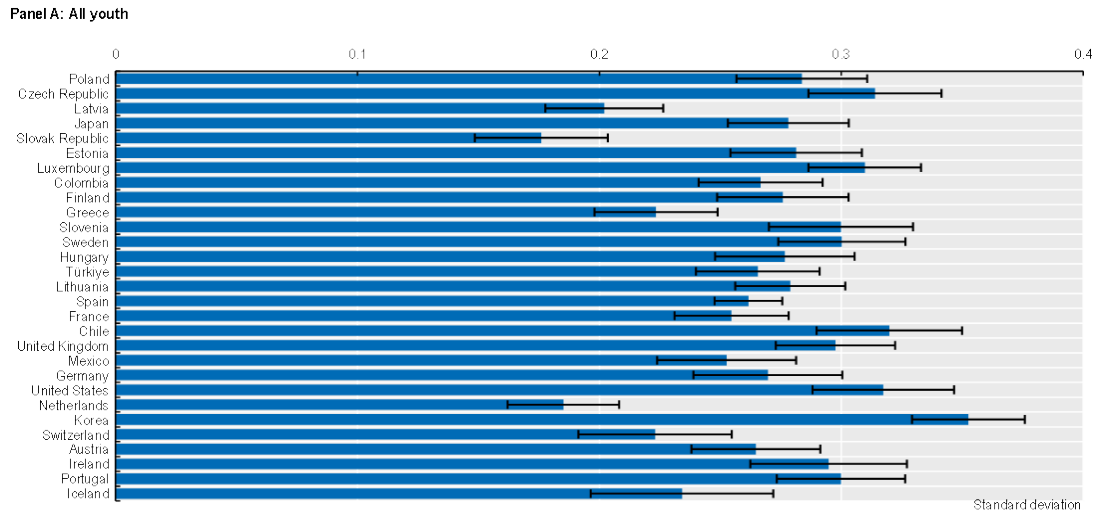


Panel C. Associations between parental emotional support and youth positive feelings, by child gender

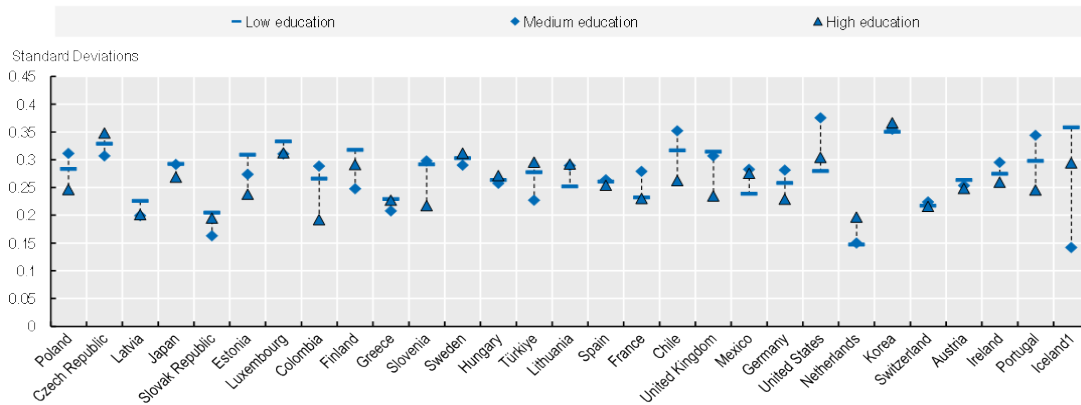


Note: see reading note in Figure A.B16  
 Source: Authors calculations based on PISA 2018 Surveys.

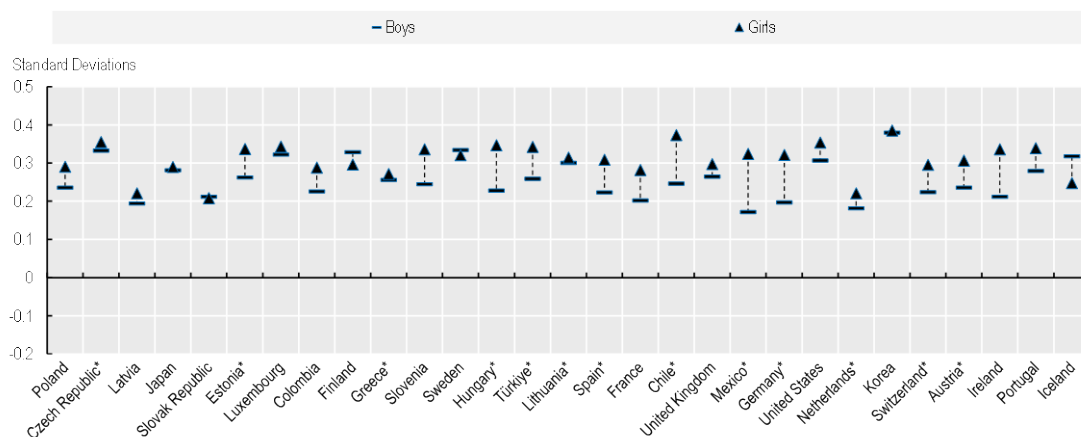
Figure A B.16. Association between parental emotional support and youth life satisfaction



Panel B. Association between parental emotional support and youth life satisfaction, by parental education



Panel C. Association between parental emotional support and youth life satisfaction, by child gender



Note: Panels B and C in figures B10 to B16 refers to country-specific regressions adjusting for adolescent age, grade, immigrant status and region of origin, parental educational attainment and family wealth, and the urbanicity of the youth’s school and whether it is a private school. In Panels B: 1 stands for significant difference between low and medium education; 2 means significant difference between low and high education, and 3 stands for significant difference between medium and high education. In Panels C, In countries marked with an \*, the difference in mean levels of parents’ emotional support reported by boys and girls is statistically significant at  $p < 0.1$ .

Source: Authors calculations based on PISA 2018 Surveys.