

UNTANGLING THE SOFT SKILLS CONVERSATION

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Introduction

Ask any parent, student, teacher, administrator, policy maker, or member of the general public why we send children to school, and, with few exceptions, the answers will all boil down to teaching and learning. We want schools help our children acquire the skills, knowledge, abilities, and dispositions that will help them succeed in life. But what are those critical skills and abilities, and how do schools promote them?

Traditionally, schools have focused primarily on academic knowledge – reading, writing, math, science, and social studies along with higher order critical thinking and problem-solving skills. However, a growing body of research from diverse disciplines – including psychology, economics, neuroscience, and education – suggests that it is not just content knowledge and critical thinking skills that matter for success, but that the strategies and personalities students bring to learning also affect their school and life prospects. Intuitively this makes sense, and the topic is not new. But attention to, and what we know about, these skills are increasing.¹ Studies by researchers in the United States have found that non-cognitive skills like responsibility, perseverance (or grit), the ability to get along with others, self-control, and motivation are highly

correlated with future educational levels (attainment) as well as success in broader life – including higher income and employment, better health outcomes, and avoidance of criminal behaviors.² Recent studies by the World Bank (Valerio, et al., 2014; World Bank, 2014) and the OECD (Miyamoto, et al., 2015) find similar positive associations between soft skills and life outcomes outside the United States as well.

At the same time, there is a growing concern that young people are not adequately prepared with these critical soft skills. In surveys over the past decade, employers consistently note the high value they place on skills like working well with others, communicating effectively, and a having a strong work ethic, while at the same time lamenting the lack of these skills in the young people they hire. For example, a 2015 study for the Association of American Colleges and Universities found that less than 40% of the 400 employers surveyed believed recent college graduates were well-prepared in skills critical for workplace success – including soft skills such as written and oral communication, teamwork, and ethical decision-making (Hart Research Associates, 2015).³ Nor are the concerns limited to the United States. The World Bank and the

Inter-American Development Bank have also documented school-work gaps in both cognitive and non-cognitive skills in Latin America and elsewhere (Bassi, et al., 2012a; World Bank, 2014). For example, more than a third of Latin American firms participating in a recent global business survey identified an inadequately educated workforce as a major constraint to their success.⁴

What are Soft Skills?

The literature distinguishes between two types of learned skills – cognitive and non-cognitive (or soft skills).

Cognitive skills refer to a person’s ability to “interpret, reflect, reason, think abstractly, and assimilate complex ideas, solve problems and generalize from what is learned. Cognitive competencies do not just reflect breadth of knowledge or the speed of its acquisition, but also include the ability to “make sense” of a situation or figure out what to do in the context of a new problem” (Ayrton Senna Institute, no date, p. 9).⁵ In practice, they typically refer to the type of content knowledge and higher order thinking skills and abilities that can be measured by standardized achievement tests and grades.⁶

Non-cognitive skills refer to a person’s capacity to “relate

to others and themselves, understand and manage emotions, set and attain goals, make autonomous and responsible decisions, and creatively and constructively confront adverse situations” (Ayrton Senna Institute, no date, p. 9).⁷ In other words, they are attitudes and practices that affect how an individual approaches learning and interacts with the world around them. Researchers and practitioners use a variety of terms to describe these types of skills: “soft” skills, socio-emotional skills, social and emotional skills, character skills, or personality traits. However, current literature tends to deliberately avoid referring to them as “traits” since traits are generally assumed to remain unchanging, while skills can be developed (Kautz, et al., 2014). Although there is still ongoing debate on what to call these skills (and which specific skills belong under the soft skills umbrella), the key is that these skills are: distinct from traditionally defined cognitive skills; seen as beneficial to individuals and society; relatively stable over time in the absence of external forces, but can potentially be developed or changed; and expressed differently in different contexts (Duckworth and Yeager, 2015).

Both types of skills are influenced by young people’s experience in and outside of school (Bassi, et al., 2012a), and, as discussed in subsequent sections, both contribute to life success. Conceptually, they are distinct skills sets,

Summary and acknowledgements

The Inter-American Dialogue’s Education Reports provide thorough analyses of key topics in the education policy field. This report examines soft or socioemotional skills from different perspectives: it offers important definitions, explores various frameworks used to study them, synthesizes the results and limitations of existing research, outlines the characteristics of some successful programs, and discusses potential future paths for improving their implementation in education.

The report is a product of a joint project between CAF – Development Bank of Latin America and the Inter-American Dialogue. The objective of the project is to develop better policies for technical education and professional training in Latin America. The project seeks to create an agenda based on best practices and to promote the development of professional training programs focused on optimizing the quality of human capital in Latin America.

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and individuals that are strong in one set (or subset) of skills may not necessarily be strong in the other. For example, individuals may have strong “people” skills without having particularly strong academic skills, or they may be academically gifted but have weak “life” skills. However, in practice the two types of skills can, and often do, interact with and complement each other. While students with better social and emotional skills tend to do better on cognitive measures like achievement tests and school attainment, students with stronger cognitive skills tend to have higher confidence in their ability to succeed (Heckman and Kautz, 2012; Bassi, et al., 2012a). Socio-emotional and cognitive skills also interact in attempts to measure the skills themselves. On the one hand, soft skills affect how motivated people are to complete whatever test or measurement instrument is being used and how willing they are to persevere at it; on the other hand, cognitive skills affect how people interpret the questions or the instructions of the task they are asked to perform (Bassi, et al., 2012). Thus far, research has established that relationships between between cognitive and non-cognitive skills and life outcomes exist, but information on the causes or precise nature of those relationships is less definitive (correlations not causation).

What Frameworks are Used to Analyze Soft Skills?

Although there is broad consensus around the need to distinguish between cognitive and non-cognitive skills, there is less agreement about how to define and group soft skills into common categories to inform research and decision-making. Nor is there a clear consensus about which skills and categories are most important.

The most common soft skills framework is known as the **Big Five**⁸ and includes the following broad categories and characteristics (Heckman and Kautz, 2012; Santos and Primi, 2014):

Openness to New Experiences – The American Psychology Association (APA) defines this as “the tendency to be open to new aesthetic, cultural, or intellectual experiences.” Individuals who are “open” have a broad range of interests and are often described as curious, artistic, imaginative, and unconventional.

Conscientiousness – Defined by APA as “the tendency to be organized, responsible, and hardworking,” conscientious individuals are deliberate, goal-oriented, efficient, ambitious, and self-disciplined. They have a strong work

ethic, persevere in the face of obstacles (grit), can delay immediate gratification in favor of long-term goals, and are not impulsive. This characteristic is the soft skill most strongly associated to success in learning outcomes such as grades and level of education attained (Farrington, et al., 2012; Heckman and Kautz, 2012, 2013; Santos and Primi, 2014).

Extraversion – APA defines this factor as the “orientation of one’s interests and energies toward the outer world of people and things rather than the inner world of subjective experience”. Extraverts are friendly, sociable, self-confident, energetic, adventurous and enthusiastic.

Agreeableness – Defined by the APA as “the tendency to act in a cooperative, unselfish manner” individuals who are agreeable are often described as forgiving, empathetic/perceptive, modest, likeable, flexible, socially attuned, altruistic and tolerant.

Emotional Stability (alternatively Neuroticism) – According to the APA definition, emotional stability refers to “predictability and consistency in emotional reactions, with absence of rapid mood changes” while neuroticism refers to “a chronic level of emotional instability and proneness to psychological distress.” This Big Five factor encompasses anxiety and depression, hostility, impulsiveness, self-control, and self-confidence.

Other soft skills frameworks include information on an individual’s attitudes and motivations – such as self-concept, belief that the individual (rather than the environment or innate talent) controls success, and belief that a satisfactory outcome is possible, all of which can also affect learning and life outcomes.⁹ Different frameworks tend to reflect the disciplinary lens of their authors – economists tend to have slightly different frameworks and focus than psychologists, who in turn have different perspectives than educators or business

Relationships between cognitive, non-cognitive, and life outcomes exist, but information on the causes or precise nature of those relationships is less definitive.

leaders. IDC (2014, slide 22), for example, defines business skills as “competencies to seek, evaluate and examine information and create a reasoned position, present findings, and make a case for or advocate for that position.” Soft skills include communication, finding areas of agreement and disagreement, and persuasiveness. Farrington, et al. (2012) take a more classroom-focused approach, placing soft skills in a framework of academic behaviors, academic perseverance, academic mindsets, learning strategies and social skills (Figure 1). Additional frameworks – such as 21st Century skills and executive functioning – combine soft skills with higher order cognitive skills such as critical thinking and problem-solving. Hagen (2013), Bassi, et al. (2012a), Tough (2012), Borghans et al. (2008), and Kechagias, et al (2011) discuss other common frameworks and skills categories.¹⁰ Recent international initiatives – such as the World Bank’s STEP surveys, the IDB’s 2008 and 2010 surveys in Argentina and Chile, the Ayrton Senna Institute’s studies of soft skills in Rio de Janeiro, Brazil, and the OECD’s “Skills for Social

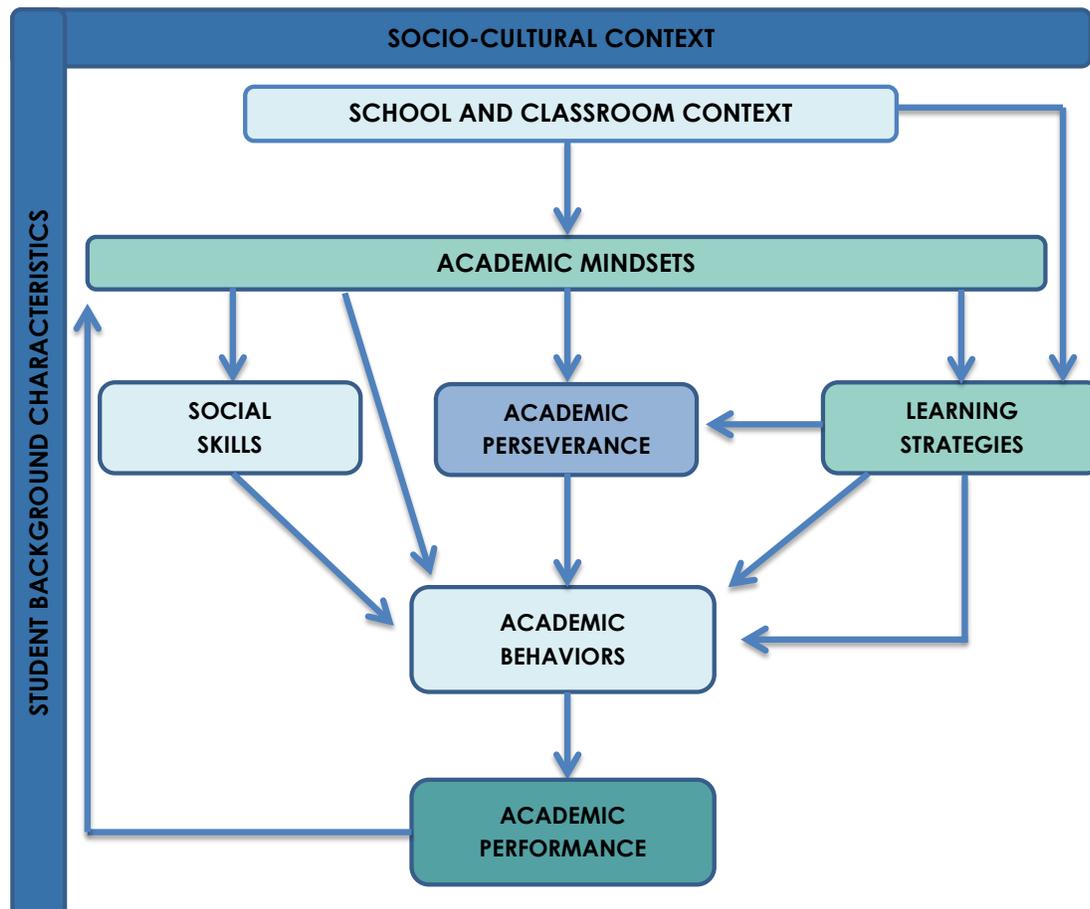
Progress” work – generally use the Big Five as a starting point, and add additional skills relevant to the context and purpose of their research.

What Does Existing Research Tell Us?

Educators and policy-makers often talk about the importance of educating the whole child, building young people’s character, or teaching them to be responsible citizens. UNESCO’s four pillars of knowledge (learning to be, learning to know, learning to do, and learning to live together) encompass both cognitive and non-cognitive skills and many national curricula incorporate social and emotional skills in one way or another (Miyamoto, et al., 2015). However, most systematic research on the outcomes of schooling, as well as explicit instruction in schools, has focused on cognitive skills. This is particularly true at the international level, although it is starting to change. (See Box 1 for examples of recent soft skills studies outside the United States.)

FIGURE 1. SOFT SKILLS IN A CLASSROOM CONTEXT

Source: Farrington, et al., 2012, p. 12.



Box 1. Recent International Studies on Non-Cognitive (Soft) Skills

Desconectados (Inter-American Development Bank). Based on household and employer surveys¹¹ in Chile and Argentina in 2008 and 2010, this book was one of the first to look systematically at soft skills in Latin America. Specifically, it sought to analyze the connections between schooling and young people's preparedness (cognitive and non-cognitive) for the world of work. Researchers questioned more than 6,000 individuals ages 25-30 (nearly 4,500 in Chile and 1,600 in Argentina) regarding their labor and education history and measured participants' cognitive abilities using a series of eight representative analogies. Soft skills were assessed based on individuals' self-reported agreement or disagreement with a series of statements on how they approached different tasks, their ability to develop and achieve objectives, and their relationships with others. To determine how those skills matched with labor market demands, researchers also surveyed 1,200 firms in Chile, Argentina, and Brazil on the employment opportunities available for high school graduates in their firms including the sector-specific, cognitive, and soft skills required (and the relative importance of each), the ease or difficulty in finding workers with these skills and their strategies for filling workers' skills gaps.

STEP Skills Measurement (World Bank). Also designed to analyze relationships between skills, education, and the labor market, the World Bank's STEP Skills Measurement Project uses household and employer surveys to measure the supply and demand for a broad range of cognitive and non-cognitive skills in middle and low income countries. Researchers survey a representative sample of urban adults ages 15-64, regardless of employment status, with respect to their cognitive, socio-emotional and job relevant skills. Cognitive skills are measured via a short reading assessment and indirectly through questions about the use of reading, writing and math skills at work. Respondents are also asked about their qualifications and training, and job-specific skills. To measure soft skills – including the Big Five, grit, decision-making style, perceived hostile intent from others, risk-taking and time preferences – participants are asked to assess how well given statements apply to them on a 4 point-scale from “almost never” to “almost always”. The employer survey covers diverse geographic areas and economic sectors, including jobs in both the formal and informal sector, asking parallel questions about required job skills, as well as productivity, hiring, compensation, and training practices. So far, STEP surveys have been implemented in Armenia, Azerbaijan, Bolivia, Colombia, Georgia, Ghana, Kenya, Laos, Macedonia, Sri Lanka, Ukraine, Vietnam and Yunnan Province in China.

SENNA (Ayrton Senna Institute – Brazil). The Social and Emotional or Non-cognitive Nationwide Assessment (SENNA) measures the socio-emotional competencies of 5th, 10th, and 12th graders in the state of Rio de Janeiro, Brazil, with an eye to informing policy decisions and pedagogical practices. Specifically, researchers wanted to know how much difference in academic performance could be attributed to soft skills, individual characteristics (race, sex, age), family environment and attitudes of children and parents. Developed by the Ayrton Senna Institute in cooperation with the OECD and the State of Rio de Janeiro Secretariat of Education, the 40-minute, self-administered survey was initially given to 24,000+ students from across state and included questions on Big Five skills, students' beliefs about locus of control (belief that success is a result of one's own efforts), and background information. Researchers also had access to the same students' scores on state tests of Portuguese and math in the same year to compare soft skills with academic success. In addition to the student survey, project staff also developed a “roadmap” for socio-emotional evaluation designed to provide teachers more specific examples of critical soft skills, how they might see them in the classroom, and guidance on how to use their observations to provide immediate and ongoing feedback to students.

Skills for Social Progress (OECD). This report provides a synthesis of OECD empirical work on soft skills including the types of skills that are most relevant to future outcomes, how such skills are developed and in what context, how member and partner countries are currently measuring and promoting social and emotional skills, and recommendations for future work. The report is based on a comprehensive review of existing literature, countries' policies and practices, and findings from longitudinal studies in nine OECD countries (Belgium, Canada, Korea, New Zealand, Norway, Sweden, Switzerland, UK, US).

Measuring and Assessing Soft Skills Project (Europe). Spearheaded by Angus College in Scotland and carried out in collaboration with partners in Greece, Sweden, Romania and the Netherlands, this project seeks to intentionally develop soft skills in disadvantaged and disaffected youth via face-to-face programs, in order to improve social inclusion and help them find jobs. The initial methodology developed in Scotland showed promising results in terms of lower dropout and higher continuation of studies or employment, and project implementers wanted to test its validity in other contexts. Researchers developed training manuals and assessment tools for instructors/tutors and employers, along with teaching materials and student packets translated into partner languages. They also included employer consultations to strengthen collaboration and skills matching. The project focuses primarily on vocational education and training in line with the European Reference Framework. The framework defines several key competencies needed for personal development, work, citizenship and employment including: communication in mother tongue and foreign language; math, science and technology skills; digital competence; learning strategies (including persistence); social and civic competencies; initiative and entrepreneurship; and cultural awareness and expression.

Sources: Bassi, et al., 2012a; Valerio, et al., 2014; Santos and Primi, 2014; Ayrton Senna Institute, no date; Miyamoto, et al., 2015; and Kechagias, et al., 2011.

The research that does exist on soft skills in the United States and internationally suggests that:

Both cognitive and non-cognitive skills are associated with future success – Although different skills may matter more for different activities, research shows a strong correlation between both cognitive and non-cognitive skills, and success later in life. Economists have long known that individuals with higher levels of education tend to earn higher wages. More recent studies by Hanushek and Woessman (2008) have shown that learning outcomes (as measured by achievement test scores), and not just years of schooling, are important predictors of individuals' and countries' economic success. The OECD notes that adults with higher literacy and numeracy skills tend to have better health, are more politically involved, and are more likely to participate in volunteer activities (**Graph 1**).

At the same time, studies by James Heckman and colleagues have shown that cognitive skills alone cannot explain all the variation in life outcomes, and that soft skills are also associated with benefits that extend beyond

schooling to health, happiness and pro-social behavior. Moreover, some longitudinal evidence from the United States suggests that the social gains from preschool tend to endure while cognitive gains tend to fade over time (Heckman and Kautz, 2012). Studies from outside the US present similar findings on soft skills and their association with positive future outcomes. For example, initial results from the STEP studies show that individuals who score highest on conscientiousness, emotional stability, and grit have smoother transitions from school to work (**Graph 2**).

The IDB's *Deconectados* surveys found that, although both cognitive and soft skills were positively associated with labor force participation, employment, and wages, the associations with soft skills (such as self-efficacy) were stronger (Bassi, et al., 2012a). In Brazil, students who were more conscientious on average showed 30% more learning in math, while students who were more open to new experiences had higher scores in Portuguese (Ayrton Senna Institute/UNESCO, n.d.). Among OECD countries, New Zealand students who were more perseverant and responsible at age 8 had lower incidence of drinking,

smoking, drugs, and violence at age 16 (Miyamoto, et al., 2015).

While other factors may be at play, acting through or in conjunction with cognitive and non-cognitive skills in creating success, such strong correlations do suggest that attention to both sets of skills is warranted when considering education interventions.

Skills often lead to more skills – If it is true that cognitive and non-cognitive skills are associated with life success, it is also true that these skills are often interconnected and that the marriage of both skills can lead to the strongest outcomes. Take learning outcomes, for example. Several studies have found that grades are better than test scores in predicting future academic success (Farrington, et al., 2012). Research suggests that this may be due in part to the fact that grades, in addition to reflecting students’ subject matter knowledge, also provide valuable information about students’ motivation, study skills, and time management (Tough, 2012, citing Bowen, Chingos and McPherson, 2009).

At the same time, Miyamoto, et al. (2015) cite evidence from the United States and South Korea that skills accumulate over time, so that levels of cognitive and social-emotional skills today affect the further development of those skills in the future.¹² They found that social emotional (soft) skills are associated with both higher future cognitive and non-cognitive skills. In other words, students who are calm, respectful, emotionally stable, believe they can achieve their goals and persevere in pursuing them are better able to make the most of opportunities and use their skills to gain more knowledge as they grow older (Miyamoto, et al., 2015).

Those with higher existing skills are more likely to be given more training, support, and responsibility. For example, Valerio, et al. (2014) note that in Bolivia and Yunnan China, training often goes to more educated workers – over 50% of workers who reported recent training already had a tertiary degree. Teachers and parents may also spend more time with students who show promising performance and high levels of motivation (Miyamoto, et al., 2015).

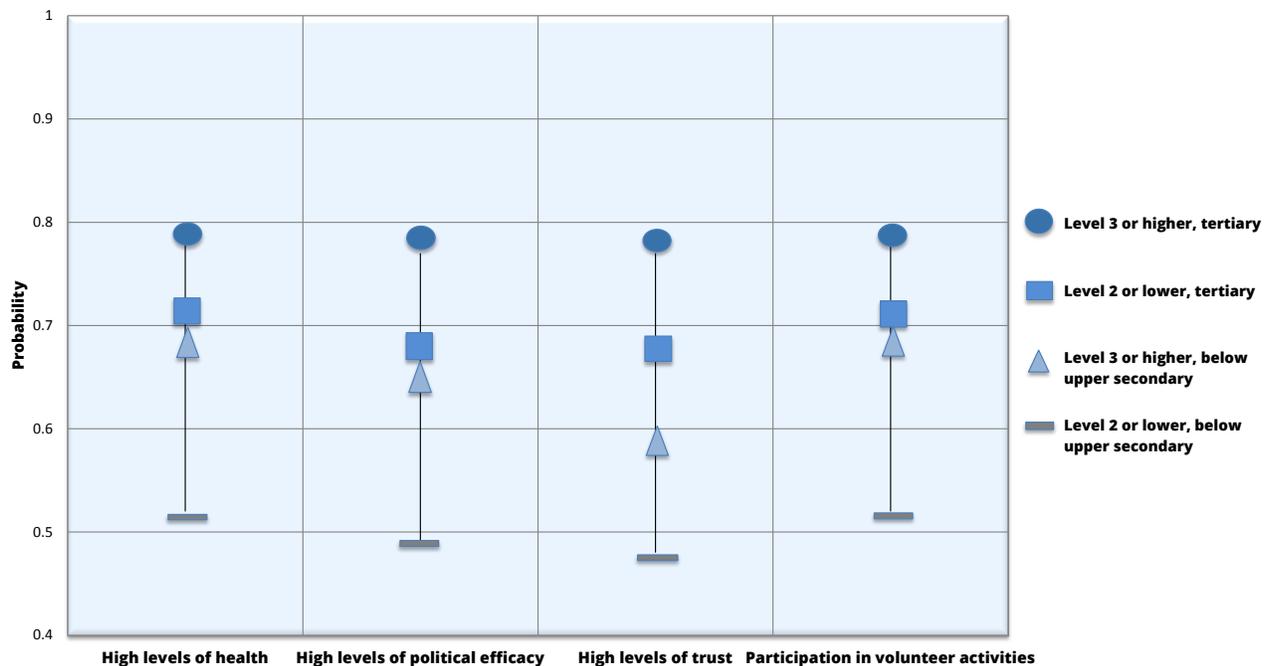
Given the mutually reinforcing interactions between

GRAPH 1. HIGH LEVELS OF LITERACY INCREASE THE PROBABILITY OF EXPERIENCING POSITIVE SOCIAL OUTCOMES, 2013

Source: Miyamoto, et al., 2015, Figure 1.5, p. 25.; OECD (2013e), OECD Skills Outlook 2013: First Results from the Survey of Adult Skills, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264204256-en>.

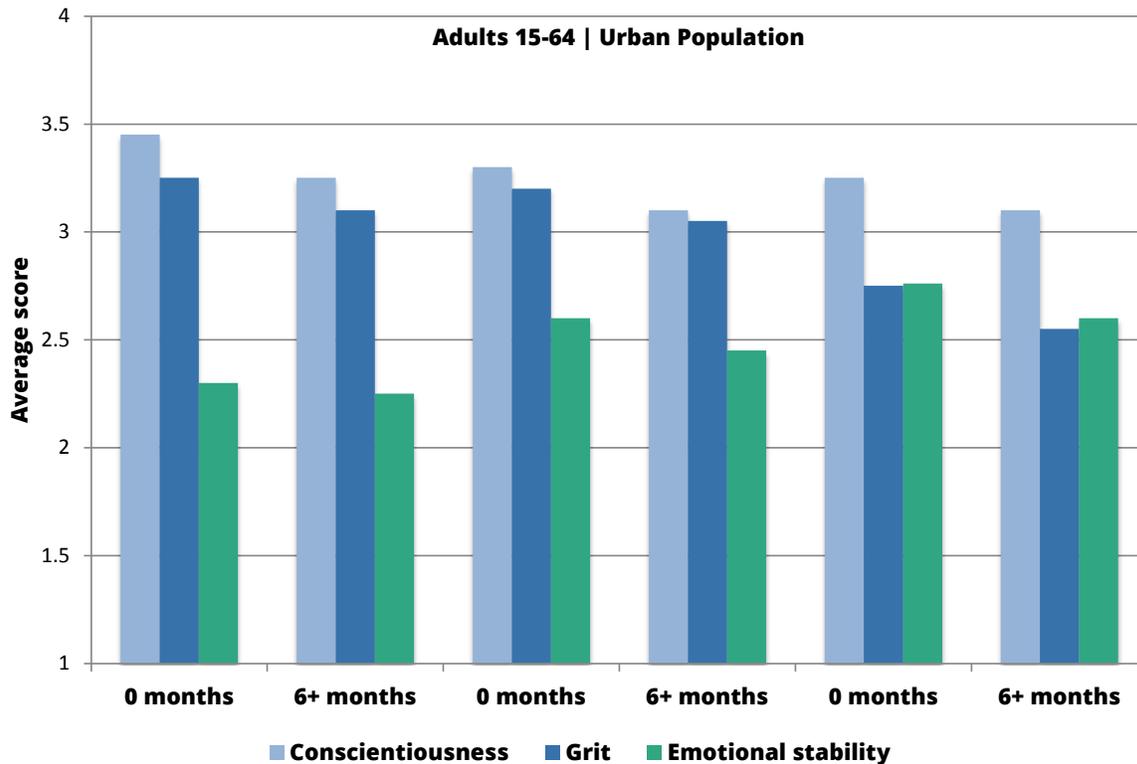
StatLink: <http://dx.doi.org/10.1787.888933163669>

Note: Estimates presented here represent the average of OECD participating countries. Literacy Level 2 or below means that respondents can read brief texts on familiar topics; understand basic vocabulary; determine the meaning of sentences; compare and contrast information; and, make low-level inferences. Literacy Level 3 or higher means respondents can at least understand and respond appropriately to dense or lengthy texts, including continuous, non-continuous, mixed, or multiple pages (OECD, 2013e).



GRAPH 2. AVERAGE SOCIO-EMOTIONAL SKILL SCORE BY SEARCH DURATION FOR FIRST JOB, ARMENIA, BOLIVIA, AND YUNNAN

Source: Valerio, et al, 2014, Figure 31, p. 20.



cognitive and non-cognitive skills over time, efforts to develop both sets of skills are likely to be most beneficial to students (Miyamoto, et al., 2015; Kechagias, et al., 2011). Indeed, Cain Miller (2015) notes that the “only occupations that have shown consistent wage growth since 2000 require both cognitive and social skills.”

Starting early is better, but the window of opportunity for developing non-cognitive skills may be wider than for cognitive skills – The value of early childhood development for children’s cognitive and social development is well-documented. We know, for example, that extensive exposure to written and verbal language from birth is one of the most important academic foundations parents can give their children, that childhood stress factors (including poverty) strongly impact future development, and that strong attachments between parents and young children can counteract many of the negative effects of childhood stressors.¹³ We also know from experiments, such as Walter Mischel’s famous “Marshmallow tests” at Stanford, that preschoolers who can delay gratification are generally more successful later in life in terms of SAT scores, health behaviors, and social skills. Because children build on these skills later

in life and because young brains are more malleable, it is particularly important to set strong foundations early.

However, while cognitive abilities tend to stabilize by age 10, peak at the end of adolescence and decline slowly afterward, soft skills continue to develop throughout a person’s lifetime, with key opportunities in middle school and high school (Bassi, et al., 2012a, citing Borghans, et al., 2008; Cunha, et al., 2005). The reason is that the brain’s prefrontal cortex (which controls “executive functions” like self-control, abstract reasoning, time management, and other key soft skills) continues to develop well into young adulthood (Tough, 2012). Indeed, it is during adolescence that young people “begin to make decisions about motivation and engagement on the basis of feelings of competence, their valuation of the task for both present and future, and their feeling of belonging and social connectedness” (Farrington, et al., 2012, p. 56). This means that not only are soft skills linked to future success, but they can also be “acquired, reshaped and consolidated during secondary education” (Bassi, et al., 2012b, p. 12), providing a longer window for intervention at a key moment in brain development.

Non-cognitive skills may help disadvantaged students close the gap with more advantaged peers – While all individuals need to develop appropriate soft skills in order to successfully engage with the people around them and face new challenges, some research suggests that soft skills may be particularly important in helping poor and minority students overcome disadvantages. (Miyamoto, et al., 2015; Tough, 2012).

Several interventions that seek to help disadvantaged youth develop stronger soft skills have yielded promising initial results. For example, participants in programs such as the Knowledge is Power Program (KIPP) which serves primarily low-income minority students in middle school and high school in the United States and the MASS project targeting soft skills in at-risk youth in Europe have improved both students' educational attainment – participants stay in school longer – and key character skills such as motivation and work ethic (Tough, 2012; Kechagias, et al., 2011). In addition, Santos and Primi's work in Brazil suggests that soft skills related to locus of control and openness to new experiences – while associated with better academic performance among study participants overall – may have stronger effects on poor children's learning (**Graph 3**).

Why are these skills particularly relevant for disadvantaged youth? Although few existing studies directly compare the effects of soft skills interventions on students from different socioeconomic and racial backgrounds, researchers posit that programs for disadvantaged youth serve at least two important functions. First, they help develop mindsets about the value of learning and their ability to succeed that children from households with more social capital may take for granted. Second, soft skills such as grit, self-control, perseverance and social intelligence may simply be more important to overcoming the many obstacles poor children face (Tough, 2012). By contrast, young people from more advantaged backgrounds may not have to work as hard to get good grades or have social safety nets to protect them from the consequences of failure. For example, Santos and Primi (2014) found that controlling for family attitudes, conscientiousness actually declined with socioeconomic status and mother's education. As a result, in some respects, poor and minority youth that develop strong soft skills may actually have an advantage over wealthier peers for whom academic success has come easier (Santos and Primi, 2014; Tough, 2012).

Box 2. Measuring Soft Skills in California

The California Office to Reform Education (CORE) – a consortium of nine California school districts – is working to implement a comprehensive and collaborative approach to measuring student learning and ensuring all students achieve at high levels that goes beyond test scores and graduation rates. The School Quality Improvement Index assesses schools on students' academic performance and growth (60%), along with their social emotional skills and the school culture and climate (40%). Developed by school districts, including administrators, educators and education measurement specialists, the index seeks to provide education stakeholders with valid, reliable, actionable, and meaningful measures to use to continually improve their schools. The social and emotional skills component of the index is based on self-reporting by students in grades 5-12. Students are given a short series of statements related to self-management (e.g. coming to class prepared, following directions, not procrastinating), growth mindset (belief that success is a result of effort not innate talent), self-efficacy (belief in their ability to succeed both generally and in specific subjects), and social awareness (including understanding others viewpoints, respecting differences, and getting along). Students rate their agreement with the statements on a five-point scale from almost never/not at all to almost always/complete agreement. Information is reported publicly at the school level and for subgroups of students within schools. The survey was piloted and field tested in 2014 and 2015 and will be rolled out to all schools in consortium in 2016.¹⁵

Sources: CORE, 2016, 2015a and 2015b.

Parenting matters, but so do schools – The finger pointing that often surrounds children’s failure to acquire needed skills frequently pits home against school. If kids aren’t learning, it must be because their parents or teachers are not doing their job. The truth is that for soft skills, as well as cognitive skills, emerging evidence suggests that both parents and schools matter. On the one hand, parents’ support and attitudes toward learning seem to have a strong influence on their children (Ayrton Senna (no date); Miyamoto, et al., 2015; Santos and Primi, 2014; Tough, 2012) Indeed, Tough (2012) provides a detailed overview of neuroscience research showing that strong parental modeling and attachment can largely mitigate the detrimental effects physical and socio-emotional effects arising from poverty and unstable home life.

On the other hand, as children grow older, they take their cues from actors outside the family. Evidence suggests programs to strengthen social and emotional skills both inside and outside schools show positive short-term effects, and they do so in part by facilitating secure attachments between adults and students and by providing positive learning environments connected to the real world (Miyamoto, et al., 2015; Farrington, et al., 2012, citing Durlak, et al., 2011; Kechagias, et al, 2011). As Kechagias et al. (2011) summarize “students typically

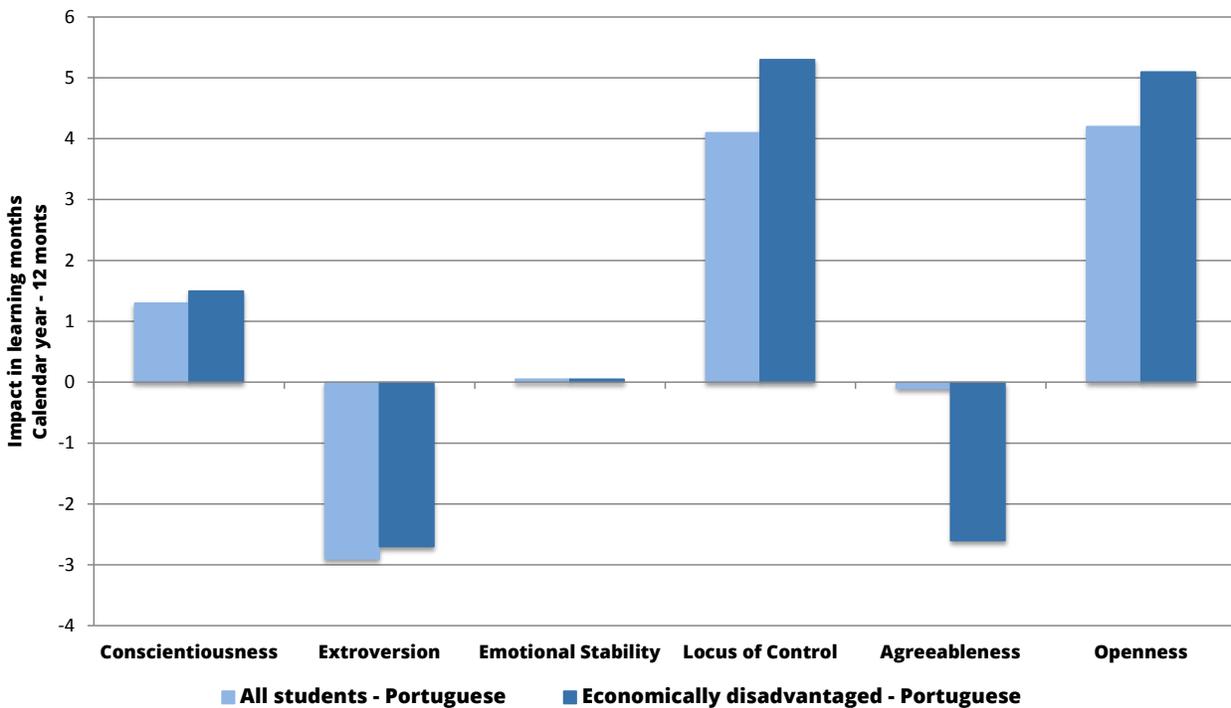
do not learn alone, but rather in collaboration with their teachers, in the company of their peers and with the encouragement of their families”. In other words, soft skills are not just learned at home, but are tied to real world learning contexts, including schools, work and the broader community where these skills are formed, used, and can be intentionally developed. (More on existing programs to develop soft skills is included in subsequent sections.)

What Are the Limitations of Current Research?

Most of the work on defining and measuring soft skills has been done by psychologists, using surveys in which respondents are asked about the degree to which they agree or disagree with specific statements associated with key soft skills characteristics.¹⁴ Respondents are asked to rank their agreement on a 4-5 point scale. For example, STEP survey participants were asked questions like “Are you very interested in learning new things?” or “Do you work well and quickly?” and told to answer using a scale from “almost never” (1) to “almost always” (4) (Valerio, et al., 2014). Students in grades 5-12 in California are being asked to complete similar questionnaires on their behaviors and beliefs related to school on a 5 point scale as part of a comprehensive system to measure school and student

GRAPH 3. IMPACT OF SOCIAL AND EMOTIONAL SKILLS ON PERFORMANCE IN PORTUGUESE AMONGST THE ECONOMICALLY DISADVANTAGED

Source: Santos and Primi, 2014, Figure 10A, p.68.



Box 3. Measuring Soft Skills in Jordan

A program in Jordan uses group exercises, role-playing assessments and skills based interviews to assess the soft skills of recent college graduates and potential job candidates. In the 40-minute group exercise, candidates are assigned a role in rescuing a failing amusement park. Each role has specific responsibilities and goals. Two trained observers then watch how participants work together in a group to resolve their differences and come up with a shared plan. Candidates behavior is scored using a specific soft skills rubric that looks at such things as listening, responsiveness, presentation, self-confidence, influence, leadership, supportiveness, initiative, organization and teamwork.

For the 5-10 minute, one-on-one role-playing assessment, students assume the role of a customer service representative who needs to work with an angry customer (the evaluator) to resolve the customer's issue while working within the company's rules. Candidates are scored on listening, responsiveness, presentation, self-confidence and influence, using the same rubric from the group exercise.

Finally, in the 5-10 minute skills based interview, the evaluators ask candidates to describe examples of their leadership, organization, initiative, and teamwork skills. Again, candidates are scored against the standard soft skill rubric used in the other two exercises.

A follow-up survey, conducted 10 months after the assessment, found that employment and wages were higher among those candidates with soft skills performance ranking in the top quartile, and that these effects remained even after controlling for mental ability/test scores, English skills, university major, previous work history, and marital status.

Source: McKenzie, 2014

performance and address challenges (**Box 2**).

Some studies, especially those collecting data on younger children, are also based on teachers' evaluations of individual students or on behaviors directly observed by the researcher or other trained observers. (See **Box 3** for an innovative approach to measuring soft skills through observed behaviors in Jordan.) In addition, study designers usually have access to related information from schools – such as attendance, disciplinary incidents and grades or test scores. Most studies look at short-term effects for a small sample of students within a single school or program, and most are based in developed countries (with a wealth of studies centered in the United States).

Several limitations are worth noting:

Lack of agreement on terms and frameworks – Although there is growing consensus that soft skills are important to student success inside and outside the classroom,

the ways in which researchers categorize these varies by discipline and even within disciplines. The same terms can be used to define different concepts, and give rise different measures of performance (Wilson-Ahlstrom, 2014). This can complicate cross-disciplinary conversations and make extracting conclusions about which skills matter most and how to improve them more difficult (Farrington, et al., 2012).

Self-reporting and observer bias – Because it is impossible to directly measure people's internal attitudes, motivations and beliefs, assessing soft skills must rely either on what people say about themselves or on others' interpretations of what they do. This presents a number of challenges. First, what people report about themselves is not always true. In some cases, individuals may answer questions in ways that are considered more "socially acceptable" or in line with what they think the researcher wants to hear (Farrington, et al., 2012). In others, individuals' self-perceptions may not align with manifested behaviors. For example, I may think I am outgoing and open to change, but my behaviors

Box 4. Interventions to Promote Soft Skills Outside Latin America

PATHS (Promoting Alternative Thinking Strategies) – is a school-based curricular program designed to promote social and emotional skills and improve learning among preschool and elementary-aged students. The curriculum emphasizes skills such as self-control, interpersonal relationships, conflict resolution, and self-esteem through 20-30 minute lessons integrated with social studies and language arts lessons two to three times a week. Students are taught to reflect on their feelings and appropriate responses. The program provides teachers and counselors with detailed lessons, materials and instructions, plus intensive training by certified instructors. The program is primarily being used in the United States and Europe, but has also been implemented in some schools in Israel, Pakistan, Thailand, Hong Kong, Singapore, and Australia. Rigorous, randomized studies among different student populations (including students with special needs and behavioral difficulty) have shown improvements in appropriate behavior and academic engagement as well improvements in grades and performance on cognitive skills tests. The program has also been used for violence prevention.

Entrepreneurs for Social Inclusion/Empresários pela Inclusão Social (EPIS) – Formed in 2006, this Portuguese association of more than 100 business leaders works with young people at risk to help them realize their academic potential and successfully enter the labor force. It does so by piloting new methods for improving the quality of education, training, and employability initiatives and documenting best practices with quantitative results. Through their network of affiliates, EPIS works with individuals or groups of students, ranging from elementary age through young adults leaving high school, in accordance with their particular needs. It places a strong focus on non-cognitive skills such as motivation, self-control, problem resolution, teamwork, and constructive feedback as a key component in training for school success and successful transitions to the world of work. They also provide support for project implementers. Evaluations of EPIS's work found 10% lower grade repetition, better academic performance, and lower dropouts among program participants.

Angus College Skillzone Program – Pioneered in Scotland, this program was the starting point for the Measuring and Assessing Soft Skills Project (MASS) described in **Box 1**. The Skillzone program targets young people ages 14-18 who have either left school or are at risk of doing so, and provides them with individualized support in a safe environment. Program facilitators use 17 “learning bytes,” to target separate soft skills. Each byte includes an introduction to spark discussion, 1-5 lesson plans, resources, a student activities pack, and an instructor pack with answer key. The curriculum emphasizes soft skills such as appropriate workplace conduct, ownership/responsibility, conscientiousness, help-seeking, motivation, efficiency/work output, time management, communication and teamwork. Students are asked to reflect on what they have learned and monitor weekly progress toward goals. Participants in the program report higher motivation and are less likely to drop out of school or the Skillzone program.

Student-Centered Learning – Friedlaender, et al. (2014) studied school level interventions at urban California schools that followed one of two approaches: Linked Learning (which like name suggests links strong academics to work experience and skills), and Envision Education (which features individualized learning focused on 21st Century Skills – including higher order cognitive skills like critical thinking and problem solving, but also collaboration and communications). The schools studied primarily served low income, minority populations. Under both approaches, participating students did better than those in schools serving similar populations on state achievement tests (controlling for prior learning), had higher graduation rates than district/state averages for minority students, completed all requirements for California college admission, and had college persistence (to 4th year) above the national average among

those that are the first in their family to attend college. According to the study authors, “survey data of graduates suggest that particular high school practices of relationship-building, high standards, deep learning and instructional relevance contribute to students’ success in college”.

Other well-documented interventions to promote soft skills in the United States include **Tools of the Mind** – a preschool model – including curriculum and teacher training – that helps children develop cognitive and social-emotional skills using an integrated approach that includes planned play, reflection, and foundational academic skills; **Knowledge is Power Program (KIPP)** – a network of public charter schools “helping students from educationally underserved communities develop the knowledge, skills, character and habits needed to succeed in college and the competitive world beyond”;ⁱ and the **Talent Development High School Ninth Grade Success Academies** – a model aimed at improving academic achievement in public high schools that incorporates a real-world focus, small learning communities and a freshman seminar to help develop and reinforce study skills, goal setting and social skills.

ⁱFrom KIPP’s mission statement, available at <http://www.kipp.org/about-kipp>.

Sources: Tough, 2012; <http://www.prevention.psu.edu/projects/PATHS.html> and <http://www.pathseducation.com/>; Heckman and Kautz, 2012, Santos and Primi, 2014, and www.epis.pt; Kechagias, et al., 2011; Friedlaender, et al., 2014; Miyamoto, et al., 2015; and Farrington, et al., 2012

or others’ perceptions of my behaviors may be at odds with my assessment. Or I may not be aware of my reasoning or strategy for doing something (Duckworth and Yeager, 2015; Farrington, et al., 2012). Other factors, such as motivation and incentives for participation in the study, level of effort, how comfortable or familiar individuals are with doing self-assessment, and the sophistication of items and how individuals interpret them, can also influence the accuracy of self-reporting measures (Duckworth and Yeager, 2015; Kautz, et al., 2014; Kechagias, et al., 2011).

In addition, research suggests that individuals’ perceptions may be influenced by their frame of reference or by negative stereotypes. For example, West, et al. (2014) found that students in high achieving charter schools with lottery based admissions scored lower on measures of conscientiousness, self-control and grit than students attending district schools, even though their test scores were higher. The authors found suggestive evidence that these counterintuitive findings are the result of students comparing themselves against different standards/groups of people. Yeager and Walton (2011) also note that “research on stereotype threat shows that the worry that one could be perceived through the lens of a negative intellectual stereotype in school can undermine academic performance”.

Likewise, third party observations may also be subject to bias. For example, Farrington, et al. (2012) cite several studies suggesting that teachers are more likely to rate white students’ social and academic skills positively compared with minority students and that “schools may be disproportionately responding to antisocial behavior with harsher punishment for minority students than for white students who display similar behavior”. Girls are also more likely to be categorized as having stronger social skills in some studies (ibid). In addition, because a single behavior may be motivated by multiple causes (did a student opt not to do the homework from a lack of confidence in his/her academic abilities, because he/she thought it was irrelevant to the real world, or because he/she preferred to hang out with friends?), observers may not always be able to determine the specific soft skill behind a given action (Duckworth and Yeager, 2015). Students might also need additional skills to perform a task (e.g. strong reading skills, hand-eye coordination), perform better on tasks they have repeated more than once, or be affected by test day circumstances like hunger, noise, or test anxiety.

Such challenges are not new, and do not negate the value of survey based or observer-reported assessments of soft skills – especially those that have been scientifically designed and validated to minimize these types of bias.

However, the limitations are worth bearing in mind when interpreting the results of soft skills research and in designing measurement approaches to address differing circumstances.

Implicit assumptions – Much of the current dialogue around soft skills centers around preparing young people for the world of work. As noted in the introduction, many employers, regardless of industry or job level, stress non-cognitive (soft) skills over cognitive and job-specific skills in describing the type of employees they want to hire (Bassi, et al., 2012a and 2012b). And there is ample evidence that these skills are, indeed, associated with success. However, it is worth noting that, at least in the United States, most new positions require a high school diploma, a completed General Education Development Test (GED) or a college degree as a minimum threshold to entry. In other words, candidates without a degree are generally not considered. This may allow employers to assume that any candidate they consider will have a minimum level of cognitive skills and to focus hiring decisions on the other skills that make a candidate valuable to their organization. To the extent that soft skills like perseverance are also associated with higher levels of educational attainment, degree completion may also allow employers to assume a minimal level of socio-emotional skills as well. The use of degree completion as a minimum entry requirement makes it more difficult to gauge the relative importance of cognitive and non-cognitive skills to employers and may help explain the strong associations between educational attainment and employment status and salary.

Correlation but not causality – Most soft skills research examines whether there is a relationship between variables (e.g. specific social and emotional skills and current academic performance) and is not designed to draw conclusions about causality. So we don't know if better social skills "cause" greater learning or if learning difficulties "cause" differences in behavior (Farrington, et al., 2012).

Few studies examine how different soft skills influence each other or work together to influence academic performance or how skills transfer from one context to another (classroom to work, high school to college, one teacher to another, etc.). All of which makes it difficult to determine what skills matter most, when, and why and translate that knowledge into concrete actions in schools and the workplace (Bassi, et al., 2012a; Farrington, et al., 2012).

Lack of longitudinal data – Although some well-known longitudinal studies have been carried out in the United States, few studies track the long term effects of soft skills on learning and life outcomes in Latin America. Such studies are critical to a better understanding of both the effects of particular skills and interventions and our window of opportunity for teaching them.

Other – In addition to the limitations above, Miyamoto, et al. (2015) and Kechagias, et al. (2011) caution that survey instruments and soft skills interventions that have been successful in one country may not be culturally appropriate in another without adaptation. Farrington, et al. (2012) also note that there has been little research on racial/ethnic differences in soft skills or soft skills measurement and that many studies on social and emotional learning programs look primarily at changes in social behaviors and attitudes and not at concrete changes in academic performance.¹⁶

Del Dicho al Hecho: Existing Interventions to Improve Soft Skills

A variety of existing interventions suggest that soft skills can be intentionally taught through curricular and extracurricular activities. Although these interventions are often small in scale and only some have been rigorously evaluated using randomized control trials, the breadth of experiences, along with promising initial results, can provide preliminary insights that can help guide future research.

Soft skills focused programs generally start from the assumption that "over time or over multiple sessions, a combination of high-quality instruction, content and youth engagement will result in the development of skills and beliefs" (Wilson-Ahlstrom, et al., 2014, p. i). Because there is no clear consensus on which soft skills matter most for which students and under what circumstances, most soft skills programs target a variety of different elements of non-cognitive performance and no two programs target exactly the same skills in exactly the same ways.

Many programs, particularly those at the high school

Strong soft skills programs should have clear objectives, provide detailed instructions for student-centered teaching, and offer lesson plans and assessment tools.

Box 5. Soft Skills programs in Latin America and Puerto Rico

Juventud y Empleo (Dominican Republic) – A collaborative effort between the Dominican Ministry of Labor, the National Institute of Technical-Professional Training (*Instituto Nacional de Formación Técnico Profesional* – INFOTEP), the Inter-American Development Bank, and the World Bank, this program seeks to “improve employability of at risk, low income youth through labor training, a first experience in the workplace and completing their formal education.”⁴¹ The initiative targets unemployed 16-29 year-olds who have not completed high school, and works closely with businesses to link the content of training and academic support to the needs of the productive sector and to foster a sense of social responsibility. Eligible students, selected by lottery, complete 75 hours of classroom work over a one month period, followed by an eight week internship (with 2 hours a week of additional classroom time geared at reinforcing critical skills). A key component of the program is the Development of Basic Competencies (*Desarrollo de Competencias Básicas* – DCB) designed to teach values, teamwork, self-esteem, self-efficacy, conflict resolution, communication, organization and planning, and the ability to adapt to change, among other skills. Promising results from the program include a 20% reinsertion rate in formal education, lower involvement in gangs and drugs, lower teen pregnancy rates and better self-esteem among participants.

Entra 21 (Latin America) – This initiative – led by the International Youth Foundation with support from international development organizations and a variety of private sector firms from 2001-2011 – provided short-term job training, soft skills development, internships and job search assistance to youth ages 16-29 in 22 Latin American and Caribbean countries. Working primarily through local NGOs and forming strong relationships with area businesses, the country level programs lasted an average of 7-8 months (including the internship). Soft skills emphasized include teamwork, communication, conflict management, responsibility, ethics, time management, and self-awareness. Programs also aided with job search strategies, and many also provided information technology training and remedial math and literacy instruction. Between 2002-2006, some 12,000 youth, primarily poor and from urban areas, participated in the country level programs. Six months after program completion, more than half of students were employed (92% in the formal sector), many had returned to school and only 27% were neither studying nor working (compared to 66% at the beginning of the project). However, further study is needed to determine how those who participated in the program compare to those who do not and whether effects are enduring over time.

Metamorfosis Escolar (Puerto Rico) – The Fundacion Chana y Samuel Levis in Puerto Rico – a foundation promoting academic excellence through the development of socio-emotional skills in young people – has developed a curriculum for teaching soft skills to at-risk pre-school and elementary aged students in extended hours activities. The program, Second Step, focuses on five key soft skill areas: *autoconocimiento* (self-awareness), *autocontrol* (self-management), *relaciones interpersonales* (relationship skills), *sensibilidad social* (social awareness) y *decisiones responsables* (responsible decision-making). Within these areas the program fosters critical thinking, communication, resilience, compassion/empathy, and respect through puppet shows, songs, videos, field trips and other activities for children, literacy activities and workshops for parents, and a summer academy for students in June. Free lunch and snacks are provided. The program is based on the socio-emotional learning work done by the Collaborative for Academic, Social and Emotional Learning (CASEL) at University of Illinois. It is aligned with the Puerto Rico Department of Education’s curriculum framework and is part of the 21st Century Learning Centers initiative in the United States.

Internship and Entrepreneurship programs (Latin America) – A variety of programs in Latin America focus on building young people’s job readiness through internships and the promotion of entrepreneurship (see ILO, 2015, Severo, 2011, Vera, 2009). Although reviews of these programs do not specifically call out the development of soft skills as a direct objective, participants are exposed to these skills indirectly through their experience. Gang prevention programs, especially in Central America also offer “social integration” through jobs and counseling.

¹Portorreal and Romero, 2010, p. 4. Author’s translation.

Sources: Abdala (2009), Fundación Chana and Samuel Levis (no date), ILO (2015), International Youth Foundation (no date), Muñoz (no date), Portorreal and Romero (2010), Severo (2011), Vera (2009), and World Bank (2012, 2006)

level, are targeted at vulnerable populations (e.g. drop outs or those at risk of dropping out, student from low income families, etc.), but others have been used to build or reinforce skills among the general school population. Interventions occur at all education levels (preschool through high school) and may be carried out in schools, as part of school sponsored extracurricular activities, or by programs outside of schools. Techniques for teaching soft skills include project-based work, service learning and internships, role-play and workshops based on real life situations, one-to-one or small group training, learning guides or activity sheets/checklists, mentoring/coaching, self-directed learning and ample opportunity for reflection on behaviors and choices.

Despite the variety of techniques and soft skills emphasized in different programs, researchers emphasize a few key characteristics. First, strong soft skills programs should have clear objectives and methods, provide detailed instructions for student-centered teaching and offer lesson plans and assessment tools, including guidance and support for instructors in using those tools to monitor students’ progress (Kechagias, et al., 2011). Second, activities should stress collaborative, cross-disciplinary learning and challenging exercises grounded in real world contexts – either simulated or real – as well as self-evaluation (Ayrton Senna Institute/UNESCO, no date). Finally, programs need to provide a safe environment, staffed by “caring and competent adults” and provide integrated services that address soft skills in conjunction with job or academic skills, psychological support, and/or financial needs (via transportation stipends, providing or subsidizing food, and providing child care services for young mothers participating in the programs) (World Bank, 2006). Some programs also provide follow-up with program facilitators to ensure programs are implemented appropriately (Farrington, et al.,

2012). Several interventions to promote soft skills outside Latin America are detailed in **Box 4**.

Despite limitations of existing research, both Miyamoto, et al. (2015) and Farrington, et al. (2012) find that existing research on soft skills training programs generally shows promising results. For example, a review of 35 school-based social and emotional learning (SEL) studies by Durlak, et al. (2011) found improvements in both grades and achievement test scores among participating students. Farrington and her co-authors also cite evidence showing the effectiveness of school-wide positive behavior supports (SWPBS) or Positive Behavioral Interventions and Supports (PBIS) in improving both behaviors. Miyamoto, et al. (2015) cite evidence from the U.S. that participation in arts and community service programs (often conducted outside school hours) improves participants’ self-esteem and positive self-image.

There is less experience in directly promoting soft skills in Spanish-speaking countries or territories. The existing experiences come primarily from youth employment initiatives (see **Box 5** for examples). As with studies elsewhere, early evaluations of these programs show promising initial results. Severo (2011) notes that, “In terms of types of skills taught, some programmes targeting marginalized groups include generic skills as a way to improve their integration into society and labor market. Most of these programmes have been positively evaluated by graduates” (p.16), and many have shown improved social behaviors and employment among graduates. However, it is nearly impossible to disentangle which specific contextual and program related factors contributed to these effects. It is also unclear whether short-term positive effects will persist over time.

Tools

As research and experience in the field of soft skills training grows, several organizations have shared their methodologies, established guidelines, and created tools to help others seeking to help young people develop stronger soft skills. In addition to the programs and initiatives mentioned in previous sections, Wilson-Ahlstrom, et. al (2014) have produced a guide for measuring youth skills and beliefs and documenting the outcomes of youth interventions, based on experience with after-school programs. They provide information on several different discipline-neutral instruments designed to measure communication, relationships and collaboration, critical thinking and decision-making, initiative and self-direction in ways that are accessible, easy to implement, and vetted for reliability and validity. The Collaborative for Academic, Social and Emotional Learning (CASEL) in the United States has also produced *39 Guidelines for Educators* which help document evidence-based SEL experience and guide on-going practice (Kechagias, 2011).

In addition, Miyamoto, et al. (2015) highlight at least two efforts to create and use standards for social and emotional learning within the broader school system: voluntary social responsibility standards in British Columbia, Canada and the US State of Illinois' incorporation of social and emotional skills into state learning standards. Both programs set clear standards and provide performance descriptions that facilitate curriculum planning and student evaluation. The Canadian standards cover contributions to the classroom/school community, peaceful problem solving, diversity and human rights and democratic rights and responsibilities and are assessed based on observations over time, with different scales for different grade levels. Illinois requires all school districts to develop a plan for incorporating social and emotional learning programs in schools from kindergarten to high school. The skills focus on self-awareness and self-management, using interpersonal skills to build positive relationships, and responsible behaviors and decision-making. These types of standards give soft skills high visibility, set priorities, and help guide program planning and implementation.

FIVE PRELIMINARY TAKE-AWAYS FROM EXISTING SOFT SKILLS INTERVENTIONS

At least five preliminary messages emerge from existing efforts to promote soft skills.

1) Soft skills interventions have shown promising results in a variety of contexts, both in and out of schools, with both general and at risk populations, in urban, suburban and rural areas and with ages ranging from pre-school to high school. Moreover, Yeager and Walton (2011) note that “Recent randomized experiments have found that seemingly “small” social-psychological interventions in education – that is, brief exercises that target students’ thoughts, feelings, and beliefs in and about school – can lead to large gains in student achievement and sharply reduce achievement gaps even months and years later” (p.2). Nonetheless, most interventions in this field have impacted relatively small numbers of students and many have not been subjected to rigorous evaluations that compare participants in the intervention to groups that do not participate. More research is needed to understand what interventions work best under what circumstances and if the effects are enduring over time.

2) Close monitoring and on-going support helps build soft skill success. For example, Farrington, et al. (2012) cite evidence from Chicago that monitoring attendance and intervening quickly when students fall behind can improve passing rates/reduce course failure among 9th graders. They posit that because the transition to high school entails increased independence in managing one’s own performance, it is easy for students to get off track. More frequent check-ins with students and reinforcement of positive soft skills and study behaviors, particularly in a key transition year, can help students stay on track throughout their high school career. Likewise, providing on-going support and reinforcement of soft skills during training and internships is a key component of many labor force readiness programs. Many of these programs stress close, supportive relationships with trusted adults as a key variable in participants’

success. This is consistent with early childhood research that also shows the impact of caregiver attachment and parenting interventions in building both cognitive and non-cognitive skills (Walker, et al., 2011).

3) The structure of activities will affect social skills learned. This is most readily apparent when looking at group work vs. individual projects. On the one hand, it is difficult to learn soft skills such as teamwork, communication, and conflict negotiation if students are exclusively engaged in individual projects. On the other, it is hard to learn skills like persistence and self-efficacy in groups where others are there to pick up the slack and where individual attribution is harder to establish. Consequently, appropriate interventions will depend on the target group, the specific goals, skills and discipline being targeted, and the context in which the skills are being taught (classroom, workplace, extracurricular activities or some combination) (Kechagias, et al., 2011).

4) Although soft skills can be taught in a variety of contexts, integral education programs that build on frameworks already in schools and adapt them to more fully integrate soft skills may have the potential to reach the most young people. The Ayrton Senna Institute (no date) says their experience shows that it is possible to “construct creative and collaborative solutions with education administrators...” that incorporate programs and evaluations that cover both types of skills and institutionalize what works (p. 7, author’s translation). Teachers, in particular, play a critical role in modeling and teaching soft skills and encouraging a positive growth mindset within schools. Programs need to leverage what teachers already know about how to develop study and life skills in their classrooms and provide accessible, practice-focused “guidance about how best to build classroom contexts and utilize pedagogical strategies that will leverage the body of research on non-cognitive factors as they teach content and skills” (Farrington, et al., 2012, p. 76). Rigorous, personalized instruction, safe environments, as well as shared leadership and support from administrators, staff and parents also can help build soft skills in the school environment (Friedlaender, et al., 2014, Kechagias, et al., 2011, Portorreal and Romero, 2010, and Word Bank 2006).

5) Intermixed skill usage (as opposed to teaching skills in isolation) may be more authentic for practicing soft skills and learning how they apply in context (Kechagias, et al., 2011). This is particularly true in an education context increasingly focused on relevance and mastery of applied competencies. Moreover, interconnected tasks and skills are more reflective of the complexity of the real world. However, existing programs still serve only a limited number of youth and more long-term evaluation is needed to understand how different skills interact. It may also be that competing priorities and/or resource constraints make it impossible to “do everything at once” or that teaching skills first in isolation and then giving students the opportunity to practice them in more lifelike scenarios is a more reliable way to impart lasting skills.

SO WHAT NEXT?

We know that soft skills, along with cognitive skills, are important predictors of school and life success and that building these skills can help lead to better academic performance, employment and wage opportunities, and healthy behaviors (Miyamoto, et al., 2015; Heckman and Kautz, 2012, 2013; Kechagias, et al., 2011). We also know that businesses both inside and outside Latin America complain that they cannot find workers with the skills they need, and that “American industry currently spends around US \$50 billion every year on training, and much of this training focuses on social and emotional skills” (Kechagias, et al., 2011, quoting Talavera and Perez-Gonzales). Likewise surveys of Latin American firms show that while employers report that they highly value non-cognitive skills, these skills are the most difficult to find in young workers (Bassi, 2012a).

Fortunately, early research and experience suggests that we can teach soft skills at key moments from early childhood to young adulthood when the brain is most receptive to this type of thinking and learning. Soft skills interventions also have the potential to help young people from disadvantaged backgrounds overcome some of the obstacles they face, in addition to helping all students more successfully engage in the world around them (Tough, 2012, Santos and Primi, 2014). Schools and teachers are also increasingly receptive to fostering soft skills in schools. For example, CORE (2015) notes that a national teacher survey conducted in 2013 in the United States “shows that 93% of teachers think it is very or fairly important for schools to promote the development of social-emotional competencies. Furthermore, 95% of teachers believe that these skills are teachable, and 97% believe they will benefit students from all backgrounds” (p.1)

All of this suggests that further investment in helping young children and adolescents develop key soft skills is both warranted and timely. However, important questions remain as policy makers, funders, and practitioners decide just what shape that future investment should take. Areas for additional research include:

1) Hard or Soft or Both? Although most researchers agree that both “hard” cognitive skills and “soft” behavioral and dispositional skills are important, the thrust of the conversation often seems to turn on which of the two is more important or which is the better investment. To be sure, much of the recent focus in education has been on cognitive skills, and those concerned with soft skills have had to make the case that such skills are important to learning and have lasting effects in order to draw attention to these skills. Budget pressures also mean schools often have to prioritize, with an increase in spending in one area meaning a decrease in spending in another. In that sense, a certain degree of tension is natural. At the same time, however, there can be little doubt that schools that don’t provide key knowledge and critical thinking skills have failed in a fundamental part of their mission. Few would argue for schools that produce highly motivated, conscientious and perseverant students that still can’t read or use math in daily life. Moreover, given that the two types of skills build on and reinforce each other, it seems reasonable to assume that favoring one over the other is a less than optimal solution.

So the question, then, becomes, how do we more appropriately and affordably incorporate **both** sets of skills into schools? Setting specific standards for soft skills and measuring them alongside standards and assessments for cognitive skills are promising first steps. Likewise, addressing soft skills across curricular areas and making them an integral part of school activities may reinforce skills and help students apply them in different contexts. However, more research is needed on the cost-effectiveness of different interventions and which are most appropriate in different contexts.

2) How do we better leverage soft skills to improve equity? We know from experiences like KIPP in the US, MASS/Skillzone in Europe and *Juventud y Empleo* in the DR that programs that target soft skills have the potential to improve both academic performance and employment opportunities of disadvantaged youth. However, there is less research on how these programs affect equity or whether certain skills or approaches work better for certain groups of students. How do we target (or not target) programs to have the greatest impact? What are the advantage and disadvantages to different approaches? What can we do to help make sure the effects are enduring?

3) How can we best support soft skills development both in and out of school? How hard and expensive is it to “teach” soft skills? Can we train all teachers to do it? How can we make these skills an integral part of classroom experiences and not an “additional” task for teachers and students to add to their busy day? Or is the best way to teach soft skills in programs outside of school? If so, how do we deal with potential equity issues that arise from uneven access to and participation in such activities? Can we apply what we know about individualized learning for cognitive skills to similar individualized approaches to soft skills development?

If, as some authors have suggested (Bassi, et al., 2012a, Farrington, et al., 2012), teachers don’t know how to teach soft skills along with traditional academic skills and they have little incentive to do so, how do we provide the kinds of support and training that can remedy the situation? How do we facilitate information sharing among teachers and others working on soft skills development? How do we make academic research studies accessible and relevant to classroom practices (Farrington, et al., 2012)? How do we build support from parents or community members to reinforce skills outside school?

Because individual students, contexts, and needs vary widely, and because research on “what works” is still limited, the best strategy may be to support a variety of interventions, making sure that these interventions are relevant, high quality, well-implemented, and systematically evaluated (Bassi, et al., 2012a).

4) How do we make the most of windows of opportunity? Neuroscience and psychological research tell us that human brains are more receptive to certain types of learning at certain stages of development. While young children’s brains tend to be most malleable, both for learning new academic skills and content and for learning early soft skills like how to get along with others, adolescent brains tend to be more developmentally ready to incorporate the perspectives of others in their learning, as well as engage in more formal thought and choice around how they learn. This is not to say that adolescents can’t learn new content or that young children can’t learn social and emotional skills that ask them to think about their learning. Nor does it suggest that we should “give up” on those who have moved beyond the “ideal” window for developing certain skills. Indeed, the preference for using “skills” over “traits” in discussing both cognitive and non-cognitive performance arose in part to emphasize that people are constantly learning and changing. However, understanding how the brain works can help inform program design and help us tailor tasks and strategies to meeting students’ needs.¹⁷

5) How do we strengthen connections between skills and the real world contexts in which they are applied? In part, this question is about addressing the “disconnect” between the skills high school and college graduates possess, and the skills employers say they need. It’s about connecting schools to the broader environments in which they operate and providing administrators, parents, teachers and students with accurate information about the skills (including soft skills) in high demand. But it’s also about better understanding the relationship between different types of skills and how well these skills transfer across different contexts (Farrington, et al., 2012). For example, if we teach young people to be critical thinkers at school, can they apply those lessons to work, or to caring for their families? If we teach them to persevere in the workplace, will that perseverance persist in facing challenges in their personal lives or at school?

6) How do we continue to improve measurements of soft skills to account for known biases and shortcomings and extract best practices? Given the relative strengths and weaknesses of self-reporting vs. observed performance, would a combination of different measures provide a truer picture of soft skills development? Is this feasible? Cost-prohibitive? How do we improve the links between research and practice? As a first step in answering these questions Duckworth and Yeager (2015) suggest developing a battery of brief, age-specific performance tasks, with instruments that make it easy to collect information, quickly process it, and ensure that it is contextually appropriate. The instruments should be also sensitive to short-term changes, while still allowing researchers to track results over time and across different schools/districts.

Although the discussion and research around soft skills is still evolving, the richness of the debate so far holds promising implications for equipping young people with the skills and abilities to help them succeed not just in school, but in life.

Notes

1. Kautz, et al., 2014 note that measures of soft skills trace back to research by S. Bowles and H. Gintis in their 1976 work *Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life*. New York: Basic Books. Santos and Primi (2014) trace the roots of the Big Five theory of social skills back to early work by Gordon Allport and colleagues in the 1930s, Raymond Catell in the 1940s, and Lewis Goldberg, R. McCrae, P. Costa, J. Wiggins, and O. John in the 1960s (p.16, footnote).
2. See for example, Heckman and Kautz (2012, 2013) and Deming (2015).
3. For additional examples, see also Bassi, et al., 2012a; White, 2013; and World Bank, 2014.
4. World Bank, World Enterprise Survey online database, consulted October 28, 2015.
5. Author's translation.
6. Note that although historically cognitive skills have often been measured by IQ tests, current research on learning has moved away from the concept of intelligence as "a fixed and quantifiable amount of intellectual capacity" and toward a broader skills based concept in which cognitive skills are developed in context (Farrington, et al., p. 2).
7. Author's translation.
8. Heckman and Kautz also refer to these as OCEAN skills, for the first letter of each of the five characteristics.
9. See for example, research by Carol Dweck and others on links between "growth mindsets" – the belief that one's abilities are not fixed, but are developed through effort and the ability to learn from and persevere in the face of one's mistakes – and academic success. Dweck's work also shows that such mindsets can be intentionally taught to students.
10. Kechagias, et al., 2011 include an overview of theoretical frameworks from outside the U.S., including frameworks tied to labor market studies in England and Wales, Canada, Australia and the OECD "Definition and Selection of Competencies" project.
11. Surveys of individuals were conducted in Chile in 2008 and in Argentina in 2010. Employer surveys were conducted in 2010 and also included firms in Brazil.
12. See for example, Miyamoto, et al., 2015, Figure 4.3, p. 76
13. Tough, 2012 provides a brief, easy-to-understand overview of several neuroscience and cognitive science studies on early childhood development and its relation to future learning and success.
14. These may be developed and validated by the researchers specifically for their study, or alternatively, researchers may use tests already developed by others such as the Rosenberg Self-Esteem test, Rotter's Locus of Control instrument, the Duckworth Grit Scale and others.
15. Additional information on CORE's School Quality Improvement Index can be find on the CORE webpage at <http://coredistricts.org/> and <http://coredistricts.org/indexreports/>.
16. Citing a meta-analysis by the Collaborative for Academic, Social and Emotional Learning (CASEL) the authors noted that only 20 of the 80 studies examined focused on academic outcomes, most with younger students (Farrington, et al., 2012).
17. See, for example, Farrington, et al.'s (2012) discussion of the mismatch between the structure of traditional middle schools and middle school students' readiness to learn more sophisticated soft skills.

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